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An Investigation of Contract farming in Employment and Income Generation of the farmers(A Case Study of Uttar Pradesh)

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Introduction:

Uttar Pradesh not only ranks highest in terms of area and population, but also occupies an important position in India's agricultural production. It accounts for about one-fifth of the country's total production of food grains and major food grains such as potatoes, wheat, vegetables and others. comes first in total production, which is the highest in the country. Wheat is the main crop and about a third of the country's wheat is grown in Uttar Pradesh. In the non-food sector, grains are the main producers of sugar cane, potatoes and vegetables. However, the country is growing at a very slow pace, which can be seen in all three economic sectors namely agriculture, industry and services, but the growth rate of agriculture is much slower and the level of dependence on the population is very high. , with a marked slowdown in economic growth over the past decade and a half in all three sectors namely manufacturing, agriculture and services.

In the early phase of India's agricultural reform, the government set the "New Agricultural Policy 2000", the PI Policy stated for the first time that we should accept the agreed agriculture and many countries have adopted this farming method, but it is used in selective crops from Utrakhand used in flower production, Madhya Pradesh uses it in the production of South Indian spices in the production of vegetables and herbs. Several countries have adopted it as Punjab in the production of tomatoes, wheat, chilies, potatoes and rice.

But in Uttar Pradesh's economy, contract farming is already at work in sugarcane production, growing mint, potatoes, basmati rice, tomatoes and chilies, wheat, corn and more. and some medicinal plants like Elvira, Mosul Putih, Afim etc., but due to lack of government policies do not work directly, work indirectly in the unorganized sector without their name and consent will be verbal and farmers work on this process, being the designated contract producers.

This study seeks to identify potential barriers to agricultural growth and ways to remove these barriers to increasing farmers' incomes and ensuring the employability of farmers through this poverty. To do this, we need to use the right technology, marketing uncertainty and a lot of price volatility are the main problems for Indian agriculture and how contract farming can help boost the economy.

The opportunities from contract farming - For companies, the contract farming opportunity is clear and convincing:

- Increased reliability in the quantity and quality of deliveries (reduced screening and selection costs);
- In many cases, production risk is passed on to the farmer; Greater control over production processes and plant characteristics to meet standards and trust factors;
- The use of better technology that can accelerate the productivity of the country and itself.
- Timely availability of input resources is an important factor in your favor.
- Reduced coordination costs due to more regular and stable maintenance enabling better coordination with a wider range of activities;
- Greater flexibility in expanding or reducing production (because of fewer fixed assets, especially when compared to full vertical integration);
- Economies of scale in the supply and supply of raw materials. In addition, lower direct production risk can improve a company's creditworthiness and also allow the company to maintain intellectual property protections (eg for new germplasm or genetically modified crops).

Abhiram (2001)[i]consider supply chain management and the role of contract farming. He believes that the performance of the contract farming system is beneficial for both farmers and companies. The effect is clearly expressed through contract farming.

Reason for selection of the area for present study

In Uttar Pradesh, the agricultural sector faces problems of low productivity, low employability, dependence on work and most importantly livelihoods. So most of the farmers accept the agreed farms and the logic of the work process

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is very good. However, in the absence of laws, many farmers are badly exploited by these contractors. This is why it is so important to evaluate the performance of these companies in terms of sustainable development. Seeing this reality, this research was published with the following objectives:

Objectives of the present study

- To find out its (CF) Impact on Income of The Farmers.
- To find out its (CF) Impact on Employments & Poverty on the agriculture sector.
- To offer suggestions for promoting Contract farming in agriculture sector.

Hypothesis

- Contract farming does not improve Income of Contract growers.
- Contract farming does not improve Employability & Reduce Poverty of Contract growers.

Research design:

Research approach

In order to obtain a theoretical foundation from the contractual relationship and what has been written so far as well as empirical evidence for the theoretical aspects; the research approach is based on the following basic principles:

i) Triangulation of positivism, post positivism and logical empiricism;

Data collection

Fieldwork was conducted from March to May 2016 as part of the survey. Data was collected through informal interviews and informal meetings with heads of households who can be contract or non-contract producers. Interviews or conversations are informal and semi-structured because they are located in rural areas, with modern input tools, close to small farmers and permanent jobs. In addition, several interviews and informal discussions were held with senior officials at both the administrative and operational levels.

- The UP economy is divided into four regions.

(1) Western Region (2) Central Region (3) Bundelkhand Region (4) Eastern Region

- We select the region through a multi-stage random check; farmers have to accept contract farming in all four regions, of which there should be almost 50%.
- Then list the blocks where the contract cultivation takes place. We study 3 or 4 villages if research is needed.
- In the villages we categorize farmersinto two groups -

• Farmers who have received agricultural contracts.

• Farmers who have not received agricultural contracts. (control group).

Recently there have been a number of studies examining the impact of contract farming using econometric analysis. Based on survey data from 162 apple and onion farmers and four sponsors, Miyata et al. (2009) examined the effect of contract participation on household income in China. Their findings suggest that smallholders can benefit from contract farming. Similarly, Birthal et al. (2005) found that gross margins for contract dairy farmers in India are almost twice as high as for non-contracted farmers. The main reason for this difference is that contract manufacturers have lower production and transaction costs.

Simmon et al. (2005) found that contracts have a positive effect on farmers' welfare. Broiler and corn seed contracts yield a higher return on investment. At Saatreis, the contract has no effect on the return on investment. The three contracts for poultry, maize and rice seeds have reduced absolute poverty.

Income Generation:

For estimating the income zeneration of the farmers we generate a multiple regression model

"$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\beta_6X_6+\beta_7X_7+\beta_8X_8+\beta_9X_9+\beta_{10}X_{10}+\beta_{11}X_{11}+\beta_{12}X_{12}+\beta_{13}X_{13}+\beta_{14}X_{14}+\beta_{15}X_{15}+\beta_{16}X_{16}+\varepsilon$"

Y= Income Generation of the farmers (Dependent Variable)

X_1 = Getting Better Price of their product (Independent variable)

B_1=Parameters attached to the variable X_1

X_2= Increasing Productivity

B_2=Parameters attached to the variable X_2

X_3= Employability Whole Year

B_3=Parameters attached to the variable X_3

X_4= Getting the Advance for their crop

B_4= Parameters attached to the variable X_4

X_1 = Getting Better Price of their product (Independent variable)

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B_1=Parameters attached to the variable X_1
X_2= Increasing Productivity
B_2=Parameters attached to the variable X_2
X_3= Employability Whole Year
B_3=Parameters attached to the variable X_3
B_4 = Getting the Advance for their crop
X_4 = Parameters attached to the variable X_4

Table 3.03 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.915[a]	.838	.825	.37811	.838	68.161	14	185	.000

a. Predictors: (Constant), Insurance Cover the Risk, Getting the wide Marker for their Product, Modern Tech. Reduce Cost, Getting Advance for their Crops, Risk Avoid, Skill training Programme Benefited, Annual Income From Field / Hect., Getting time for side Business, Getting Better Tech. , Better seeds fertilizers and Irrigation , Employability Whole Year, Increasing Productivity, Income Satisfaction, Getting Better Price

b. Dependent Variable: Income Generate

The coefficient of multiple determinations is 0.83; therefore, about 83.80 % of the variation in the income of the Contract Growers is explained by net changing of Modern Tech Reduce the cost, Getting the Availability of Better seed Fertilizer & Irrigation, Annual income From field, Getting Advance for their Crops, Risk Avoid, Getting Better tech. Benefited, Having Income Satisfaction., Getting time for side Business, Getting Global market, Price of their Produce, Employability Whole Year, Increasing Productivity, Skill Development programme Benefited & Insurance cover the risk. The regression equation appears to be very useful for making predictions since the value of R^2 is close to 1.

Table 3.04 ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	136.426	14	9.745	68.161	.000[a]
	Residual	26.449	185	.143		
	Total	162.875	199			

a. Predictors: (Constant), Insurence Cover the Risk, Getting the Brogde Marker for their Product, Morden Tech. Reduce Cost, Getting Advance for their Crops, Risk Avoid, Skill training ProgrammeBenifited, Annual Income From Field / Hect., Getting time for side Bussiness, Getting Better Technic , Better seeds fertilisers and Irrigation , Employbility Whole Year, Incresing Productivity, Income Satisfaction, Getting Better Price

b. Dependent Variable: Income Generate

Hypotheses

H_0: $\beta_1 = \beta_2 = 0$

H_a: at least one $\beta_i \neq 0$

- **Significance Level**

$\alpha = 0.05$

- **Rejection Region**

Reject the null hypothesis if p-value ≤ 0.05

- **ANOVA Table (Test Statistic and *p*-value)**

(See above) $F = 68.161$, p-value < 0.000

- **Conclusion**

Since p-value $< 0.000 \leq 0.05$, we shall reject the null hypothesis.

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- **State conclusion in words**

At the $\alpha = 0.05$ level of significance, there exists enough evidence to conclude that at least one of the predictors is useful for predicting Income Generation of the Contract growers; therefore the model us useful.

Table 3.05 Coefficients[a]

"Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF"
1 (Constant)	-.254	.100		- 2.533	.012	-.451	-.056		
Getting Better Price	.196	.390	.257	5.053	.000	.119	.272	.339	2.948
Increasing Productivity	.034	.460	.036	.745	.005	-.056	.125	.376	2.662
Employability Whole Year	.107	.360	.124	2.949	.004	.036	.179	.494	2.024
Getting Advance for their Crops	.008	.001	.010	.218	.827	-.067	.083	.459	2.177
Getting time for side Business	.044	.005	.051	1.255	.211	-.025	.114	.530	1.886
Better seeds fertilizers and Irrigation	.102	.036	.119	2.842	.005	.031	.173	.499	2.003
Getting the Global Marker for their Product	.010	.160	.021	.631	.002	-.022	.043	.798	1.253
Getting Better Tech.	.010	.003	.012	.298	.766	-.055	.074	.517	1.936
Skill training Programme Benefited	.079	.150	.095	2.249	.026	.010	.149	.494	2.026
Risk Avoid	.000	.002	-.001	-.027	.978	-.063	.062	.509	1.964
Income Satisfaction	.095	.160	.126	2.652	.009	.024	.165	.388	2.575
Annual Income From Field / Hect.	.171	.004	.201	4.974	.000	.103	.239	.537	1.861
Modern Tech. Reduce Cost	.148	.046	.116	3.220	.002	.057	.238	.682	1.467
Insurance Cover the Uncertainty	.113	.044	.094	2.579	.011	.027	.199	.656	1.524

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Table 3.05 Coefficients[a]

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Insurance Cover the Uncertainty	.113	.044	.094	2.579	.011	.027	.199	.656	1.524

a.Dependent Variable: Income Generate

Obtain and interpret 95% confidence intervals for the slopes, βi, of the population regression line that relates net Income of the contract Growers and number of Resources to maximize their Income. Obtain and interpret 95%

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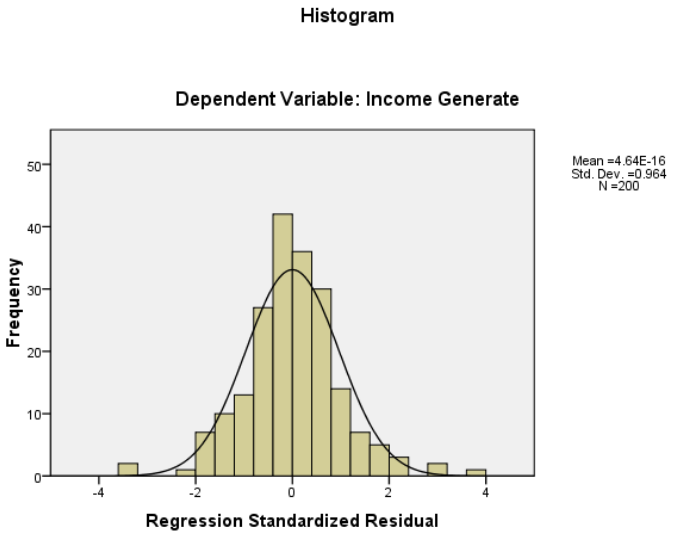
confidence intervals for the slopes, βi, of the population regression line that relates Modern Tech Reduce the cost, Getting the Availability of Better seed Fertilizer & Irrigation, Annual income From field, Getting Advance for their Crops, Risk Avoid, Getting Better tech. Benefited, Having Income Satisfaction., Getting time for side Business, Getting Global market, Price of their Produce, Employability Whole Year, Increasing Productivity, Skill Development programme Benefited to Generate the Income of the Contract Growers of Uttar Pradesh.

Table 3.06 Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0977	3.4265	2.3750	.82798	200
Std. Predicted Value	-2.986	1.270	.000	1.000	200
Standard Error of Predicted Value	.053	.336	.100	.025	200
Adjusted Predicted Value	-.1986	3.4514	2.3752	.82881	200
Residual	-1.26417	1.38884	.00000	.36457	200
Std. Residual	-2.343	2.673	.000	.964	200
Stud. Residual	-2.493	2.985	.001	1.012	200
Deleted Residual	-1.37998	1.63499	-.00019	.40413	200
Stud. Deleted Residual	-3.605	4.157	.002	1.024	200
Mahal. Distance	2.883	156.541	13.930	11.487	200
Cook's Distance	.000	.208	.008	.023	200
Centered Leverage Value	.014	.787	.070	.058	200

a. Dependent Variable: Income Generate

In the residual statistics we can see that the minimum and the maximum of standardized residual is respectively – 2.343 and 2.673 respectively, both are lower than 3. So, that there is no exceptional value in the residual table.



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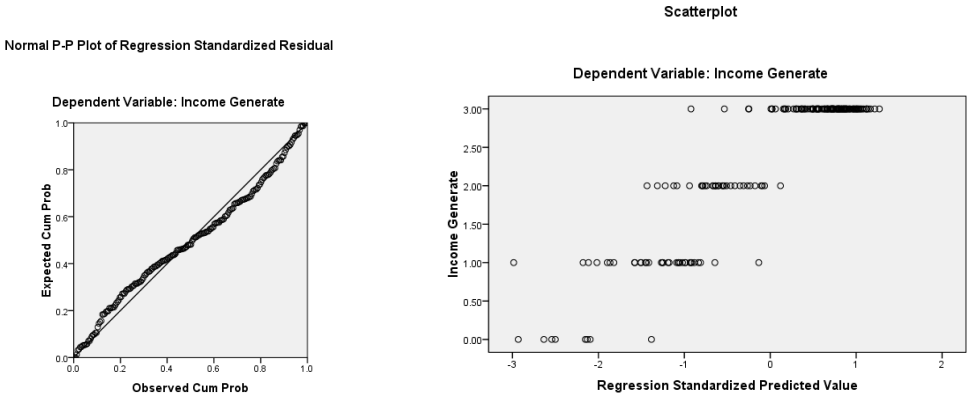


The increase in producer income under the contract appears to be linearly related to each predictor variable with no obvious potential anomalies or influential observations (no points far from the main group of points); thus assumption 1 seems to be fulfilled.

The normal residual graph shows the points near the diagonal line; thus, assumption 2 is fulfilled. The Student Residuals plot shows a random distribution of points with constant variability and no definite deviation (although the potential deviation is very small); thus assumption 3 is fulfilled.

The normal residual graph shows the points near the diagonal line; thus, assumption 2 is fulfilled. Each student's residual graph shows a random point spread with constant variability; Thus assumption 3 is fulfilled.

.At first glance, one might think that the variability for the right half of the graph is less than for the left. This may not be the case, and the marked decrease in variability is likely due to the fact that there are fewer observations on the right (fewer values leave less margin for variability).

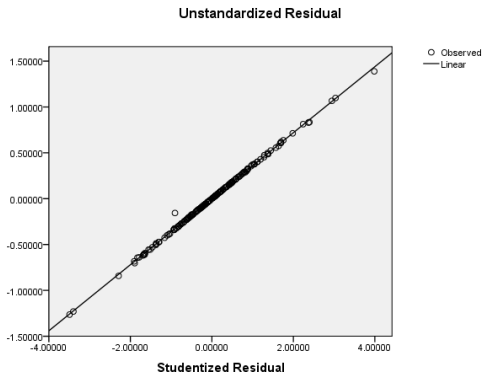
Curve Fit

Table 3.07 Model Summary and Parameter Estimates

Dependent Variable: Unstandardized Residual

	Model Summary					Parameter Estimates	
Equation	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.999	1.405E5	1	198	.000	.000	.360

The independent variable is Studentized Residual.



In the image above, we can see that most of the spatter is closer to the diagonal, making the standard residue obey a normal distribution.

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In summary, we can say in all analyzes that the established multiple linear regression model fits and passes the F test, independent collinearity test, standardized residual normality test and other statistical tests; this completely makes sense. A very serious disadvantage, however, is that the independent variable receiving an advance for his harvest is given time for a sideline. Better use of technology and risk aversion of not passing the test. Therefore, the selected independent variable needs to be improved.

Employability for Contract growers:-

Table – 4.01Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.900[a]	.810	.802	.20353	.810	101.633	8	191	.000	1.440

a. Predictors: (Constant), They comes timely, Is all family member working?, Needs of Labour in crop season, Getting Wage Timely, Distance of working place from Ag Labour, They Come field by , Have any skill training , Working hour of the farmers

b. Dependent Variable: Getting Employment Whole year

The coefficient of multiple determinants is 0.81; therefore, about 81 % of the variation in the income of the farmer is explained by net changing of the farmers come timely, is all family member working, needs of labour in crop season, getting wage timely, distance of working place, they come field by, have any skill training programme and the working hour of the farmers. The regression equation appears to be very useful for making predictions since the value of R^2 is close to 1.

Table 4.02 ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.683	8	4.210	101.633	.000[a]
	Residual	7.912	191	.041		
	Total	41.595	199			

a. Predictors: (Constant), Theycomes timely, Is all family member working?, Needs of Labour in crop season, Getting Wage Timely, Distance of working place from Ag Labour, They Come field by , Have any skill training , Working hour of the farmers

b. Dependent Variable: Getting Employment Whole year

Hypotheses:

H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6$

H_a: at least one $\beta_i \neq 0$

Significance level

$\alpha = 0.05$

Rejection Region

Reject the null hypothesis if ρ- value ≤ 0.05

And in the table of ANOVA (Test Statistic and ρ-value)

In the previous table (Table 3) F = 106.33 and ρ-value < 0.000

Conclusion

Since ρ-value< 0.00010 $\leq$ 0.05. We shall reject the null hypothesis.

++ At the $\alpha = 0.05$ level of the significance, there exists enough evidence to conclude that at least one of the predictor is useful for predicting employment generation of the contract & Non-contract Growers of Uttar Pradesh: therefore model is useful.

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Table – 4.03Coefficients[a]

"Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF"
1 (Constant)	-.129	.114	-.110	-1.138	.257	.911	1.044
Is all family member working?	.909	.034	.880	26.771	.000	.923	1.084
Distance of working place from Ag Labour	.005	.017	.011	.317	.752	.837	1.195
They	.010	.024	.014	.412	.681	.825	1.212
Getting Wage Timely	.084	.018	.148	4.605	.000	.964	1.038
Needs of Labour in crop season	.051	.022	.109	2.285	.023	.439	2.279
Have any skill training	-.055	.052	-.051	-1.060	.029	.426	2.348
Working hour of the farmers	.054	.033	.085	1.658	.059	.383	2.613

a. Dependent Variable: Getting Employment Whole year

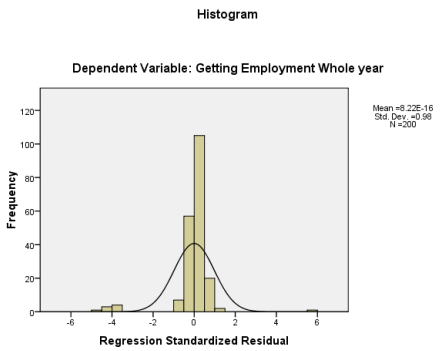
Estimating multiple regression models:

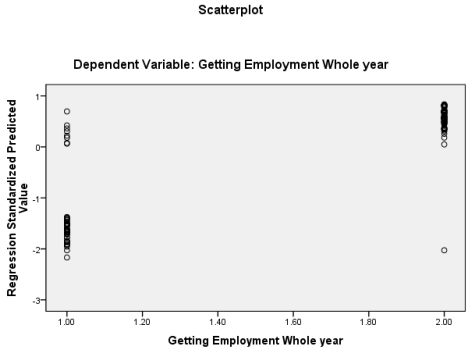
For estimating the employment generation of the farmers, we generate a multiple regression models:-

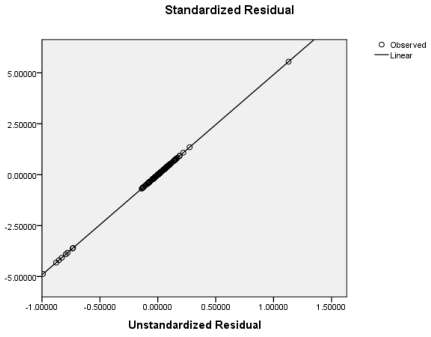
$$\mathbf{Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \beta_9 x_9}$$

and putting the value of all coefficient, we can get a multiple regession models, thus the model will be:

$$\mathbf{\hat{y} = -0.129 + 0.909 x_1 + 0.005 x_2 + 0.010 x_3 + 0.084 x_4 + 0.051 x_5 - 0.054 x_6 + 0.054 x_7}$$







Some of the main takeaways

• Contract farming improves the socioeconomic situation of contract producers by adopting this farming method.

• Adequate literacy helps him accept agricultural arrangements.

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• In our analysis we find that the impact of contract farming on poverty is negative, which means that farmers who engage in contract farming have a better status than non-contracted producers.
• Employment opportunities are also good for contract farming which is not good for other farming practices.
• Farmers working under contract farming receive better prices for their production time compared to non-contract producers.
• Farmers who work according to the agreed farming method, their socioeconomic status is better and they choose to participate in the agreed farming method.
• Behavior of smallholders from Uttar Pradesh in agreed farming is high compared to large farmers from Uttar Pradesh
• Contract farming found that contract crops were more productive and farmers more efficient than non-contracted crops.
• As long as the contract is made between a weaker party (farmers) and a stronger party (hard), the role of the state in protecting the interests of farmers (especially the smaller ones) cannot be overstated. The state can regulate the market to ensure that companies do not abuse their market power.
• Households with lower assets are more likely to join contracts.
• Households with a younger head of household are more likely to join the contract.
• Households with a more trained head of household are more likely to join the contract.
• Households with extended families are more likely to join the contract.
• Households closer to the road are more likely to join the contract.
• A secure market for CF and good sources of irrigation at the start of production are the main factors that encourage all respondents to enter contract farming.
• Higher returns, on-time delivery of raw materials, lower risk and better climatic conditions are other major factors for entering contract farming.
• The main obstacle faced by respondents is the availability of labor. Late payments, lower production prices, high scrapping rates, pest and disease problems, and manipulation of business regulations are other obstacles that farmers face.

Bibliography:

Barrett, C.B., Bachke,M.E., Bellemare, M.F.,Michelson, H.C., Narayanan, S.,Walker, T.F., (2012). *"Smallholder participation in contract farming: comparativeevidence from five countries"*. World Dev. 40, 715–730.
Bellemare, M.F., (2012). *"As you sow, so shall you reap: the welfare impacts ofcontract farming".* World Dev. 40, 1418–1434.
Birthal, P.S., Joshi, P.K., Gulati, A., (2005). *"Vertical coordination in high-valuecommodities: implications for smallholders".* MTID Discussion Paper 85,International Food Policy Research Institute, Washington D.C., USA.
Masakure, O., Henson, S., (2005). *"Why do small-scale producers choose toproduce under contract? Lessons from nontraditional vegetable exports fromZimbabwe"*. World Dev. 33, 1721–1733.
Delgado, C., and M. Tiongco. (2005). "*Contract farming of milk and poultry in India: Partnerships to promote the environmentally friendly and equitable intensification of smallholder market-oriented livestock production".* A project proposal submitted by IFPRI to the Food and Agriculture Organization (FAO) and theInternational Fund for Agricultural Development (IFAD). Washington, D.C.
Glover, D., and K. Kusterer. (1990). "*Small farmers, big business: Contract farming and rural development".* NewYork: St. Martin's Press
Little, P., and M. Watts. (1994). "*Living under contract: Contract farming and agrarian transformation in Sub-Saharan Africa"*. Madison: University of Wisconsin Press, Madison.Organisation for Economic Co-operation and Development (OECD). Undated. *World prices*. http://www.oecd.org.Accessed on June 2007.
Singh, S., (2002). *"Contracting out solutions: Political economy of contract farming in the Indian Punjab".World Development* 30: 1621-1638.
Wilson, A. (1990). *"The political economy of contract farming".Review of Radical Political Economics* 18: 47-70

[i] http://www.rseeudaipur.org/wp-content/uploads/2013/02/333.pdf