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Agricultural Land Market Transactions in Chhattisgarh : A Case Study

K.M. Patil and Dinesh K. Marothia

Department of Agricultural and Natural Resource Economics, Indira Gandhi Agricultural University,
Raipur – 492 006, Chhattisgarh

Abstract

In the newly born state of Chhattisgarh a large number of land buyers have become actively engaged in the villages located along the national highway and at the periphery of Raipur city, the capital of Chhattisgarh to purchase prime agricultural land. In view of the fast emerging land markets after the formation of the state, it is imperative to understand the role of market and non-market forces in transaction of prime agricultural land for non-agricultural uses and transactions within the agriculture sector. This study is an attempt in this direction. The study has been conducted in the Jora, Labhandi, Serikhedi and Dharampura villages of Dharsiwa block in Raipur district of Chhattisgarh state. These villages are located on both sides of Mumbai-Raipur-Kolkatta National Highway No.6 and are in the close periphery of the Raipur city. Two-stage least square technique of simultaneous equation system has been used to estimate demand and supply relationship in land market. Total owned land of seller and the price of land have been reported as the two important determinants of supply relations in land sale market. Similarly, the ownership of total owned land of buyers and non-farm income of buyer are major determinants of demand for agriculture land. Also, distances from National Highway, revenue grades and land sold under distress have been found important factors. The linear trends in land sale and land prices have indicated that area of the land for sale has increased year after year. Prices of land have also increased year after year. The most important factors which have forced the farmers to sell out their lands have been identified as functioning of aggressive land market forces, extremely poor capital base of the farmers, desire to construct their houses, increasing addiction to alcohol and inclination towards starting non-agricultural enterprises or professions, land-hunger tendency of urban businessmen and colonizers. The study has suggested that certain effective legislations and institutional measures will have to be introduced and enforced for non-transfer of agricultural land.

Introduction

A few studies have been conducted in different parts of India to estimate the extent of land transactions, demand and supply relationship, effect of land markets, land distribution patterns, legal dimensions of land transactions and policy implications (Santra and Bhoumik, 1986; Singh, 1982; Krishanji, 1991; Shergill, 1990; Mani and Gandhi, 1994; Mani and Pandey, 2000). However, such research inputs are inadequately available in newly born state of Chhattisgarh, where land transactions have been taking place at a rapid pace on the periphery of big cities (Marothia *et al.*, 1991; 1995). A large number of land hungrys have become

actively engaged in the villages located on the periphery of Raipur city — the capital of Chhattisgarh state, to purchase prime agricultural land. The problem is more serious in the villages which are located along the national highway. In view of fast emerging land markets after the formation of the state, it is imperative to understand the role of market and non-market forces in transaction of prime agricultural land for non-agricultural uses and transactions within the agriculture sector. This study is an attempt in this direction.

Methodological Framework

The study has been conducted in the villages of Jora, Labhandi, Serikhedi and Dharampura of Dharsiwa

block in Raipur district of Chhattisgarh state. These villages are located on both sides of the Mumbai-Raipur-Kolkatta National Highway No.6. Out of 15 blocks of the Raipur district, Dharsiwa block was chosen purposively. Agricultural land transactions, on *a-priori* assessment, have been intensively concentrated in the selected villages of Dharsiwa block due to their locational importance. All the selected villages are located on the periphery of Raipur and have been subjected to land transactions in recent years.

From the selected villages, 120 respondents, who had sold their agricultural lands during 1986-2000, were selected. The respondents were divided into five categories, viz. Landless (became landholders after sold out land), Marginal (<1.0 ha), Small (>1.0–2.0), Medium (>2.0-4.0 ha) and Large (>4.0 ha). Information pertaining to land transactions, growth rate of sale and purchase of agricultural land, factors responsible for sale and purchase of agricultural land, land-use pattern before and after sale, area of land transfer from agriculture to non-agriculture use was collected from the respondents through personal interview using well-structured questionnaire. The secondary data were collected from the Office of District Registrar, Collectorate of Stamps, Raipur; Office of Tehsildar, Raipur and Revenue Inspectors of the respective villages. The secondary data on land-use pattern, before and after sale, area and price of sold lands were collected for all the four villages. Data collected pertained to the land transactions during the period 1986 to 2000.

To estimate supply and demand relationships in land market, the specification of the model applied by Mani (1993), Mani and Pandey (2000) was used. These authors had used Two Stage Least Squares Technique (TSLST) of simultaneous equation system in a highly agricultural and industrial developed region of western Uttar Pradesh. All the variables (with definitions) of their model have been retained. The main reason to use their model in the context of Chhattisgarh, was to examine the validity and relevance of the variables to capture the land transaction process in the relatively backward agricultural state like Chhattisgarh. Such validation may also help to carry out studies on land transactions in various agro-climatic zones and to understand the implications of land transactions on agricultural transformation.

The TSLST of simultaneous equation system was used to estimate demand and supply relationship in land market with the following specification:

Supply Relation

$$Y_1 (s) = a_0 + a_1 Y_2 + a_2 X_1 + a_3 X_2 + a_4 X_3 + U_1 \quad \dots(1)$$

Demand Relation

$$Y_1 (d) = b_0 + b_1 Y_2 + b_2 X_4 + b_3 X_5 + b_4 X_6 + b_5 X_7 + U_2 \quad \dots(2)$$

$$Y_1 (s) = Y_1 (D) \quad \dots(3)$$

Endogenous Variables

$Y_1 (s)$ = Size of land transacted (in ha), i.e. quantity or area of land sold in parcel lot,

$Y_1 (d)$ = Size of land transacted (in ha), i.e. quantity or area of land purchased in parcel lot,

$Y_2 (s)$ = Price of land sold ('000 Rs/ha), and

$Y_2 (d)$ = Price of land purchased ('000 Rs/ha).

Exogenous Variables

X_1 = Pre-sale total owned land of sellers (ha), showing the stock variable out of which land was offered for sale,

X_2 = Pre-sale total owned land of absentee sellers (ha),

X_3 = Pre-sale total owned land of those selling under pressure,

X_4 = Pre-purchase total owned land of buyers (ha), showing the buying capacity of buyers,

X_5 = Non-farm income of buyers ('000 Rs), showing the buying capacity of buyers,

X_6 = Revenue grade of land parcel (in Rs), and

X_7 = Distance of land from N.H.6. The variable represents attribute of land parcel for non-agricultural uses

'a' and 'b' are the coefficients of the variables, and

'U' is the term associated with respective Y_s .

Linear Trends in Land Sales and Land Prices

For analysis of secondary data, simple trends of land sale, number of sales, sold area as a per cent of total area and land prices were determined for 15 years, i.e. from 1986 to 2000.

Results and Discussion

Agricultural Land Transfer

Distribution of buyers by different categories of farmers or respondents and purpose of buying can be seen from Table 1. To increase cultivated area and emerging land market business were the two main

Table 1. Land purchases for agricultural and non-agricultural uses by different categories of buyers in studied villages

Size/ Group	Cultivation			Housing			Industry			Poultry			Dairy		
	No.	Avg. size of holding	Land purchased	No.	Avg. size of holding	Land purchased	No.	Avg. size of holding	Land purchased	No.	Avg. size of holding	Land purchased	No.	Avg. size of holding	Land purchased
Landless	8	0.000	1.936	3	0.0000	0.8949	0	0.0000	0.0000	0	0.0000	0.0000	0	0.000	0.0000
Marginal	7	0.533	1.242	5	0.7500	1.9210	0	0.0000	0.0000	0	0.0000	0.0000	2	0.410	0.9439
Small	8	1.202	8.750	8	1.4040	3.5210	2	1.7210	1.0166	3	1.7210	1.1728	0	0.000	0.0000
Medium	4	2.785	4.500	7	3.0000	2.3100	0	0.0000	0.0000	2	3.2150	1.7120	0	0.000	0.0000
Large	8	4.196	1.167	3	4.0250	3.0670	2	2.3520	1.0000	4	4.7610	1.7080	0	0.000	0.0000
Total	35	1.659	17.595 (259787)	26	1.8483	12.7139 (436909)	4	2.0365	2.0166 (362700)	9	3.4042	4.5928 (364315)	2	0.410	0.9439 (233734)

Note: Figures within the brackets indicate average price (Rs/ha) paid by buyers

Table 2. Land purchases for agricultural and non-agricultural uses by buyers in studied villages according to location and revenue grade

Particulars	Cultivation			Housing			Industry			Poultry			Dairy			Total land transactions		
	No.	ha	Rs/ha	No.	ha	Rs/ha	No.	ha	Rs/ha	No.	ha	Rs/ha	No.	ha	Rs/ha	No.	ha	Rs/ha
1. Distance from NH-6 (km)																		
0-0	2	0.082		9	2.3948		0	0		0	0		0	0		11	2.4768	
0-1	8	2.957		8	4.8336		1	0.5339		3	0.961		2	0.9439		22	10.2294	
1-2	14	5.467		6	2.348		1	0.404		5	2.7198		0	0		26	10.9388	
>2	11	9.0893		3	3.1375		2	1.0787		1	0.912		0	0		17	14.2175	
Total	35	17.5953		26	12.7139		4	2.0166		9	4.5928		2	0.9439		76	37.8625	
2. Revenue grade (paise/Rs)																		
0.50	5	0.276		2	0.929		0	0		0	0		0	0		7	1.205	
0.50-1.00	11	3.654		11	3.852		0	0		1	0.14		0	0		23	7.646	
1.00-2.00	12	11.418		11	5.894		4	2.0166		4	2.1938		2	0.9439		33	22.4617	
2.00-3.00	7	2.2473		1	0.092		0	0		4	2.259		0	0		12	4.5983	
>3.00	0	0		1	1.9515		0	0		0	0		0	0		1	1.9518	
Total	35	17.5953		26	12.7139		4	2.0166		9	4.5928		2	0.9439		76	37.8625	

factors affecting land transactions. Medium- and large-size group farmers purchased more land for agricultural and non-agricultural uses. While marginal farmers purchased small quantity of land for agricultural and non-agricultural uses. Land transactions along with national highway and according to revenue grade land have been presented in Table 2. Most of the land purchased for housing purpose was situated nearby National Highways, whereas the land purchased for cultivation, poultry, industry, and dairy was situated out-side the villages. The lands situated on/near to the periphery of the villages had more demand for housing, dairy and poultry. Lands purchased for the housing purposes were transacted in 0.00-km to 1.00-km periphery of villages. The lands situated at a distance of 1-2 km from villages and highways were purchased for cultivation purpose.

Revenue grade of the land purchased for cultivation purpose has ranged from Rs 0.00 to Rs 2.00. But the maximum land transactions had occurred for the revenue grade range between Rs 0.50 to Rs 2.00. Land purchased for poultry and industry fell under higher revenue grades category, as compared to land purchased for cultivation.

Land Sale Pattern and Reasons for Sale

Table 3 shows that farmers under large category sold more land than other categories of farmers. While landless sold very low land as compared to other categories of farmers, Marginal sellers contributed a

large numbers of land sellers but they had received low prices of land. It was due to the fact that large sellers had adequate capital resources to meet their basic needs. Also, since they had linkages with people engaged in land sale business, they could generate enough income from the land transactions than other non-agriculture business. But, marginal sellers sold their land under distress conditions to meet basic socio-economic needs. The reason-wise analysis of land sale among different farm-size groups has been presented in Table 4. High prices of land (sale and purchase of land business) was the main reason for land sale. Gambling and addiction played a small role in land sale. Large and medium households sold their land from business point of view and to transfer their farming assets into more advantageous resources, while landless and marginal farmers sold their land for meeting the basic need of households, social ceremonies, and loan repayment.

Supply and Demand Relationships in Land Market

The estimated coefficients of supply and demand relations generated by using two-stage least squares technique with respect to sale and purchase of land have been presented in Table 5. Price of land and total owned land of the sellers were the two important factors which contributed to land sale. However, price of land purchased and non-farm income of the buyers affected the demand of land. Absentee sellers and distress sales

Table 3. Land sale pattern by sellers according to size of holding in sample villages

Class character	Total number of sellers	Total land transacted (ha)	Average price received (Rs/ha)	Total land owned (ha)	
				Pre-sale transactions	Post-sale transactions
Landless	24	6.439 (10.89)	304639	6.439	0
Marginal (<1.0 ha)	28	12.304 (20.82)	167569	34.777	22.473
Small (>1.0-2.0 ha)	28	12.568 (21.26)	304298	50.0745	37.5065
Medium (>2.0-4.0)	22	12.664 (21.43)	269097	80.777	68.113
Large (>4.0 ha)	18	15.132 (25.60)	462913	108.922	93.79
Total samples	120	59.107 (100.00)	308938	280.9895	221.8825

Note: Figures within the brackets are percentages

Table 4. Distribution of sellers by size-group of holdings and reasons for sale of land in sample villages

Sl. No.	Reason for sale	Landless	Marginal	Small	Medium	Large	Total	Total land transacted	Average price received (Rs/ha)
1.	High price of land	0	7	10	11	11	39	26.0(44.00)	138769
2.	Social ceremonies	4	3	4	0	0	11	6.3(10.73)	132053
3.	Loan repayment	4	4	1	1	0	10	5.0(8.43)	123291
4.	House repairing/ construction	0	3	3	3	0	9	4.2(7.14)	158572
5.	Family needs like medical care, consumption and others	6	4	2	1	0	13	5.5 (9.33)	173861
6.	Gambling/addiction	3	1	1	1	1	7	1.6 (2.70)	173022
7.	Pressure from others to sell	4	1	3	0	0	8	3.2 (5.48)	250683
8.	Land degradation	0	2	0	2	3	7	1.8 (3.12)	143323
9.	Investment need (e.g. starting a new business)	1	2	3	3	2	11	3.4 (5.68)	169513
10.	Migration to other place	2	0	1	0	1	5	2.0 (3.39)	211420
	Total	24	25	28	22	18	120	59.0 (100)	152835 (Average)

Note: Values within the parentheses are percentages to total value

Table 5. Supply and demand relations in land market

Particulars	Intercept	Price of land sold/ purchased (‘000 Rs/ha)	Pre-purchase/sale total owned land (ha)			Revenue grade	Non-farm income of buyer (‘000 Rs)	Distance from NH-6	R ²
			Seller/buyer	Absentee seller	Sellers selling under pressure				
Supply relation	0.11 (0.19)	0.172** (.022)	0.074** (0.026)	0.073 (0.095)	0.036 (0.095)	-	-	-	0.5182
Demand relation	0.15 (0.16)	0.087** (0.026)	0.034 (0.031)	-	-	-0.023 (0.022)	0.111** (0.046)	-0.021 (0.053)	0.2308

Notes: 1. Figures within the parentheses are standard errors of coefficients

2. ** Denotes statistical significance at 10 per cent level

influenced land sale market. These results are consistent with those of Mani and Pandey (2000) and Mani and Gandhi (1994). Mani (1993) and Mani and Pandey (2000) model was also equally relevant for the backward agriculture regions. However, revenue grade and distance from National Highway did not affect the land purchases.

Linear Trends in Land Sale and Land Prices

The estimated trend equations for land sale and

land prices have been presented in Table 6. At the aggregate level coefficients of registered price per hectare, area sold and number of sales registered were statistically significant and had affected land sales and land prices. However, the sold area as per cent of the total area registered a positive but non-significant effect. These findings indicate that these variables had not influenced land sales and land prices. It was also due to the fact that the percentage of total area in villages was higher as compared to the sold area.

Table 6. Linear trends in land sale and land prices in sample villages

Equation = $Y = a + bt$

Equation No.	Intercept	Coeff. of time variable b	R ²
1. Area sold	3.53	0.05** (0.41)	0.599
2. Number of sales registered	4.20	0.07** (0.27)	0.692
3. Sold area as per cent of total area	1.59	0.06 (0.42)	0.641
4. Registered price/ha	12.27	0.13** (0.167)	0.925

Conclusions and Policy Interventions

Land transfers from agriculture to non-agriculture use have been clearly visible in the studied villages in Chhattisgarh. Large farmers have been the maximum sellers across different size-groups of farmers. High prices of land followed by sale and purchase of land for earning more profit or money have been found the main governing factors for buying or selling of land. Location of land transactions have been an important factor for non-agricultural uses than agricultural purpose. The price of land sold under pressure to sell from others was higher than for other purposes, including agriculture.

Total owned land of sellers and price of land have been the two important determinants of supply relations in land sale market. Similarly, the total owned land of buyers and their non-farm income have been the major determinants of demand for agricultural land. Also, distance from National Highway, revenue grades and sold land under distress were important factors. The linear trends in land sale and land prices have indicated that area of land for sale increased year after year. Prices of land also increased year after year. In view of the wide gap between registered price of land provided by the Office of the Village Land Record/ Office of the District Land Record, Raipur, and the actual price paid by the respondents, it is difficult to understand the behaviour of farm land market transactions, if one uses these two parameters.

Following policy interventions are suggested on the basis of the findings of this study:

- Transactions in lands for conversion from agricultural to non-agriculture uses are emerging as a serious problem in the outer areas of the

Raipur city. This trend will continue if legal and institutional measures are not designed and enforced effectively.

- The most important factors which force the farmers to sell out their lands are the functioning of aggressive land market forces, extremely poor capital base of the farmers, desire to construct their own houses, increasing addiction to alcohol and inclination towards starting non-agricultural enterprises or business and land hunger of urban businessmen and colonizers. Effective legislations and institutional measures have to be introduced and enforced for the non-transfer of agricultural land. Soft loan schemes may be introduced to meet the social and economic demands of farmers so that they do not mortgage their land to moneylenders.
- Social organizations may play an important role in generating awareness about the ill affects of alcohol and sale of land for non-agricultural uses and implications of such transactions on food security in the long run of the farming community and sector.

References

- Krishnaji, N. (1991) Land market – On dispossession of peasantry, *Indian Journal of Agricultural Economics*, **46**(3): 328-334.
- Marothia, D.K. Gauraha A. K. and Choudhary, V.K. (1991) Agricultural land market: A micro economic analysis, *Indian Journal of Agricultural Economics*, **46**(3): 392-393.
- Marothia, D.K., Gauraha, A.K. and Choudhary, V.K. (1995) Land transactions: Some field level realities, *Artha-Vikas*, **31**(1): 1-14.

- Mani, Gyanendra (1993) *Study of Sale and Lease Markets in Agricultural Land in Western Uttar Pradesh*, Ph.D. Thesis submitted to G.B.Pant University of Agricultural and Technology, Pantnagar, Udham Singh Nagar, Uttarakhand.
- Mani, Gyanendra and Gandhi, Vasant P. (1994) Are land markets worsening the land distribution in progressive areas: A study of Meerut district in western Uttar Pradesh, *Indian Journal of Agricultural Economics*, **49**(3): 330-338.
- Mani, Gyanendra and Pandey, V.K. (2000) A study on land transfer and demand supply relations in land market in western Uttar Pradesh, *Indian Journal of Agricultural Economics*, **55**(1):1-14.
- Santra, B. and Bhoumik, B. (1986) Land transfer in West Bengal – Its nature, causes and consequences, *Economic Affairs*, **31**(4): 225-234.
- Shergill, H.S. (1990) Land market transactions and expansion/contraction of owned area of cultivating peasant families in the Punjab, *Indian Journal of Agricultural Economics*, **45**(1) : 12-20.
- Singh, Baldev (1982) *Land Market: Theory and Practice in Rural India*, Agricole Publishing Academy, New Delhi.