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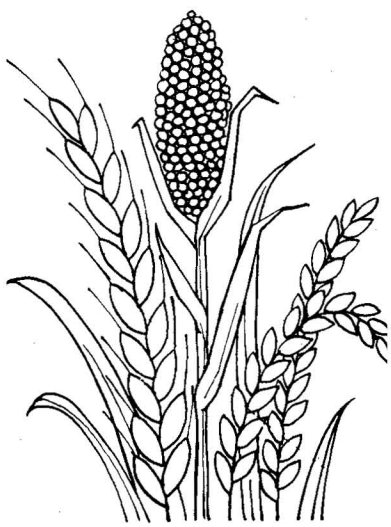

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Summaries

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Study on the Structure, Conduct and Performance of Water Markets in North Coastal Andhra Pradesh

V.T. Raju and D.V.S. Rao*

The study on water markets was conducted in three districts of North Coastal Andhra Pradesh, *viz.*, Srikakulam, Visakhapatnam and East Godavari by selecting 45 water sellers and 45 buyers spread over six villages with the objective of studying the structure, conduct and performance of irrigation water markets. The results indicated that all the selling firms were medium farmers and all the buyers were small farmers, as revealed from their asset structure and land holdings. The seller-buyer concentration ratio was 1:2.92 in the selected sample and 1:2.62 in the selected villages. The important crops for which the water market used were sugarcane, banana, paddy and groundnut. There is no product differentiation in all the selling firms. The barriers to entry are financial resources to own fixed capital (irrigation structures) and small size of holdings. The market demand for irrigation is more in the selected villages and all the required number of irrigations for the crop production in the purchasing firms are purchased from the selling firms. The market area of the selling firms spread within the limits of 200 to 500 metres from the source of well. Thus the buyers are limited by number in that area and hence the markets are highly localised. The buyers had no option of going to other sellers.

The prices are charged based on the number of hours the pumpset was put to use. The rates varied from Rs. 4/hour in Visakhapatnam to Rs. 7 to 8 in East Godavari and Rs. 5 in Srikakulam. Cash payments immediately or after the season are in vogue. The prices vary depending upon the size of bore, cost of lifting water and demand in the village. The prices are uniform in all the markets and no fluctuation within the season or season to season and from seller to seller was observed. No bargaining was entertained. Weekly or fortnightly rotation system was followed to sell the water.

The average number of hours required for irrigating an acre varied from 8, 9 to 12 in Srikakulam, Visakhapatnam and East Godavari districts respectively due to variations in soil type, depth of underground water table and irregularity of power supply. The area irrigated per day was 1.86, 1.22 and one acre respectively in the above three districts. Employment of labour was relatively more in Srikakulam water markets. Finally, it is suggested that group actions need to be initiated to have common ownership of private wells for providing an important input to small farmers, as all the buyers in these markets are small farmers.

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Development and Performance of Groundwater Markets: A Study in a Village of North Bihar

Jagdish Prasad†

The present study makes an attempt to examine the development and performance of groundwater markets in Bihar. The issues examined are: *(i)* what factors contribute to make groundwater market more pervasive?, *(ii)* who are the buyers and purchasers and who have larger control on the water markets?, *(iii)* are the market charges uniform for all categories of farmers, *(iv)* is there any discrimination in selling water to the poor farmers and *(v)* what is the impact of groundwater market on agricultural production.

The data for this study are collected by field investigation from a village of the Musahari block of the Muzaffarpur district of Bihar. The village selected for the study is Rohuarajaram consisting of 250 households, representing a combined population of all castes - landlords of superior castes and small and marginal farmers belonging to intermediary castes. The selection of farm households has been made on the basis of random sample having 15 per cent of the total households in the village.

The study of the private groundwater market as existing in the village reveals that the water market is highly localised in nature. Since the major source of irrigation is private tubewell, the farmers are fully dependent for irrigation on their own resources or purchasing water from those farmers who own pumpsets. The dismal performance of the state tubewells has helped the development of groundwater market. There are certain imperfections in the existing water market system as evident from its control by large land holding class, large variations in water charges, non-accessibility of all poor farmers to water market due to the highly localised nature and discriminatory approach of the water seller to sell the water to different categories of farmers. All these imperfections have not only restricted the equity effects of water market, but also shown little impact on agricultural production.

An important policy implication is to regulate the water charges on uniform basis. Land channels need to be constructed for the supply of water to the poor farmers. The role of state tubewells also can not be ignored in creating competitive environment in the groundwater market. Immediate corrective measures need to be taken for the development of the potential of groundwater market which could be utilised particularly by small and marginal farmers.

Traditional Irrigation, State Intervention and the Development of Water Markets in Kerala

D. Narayana*

Asian agriculture is basically 'irrigation agriculture'. It is this reality which is beautifully captured in Mao's words: "water supply is the thread of life of agriculture". The techniques of irrigation and the organisations built around them vary very widely in the main agricultural regions of West, South and East Asia. Inundation works and *quanats* (underground tunnels)

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abound in West Asia, whereas the three most common types with a long tradition in monsoon Asia are diversion channels, surface drainage tanks and wells.

Going by the development of traditional irrigation systems in India, the states may be grouped into three, with each group showing the dominance of a particular system. 'Other sources', under which fall the diversion channels, were the dominant systems in Kerala, Assam and Bihar; along with private canals they were also of some relevance in Orissa, West Bengal and Jammu & Kashmir. The agro-climatic specificities of these regions need hardly be mentioned.

Minor irrigation development in Kerala in the post-Independence period has largely turned out to be state intervention aimed at replacing already existing 'other sources' built and managed by irrigation communities. The construction of these works is done by the apparatus of the state, with its resources and there is no involvement of the local communities at the design or implementation stage. Most of the replacement or construction by the state was faulty by design, sub-standard by construction and hence was useless. With the destruction of the irrigation structure, the traditional irrigation organisation, which was built around the structure, also got disintegrated. This made way for the introduction of other techniques with the attendant organisations and institutions.

The other techniques introduced were mostly energised lifting. Despite financial support from the state in the form of subsidies, only the relatively large farmers who had non-agricultural source of income could buy pumpsets. This inequity in the distribution of pumps and the destruction of the traditional irrigation structure necessitated the non-pump owners to purchase water from the pump owners. Thus state intervention brought about a shift from equity in the communal sharing of water which was one of the essential principles of the traditional irrigation organisation, to market dealings in water. In other words, a movement from the sharing of a common resource to the sale with a profit was largely the result of state intervention.

Structure of Water Market in Dabra Block of Bilaspur District in Madhya Pradesh

K.G. Agrawal, A.K. Koshta, M.R. Chandrakar and T.C. Nayak†

Water is a prime non-stock input in agricultural production. It is available through various sources such as canal, tubewell, well, tank and reservoir. Canal water is made available under major irrigation projects and it covers a large percentage of irrigated area under *kharif* paddy in Chhattisgarh region of Madhya Pradesh and thus it is known as a monocrop area. In the area where irrigation water is made available through minor irrigation sources, water market has been developed and competition between the users of water for different crop seasons is prevailing. The paper examines the structure of water market under minor irrigation sources. The specific objectives of the study were (1) to find out the proportion of operational area brought under different minor irrigation sources and their contribution to gross cropped area, (2) to examine the use of water on own farms and other farms for sale

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under different crops and sources and (3) to study the pattern of private investment made on different sources of minor irrigation.

The study was conducted in Dabra block of Bilaspur district where water market for various sources is prevalent. Eight villages were selected for the study, of which six villages had tubewell, well and tank sources and the remaining two villages had reservoir source. From the sample villages, 73 respondents were selected, out of which 15 had tubewell, 11 had reservoir, six had well and 31 had tank (11 farmers belonged to the size-group below 2 hectares of land and the remaining above 2 hectares) sources. In addition, ten farmers were selected from different combinations of sources, such as tubewell plus tank, tubewll plus reservoir, well plus tank and reservoir plus tank. Primary information was collected through schedules designed for the study for crop year 1989-90.

This study concludes that more diversification of crop has been done through tubewell source of 10 HP and 15 HP and more water was sold for cultivation of summer groundnut to small/medium farmers at remunerative price. The well owners have utilised their water potentiality efficiently on their own farms as compared to the owners of tubewell (5 HP). Only the well source has irrigated the *rabi* season crops. In the case of reservoir source, the locational factor has been found a major constraint.

The tank source played a major role as public water institution in minimising the pressure of water supply in the *kharif* season for other sources. It is also revealed that marginal/small farmers have been benefited more through diversification of crops and low rate of water than medium farmers. Tank combined with well has proved to be an optimum combination.

A Study of Risk-Bearing Function in Marketing Activities of the Owners of Shallow Tubewells

S. Bandyopadhyay*

The study highlights the risk-bearing function in marketing of irrigation water by operating shallow tubewells in a village lying in the progressive belt of agriculture (Hooghly district) in West Bengal. Detailed information was collected from all the 22 farmers owning shallow tubewells in the village early this year (1991) by interviewing them with the help of pre-tested questionnaire. The study is based on the past experiences of the farmers, present situation and future prospect of their enterprises in the context of risk and uncertainty. Besides irrigating their own crop lands in the command areas, all of them sell irrigation water to their neighbouring farmers. The latter activity of the farmers comes under the purview of marketing of irrigation water and is quite expectedly beset with several inherent risks which arise in other marketing activities. Though the supply of irrigation water is obtained from the natural source, it is occasionally disturbed (sometimes seriously) in the study area. Uncertainty arises in obtaining supply of groundwater due to some natural causes. During the summer season every year the water table goes down to a considerable depth resulting in inadequate supply of irrigation water in the command areas. Earnings from the sale of irrigation water to other farmers decrease to a considerable extent at this time.

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Alternative arrangement of irrigation by using pumpsets becomes rather impossible as surface water is also quite inadequate to meet the demand. Non-availability of requisite amount of water in the water table causes frequent breakdowns of pumpsets. Vagaries of nature, such as heavy rains, storms, floods also make the pumpsets inoperative, destroy the sheds erected for housing the machines and other fittings and also reduce the demand for irrigation water due to crop failures. Risks arising out of natural causes are borne by the owners of the tubewells as the incidence of loss cannot be shifted to their customers. Risks arising out of theft of machines and fittings have a damaging effect upon the marketing activity. Risks also arise due to human failures, *viz.*, inept handling of machines and fittings, maintenance lapses, faulty repairs of the pumpsets and non-availability of suitable spare parts at appropriate time. Risks arising out of theft and human failures are also borne by the owners of the tubewells. Risks resulting from human failures are, however, not wholly outside the control of the farmers. None of the pumpsets is covered by insurance policy because of the cost involved in the form of premium and complex formalities. Risk of sudden and abnormal increase in operating cost is wholly shifted to the customers through increase in the rate of irrigation water. Collective actions of the tubewell owners have totally eliminated the risks of bad debts and unhealthy competition in the market. No marginal farmer owning up to one hectare of land participates in the activity while five small farmers, six semi-medium farmers and 11 medium farmers own one shallow tubewell each, apparently indicating larger risk-bearing capacities of the farmers in the higher size-groups. Government policies in respect of credit supply on easy terms and fixing the prices of petroleum products at reasonable levels will definitely encourage private investments in the irrigation projects and minimise risks.

Deep Borewell Water Business in Pudukkottai District, Tamil Nadu: Some Empirical Analysis

A. Narayanamoorthy†

After the advent of HYV-fertiliser technology, the use of groundwater has increased rapidly in Indian agriculture. The area under tubewell as a proportion of total irrigated area has increased consistently from 0.6 per cent in 1960-61 to 26.9 per cent in 1984-85. In India, most of the borewells are privately owned by large farmers. In recent years, the market for groundwater has emerged rapidly. The water market depends upon many factors, *viz.*, price of the water, type of pumpsets used: electrified or diesel, rate of rainfall, concentration of borewells, land size of the borewell owners, depth of the borewell, its recharging capacity, crop pattern of both borewell and non-borewell owners, land structure: fragmented or consolidated, etc. The price of water pumped out by electric motor is very cheap compared to diesel pumpsets.

In this context, the present study mainly focuses on the following questions: (1) Who sells water? Who sells more and who sells less? and Why?, (2) What is the prevailing price? On what basis do they fix the price?, and (3) What type of water market is prevailing in this

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area?

The study has been conducted in Vallathirakottai revenue village of Pudukkottai district of Tamil Nadu. This village has a large number of deep borewells, which were identified with the help of Training and Visit (T&V) office records. In this village, 89 borewell owners own 98 borewells. It is estimated that one borewell serves the water needs of 5.84 acres of net sown area. Three crops are being cultivated in a year. A sample of 50 borewell owners was randomly selected from the village, who were grouped into three size-groups, namely, small (0.01 to 2.50 acres), medium (2.51 to 5.00 acres) and large farmers (above 5.01 acres). Correlation and regression analyses were done to study the relationship between sale of water and some determining factors. It is found that the small farmers are not the only sellers; medium and large farmers also sold water. Small and large farmers sold water for more hours than medium farmers. Small farmers sold a high proportion of water to total water taken from the borewell. Locally dominating group in terms of land holding and social status is mostly involved in water business. The price of water is cheaper in the case of electric pumpset (Rs. 5/hr.) as compared to diesel pumpset (Rs. 12) with equal horse power. Price discrimination is confidentially practised for bulk customers. There is a negative correlation between hours of water sale and total area as well as area under paddy and sugarcane, while a positive correlation has been found between hours of water sale and total hours of water taken from the borewell, but the association between the variables is very weak and not significant. The regression result (the R^2 value is very weak) shows that the sale of water is significantly and positively influenced by the total hours of water taken. It is also found that when the area under paddy of a borewell owner decreases, then the sale of water goes up. The existing structure of the water market can not be explained by any one of the existing theoretical market structures, but it seems more appropriate to categorise them as monopolistic competition. Lastly, sale of water mostly depends upon the situational factors of the borewell such as where the pumpset is situated, distance between one borewell and another, pressure of water in the borewell, cropping pattern of the borewell owner as well as the water buyer.

An Economic Analysis of the Impact of Land Transfers on Labour Use Pattern in Amritsar District of Punjab

H.K.Sandhu*

The paper examines the impact of land transfers through land ceilings in the rural areas of the Punjab. The affected farmers in both ways, that is, those who had surplus lands and those to whom the land was allotted, were classified into category I and category II farmers. Almost all the affected farmers were considered for the study. Relevant data were collected from the selected farmers through personal interviews. The study related to the year 1988-89 only.

Resource use data were collected to work out the economic coefficients for existing and

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optimum farm plans for both categories of farmers. Linear programming techniques were utilised and labour requirements were worked out. The following conclusions are drawn from the study.

By comparison, it was observed that transfer of land through land ceilings gave more employment to permanent labour in the group of small and marginal farmers. Many landless persons had become small farmers. Category II farmers were observed to be more labour-intensive, therefore more rural employment was created. In the optimum plans, the demand for casual labour did not increase at the farm level because of the transfer of land. Only the adjustment pattern of rural employment was affected. In June and December, the requirements for casual labour were reported to be higher in category I whereas the demand for casual labour was not suggested in category II situation. It was also observed that the young farmers in the rural areas preferred dairy enterprises where milk prices are high or employment in urban vicinities because the holdings transferred to them were not economically viable and economical. On the whole, it was observed that there was still enough to be done to solve the problem of unemployment of rural youth.

A Study of Agricultural Land Market in the Punjab

I.S. Chatha, J.S. Dhawan and S.S. Grewal†

Land is the basic factor of production and the demand for agricultural land in the Punjab has increased at a fast rate recently due to introduction of modern technology and consequent increase in productivity. Specifically, the paper examines *(i)* the operation of land-lease market, *(ii)* analyses sale and purchase and the trend of land prices and *(iii)* examines land mortgage pattern. A sample of 166 farmers was drawn from different locations from seven out of twelve districts of the state. The study was conducted during 1990-91.

The study brought out that all categories of farmers irrespective of their farm size entered into the land-lease market. Both the large and the small farmers are lessees as well as lessors. The magnitude of the leased area was 43.45 per cent of the total area operated by the lessee farmers. The leased area per lessee was found to have a positive relationship with farm size. The proportion of land leased in was also positively correlated with the ownership of tractors. In about 89 per cent of the cases the contracts were on cash rental basis and the rest (11 per cent) resorted to sharing of the produce. The average cash rent amounted to Rs. 3,000 per acre. Generally, the produce and the costly inputs such as fertilisers, weedicides, insecticides, seeds, etc., were being shared by the lessor and the lessee on 50:50 basis. As such, the land-lease market in operation was found to be working to the satisfaction of both the lessors and the lessees and not even a single case of any dispute whether for sharing of the produce or for eviction of the tenant came to light in this study. Thus the tenancy legislation of the early fifties providing safeguards to the tenants *(i)* for sharing of the produce and *(ii)* against their eviction by the landlords, does not have any relevance in the present day system of land-lease market. Rather the lurking apprehensions of the lessors that the long leases would entitle the tenants to the rights for cultivation of the land prevents them from effecting

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long-term contracts, which are not in the interest of overall efficiency in farming. The old tenancy legislation, therefore, needs revision to encourage the land-lease market further which is essential, keeping in view the requirements of modern technology.

Regarding land transaction, it was found that only about 15 per cent of the owned area was exchanged during 1981 to 1990 and it did not exceed 3 per cent in any single year. About 50 per cent of the sample farmers were involved in land transactions. It was further revealed that the small farmers had purchased relatively a larger proportion of their owned area, though the prices of land had gone up over three times during the past decade (from Rs. 26,000 per acre in 1981 to Rs. 80,000 in 1990). The majority of such farmers were sticking to their inherited profession primarily because they could not find employment opportunities elsewhere - no doubt the small farms are not viable units. Hence, there is a strong case for creating off-farm employment to lessen the burden on land.

It was revealed that only a nominal proportion of the land was involved in the mortgage transactions mainly due to the fast declining money value, increasing availability of alternative sources of credit and higher expenditure on registration of deeds, etc. It was observed that 11 out of 166 farmers had mortgaged in only about 2 per cent of their total owned area during the period 1981 to 1990. Though this component of land market is not of much significance, yet viewed from the angle of social and economic justice, imposition of charges for registration at par with that for permanent deals on helpless and needy farmers does not seem to be justified.

Land Market Transactions and Their Impact on the Distribution of Land in Farm Families in Haryana

K.N. Rai, S.P. Singh, R.S. Chauhan and Shri Niwas*

In this paper an attempt has been made to study the important factors influencing the expansion and contraction of owned land of peasant families through land market transactions. The impact of land transactions on the distribution of farm land in farm families is also analysed. The analysis is based on the primary data collected during 1990-91 from 90 sample farms belonging to nine villages of Kurukshetra district of Haryana through stratified random sampling method. Univariate as well as multivariate linear regressions were run to examine the impact of different factors affecting land market transactions.

The findings of the study revealed that the change in owned area of peasant families is significantly influenced by the area owned at the time of formation of an independent unit, number of adult male members, mortgaged in land, per capita income and adoption of new crop production technology and is negatively influenced by addiction to liquor. Land market transactions result in net transfer of land to cultivating households from non-cultivating households. The findings further reflect the widening of inequality in land distribution among peasant households.

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Changing Structure of Land Ownership and Tenancy in Haryana

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The study investigates the regionwise concentration of land ownership amongst farm sizes, the effects of demographic pressures on the access to land as well as the extent and terms of leasing in of agricultural land among farm sizes in Haryana. The secondary data pertaining to the ownership of land holdings in the state for the years 1970-71, 1976-77, 1980-81 and 1985-86 and the extent and terms of leasing in of agricultural land for 1980-81 and 1985-86 were collected from the Directorate of Land Records, Haryana. Besides percentages and averages, the Lorenz curve and Gini concentration ratios were worked out to measure the degree of inequality.

The analysis of data reveals that *(i)* the extent of inequality in the distribution of land ownership has slightly increased in all the categories during 1970-71 to 1985-86. Moreover, there seems to be concentration of land holdings at the bottom in all the categories both across regions and state, as indicated by the slight increase in the area among marginal and small farmers and by a decline in the area amongst medium and large farmers. *(ii)* The average size of operational holdings (access to land) across regions and state has declined during 1970-71 and 1985-86 in all the categories. Accordingly, over the period the inter-class access to land and thereby command over other inputs in the regions and the state are declining. *(iii)* The most popular term of leasing is the 'share-of-produce' followed by 'fixed money' in the state and across regions. Indeed, the leasing in of agricultural land acts as a short-run land market. The policy implications of these findings are that *(a)* in the process of concentration of land ownership at the bottom, concerted efforts are needed to create 'viable holdings', *(b)* the demographic pressures on land require the creation of off-farm employment opportunities in the state and *(c)* the leasing in of agricultural land which acts as a short-run land market requires legal regularisation.

Optimum Utilisation of Land Resources - A Micro Level Study

S.P. Bhardwaj,‡ H.C. Gupta and U.N. Dixit‡

The availability of cultivable land has been under various pulls and pressures in our developing economy. The existing low land-man ratio will be further narrowed down in the years to come. The only option for enhancing food production lies in the vertical growth of land resources. The present study is based on survey data of sample farmers of Gurgaon district, Haryana State. The study revealed that a significant proportion of the holdings in the area was unirrigated. The extent of irrigation varied from 55 per cent to 75 per cent of the gross cropped area. The existing land use pattern indicated that marginal or less fertile

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lands are allocated to crops like barley, gram and mustard, especially by the small category of farmers.

However, the optimum land use planning showed that even in the unirrigated conditions, land can be optimally used in growing much remunerative crops like gram and mustard. The study concludes that farmers should be suitably advised to optimise the use of their land resources so that total food production can be enhanced.

Factors Affecting Land Market Transactions and Its Impact on Size Distribution of Holdings in a Hill Region

Ramesh Chand and S.C. Tewari†

No study in the past has focused on land market transactions in mountain agriculture which is distinct from other situations. Land is the most scarce resource in hill region and there is intense competition in hill regions in land market. Due to limited investment opportunities, land is the most important asset for making private investment in such regions. This study was undertaken in this background and it aimed at examining the socio-economic factors affecting sale/purchase of agricultural land in the State of Himachal Pradesh. Factors attributed by the buyers/sellers for buying/selling of land were studied and the impact of land transactions on land ownership pattern was analysed. The study was conducted in Solan district which represents mid-hill zone of the state. The study sample consisted of 70 sellers and 64 buyers who indulged in land transaction during the year 1990-91.

It was observed that the buyers of land had 2 to 3 times higher inherited land, value of wealth, off-farm income and farm income as compared to the sellers of land. The percentage of literacy was also higher in the case of buyer's household. The sellers reported that they had to sell land largely to repay their debt, to meet social obligations and to construct houses. The important considerations for purchase of land were reported to be to make the future secure, to have some land in the case of those who had little land previously and cheap price of land. The land transactions led to an increase in the share of large farmers in the total land at the cost of upper middle farm size class.

Land Market and Tenancy in South India: Change and Continuity

K. Badri Narayanan*

Land market in the context of an under-developed economy involves complex economic operations transcending the usual definitions of a commodity market. Thus the definition of land market in India will be too narrow, if it were to include activities based only on free

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or voluntary transactions at mutually agreed prices or with demand and supply considerations. This kind of definition may be suitable to an advanced agrarian economy. An appropriate definition must be elastic enough to include all forms of transfers of land brought about either by administrative proceeds or by voluntary sales, gifts or execution of trust by free will or under coercion or mortgages given under social and economic compulsions, etc. (of course leaving out transfers by inheritance). Though this may not fit in a commodity market parlance, it however aptly describes the changes taking place in land market through variegated prices.

Land market in India is a segmented one. It comprises both sale and lease market. The former operates purely in the domain of purchase and sale transactions of land whereas the latter is the rental market. Changes or fluctuations in the sale market gets reflected in the rental market by decreasing or increasing the rent accruing to such lands. In other words, there is a direct relationship between rental and sale markets. For non-cultivating traffickers in land, it is the rental income that weighs their decision-making along with quality of land. Therefore, all aspects of tenancy contracts should find a place in any analysis of land market.

Analysis of land market is always fraught with difficulties because of the segmentation, internal linkages and the nature of prices prevailing, as against surrogate prices. Hence, it becomes difficult to categorise it along with any traditional commodity market in the neo-classical sense. Its linkage with the lease market further complicated the situation. A historical perspective of land market helps in this respect to segregate the complex web. In the present paper an attempt is made to analyse land markets and their continuity in two diagonally distinct situations of Tanjore and Ramnad in the period 1800s to 1980s.

The land markets of Tanjore and Ramnad districts, though they do not strictly fit themselves in any text book version of market structure, come somewhat closer to oligopsony market structure. Both the districts exhibit a segmented land market with sale and rental markets and with strong links between the two. The rental market, with increased concentration and ownership of land in the hands of a few in both the districts, resembles an oligopoly market set up. The analysis has also shown that the land market was very active and there was a boom during the period following both the First and Second World Wars. The concentration and the ownership of land are in the hands of non-cultivating and absentee landowners. Similarly, the tenancy arrangements in both the districts have more or less settled down to fixed tenancy. However, with the advent of land reform measures and tenancy legislations with their attendant failure, the position of the small land holders and tenants is getting increasingly threatened.

The changes in land and rental markets have not brought any reduction in inequalities and distribution of income, which is normally expected from a long developmental process. The changes in Tanjore and Ramnad districts are mere continuation of what was prevalent in the 19th or in the first few decades of the 20th century. The buyers of lands earlier were the cultivating and non-cultivating upper caste big landowners, traders, bankers and bureaucrats and the sellers were mainly the small and marginal landowners. The post-1950s witnessed a similar situation with changes only in the replacement of dominant buyers from Brahmin to non-Brahmin upper castes and all the other things remaining almost the same. Just as the official policies of the British in a single minded fashion favoured the dominant class or the big land holders of the earlier period, the land reform and tenancy legislations

have more or less replicated the situation of 19th century with rack renting and unceremonious eviction of tenants under hidden tenancy contracts. Hence, the main components of political economy have almost remained the same with marginal changes in the composition of the landed group.

Trends in Land Prices, Class of Buyers and Sellers of Land: An Empirical Study of Some Villages in Karnataka State

R.V. Dadibhavi and S.B. Somannavar†

An empirical study was undertaken with two objectives in view: *(i)* to discern the trends in land sales and land prices and *(ii)* to examine whether the market transfers of land led to polarisation or equalisation. The study is based on secondary and primary data collected from eight villages in Belgaum taluka of Belgaum district in Karnataka State. The secondary data were collected from 1961 to 1990 and primary data were collected through survey method in 1990 for a few years from 70 selected households in four villages of the eight sample villages.

The study has revealed that in the eight villages 3,325 acres of land were sold to 2,186 persons through market transactions over the course of 30 years, *viz.*, 1961 to 1990. Land prices showed a significant upward trend in the pre-green revolution and post-green revolution periods. The area sold showed a significant but negative trend during the post-green revolution period as against a positive trend in the pre-green revolution period.

The growth of area sold per annum declined at the rate of 3.4 per cent since 1971, in sharp contrast to the earlier period when it rose at a high rate of 10.9 per cent per annum. This decline in the area sold since 1971 suggests that the new bio-chemical technology stabilised the financial position of deficit farmers who sold land and consequently the increasing number of landless has been reduced. In a way, the green revolution seems to have slowed down the process of pauperisation in the sample area.

The land prices (registered in sale deed) continuously soared even by the registered prices, despite under-reporting. There appears to be no significant change in the growth of land prices in the post-green revolution period. The gap between the price reported in the sale deed and the price actually paid widened and at present the price reported in sale deeds is less than half of that actually paid. High rates of registration duty seems to be the major factor responsible for under-reporting of price in the sale deed.

The survey further revealed that of the three size-groups (marginal, small and large) of cultivating owners, the group of marginal owners alone made net gains of land via market transactions. The area owned in 1985 by the households of this group increased by as much as 55 per cent as a result of land transactions. The net loss of land was comparatively less in the case of small land holders as compared to others (large farmers). Therefore, it may be inferred that land transactions of the sample farms in Belgaum taluka have not resulted in greater inequality in the distribution of land among cultivating owner households. An

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increase in the share of owned land of the small owner cultivators' group and a decrease in the share of other cultivators' group indicated a tendency towards equalisation in the distribution of land in the study area. However, the transfer of land from cultivating owner households to non-cultivating owner households must be discouraged in the interest of agricultural development.

Economic Study of Land Markets in Karnataka

R.K. Pandey and V.R. Kiresur*

The paper examines the trends in the sale and purchase of land and the prices and leasing of land in Dharwad district of Karnataka State. Primary data for this purpose were collected from 30 randomly selected farmers spread over three villages of the district, *viz.*, Shivalli, Garag and Kotur during the year 1989-90. The study revealed that land transactions have increased over time, both in number and quantity. The area transacted, purchase and/or sale, has increased in absolute terms as well as in proportion to operational holding. While the quality of land and social prestige were the main reasons for purchase of land, land sale was mainly for repayment of loans and for meeting expenses on marriages and other social obligations. Size of holding was the main explanatory variable for purchase of land, thus implying larger land holders purchased larger lands.

The area leased in was, in general, inversely related to the holding size. This conforms to the positive contribution of the lease markets towards more equitable distribution of land for operational purposes. Fixed renting was an important mode of leasing land, indicating risk averting nature of the landowners.

Conversion of Paddy Lands and Its Impact on Land Market - An Experience in Trissur District, Kerala State

P. Indira Devi, E.K. Thomas and K. Jesy Thomas†

Land is the basic unit of production and often a limiting factor. Hence, the management of this input is very important. The prospects of increasing area under cultivation is very limited in view of increasing pressure on land. As such all attempts to maintain the existing cultivated area gains more importance. But the paddy land in Kerala has been registering a steep fall in area to the extent of 3.49 per cent per annum during the last decade and this was enough to offset the effect of a positive growth rate of productivity on total production. This study was undertaken with the specific objective of estimating the decline in paddy land and the factors leading to it.

Multi-stage random sampling technique was adopted in the selection of 25 sample farmers from Trissur district of Kerala and the data were collected by personal interview

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method. It was found that during a short span of three years (1987-88 to 1988-89) the decline in the area under paddy was to the extent of 31 per cent. A more specific study concentrating the various uses to which the paddy land is converted has revealed that nearly 46.67 per cent of cultivable paddy land was leased out for tile and brick manufacturing industries, 13.33 per cent was leased out for banana cultivation, 11.67 per cent converted into garden land suitable for civil and construction purposes and 5 per cent was kept as fallow land. Only 23.33 per cent of the cultivable land was under paddy.

The costs and returns from paddy cultivation showed a benefit-cost ratio of 1.51 over all paid out costs. Even though this appears economic, several factors like labour management, risk (price risk and yield risk), etc., make this crop less acceptable to farmers now-a-days. Leasing out the land for industrial purposes brought profit which was about five times more than that of paddy cultivation, and in the case of leasing out for banana cultivation, the profit was nearly twice as that of paddy. This profit is in addition to the intangible benefits of low risk, lumpsum payment and absence of management and supervision problems of paddy cultivation. Conversion of paddy land to garden land by filling and planting coconuts fetches 200-300 per cent more value. This practice is more prevalent in semi-urban areas where migration exists due to fast urbanisation by rural people. Five per cent of the cultivable area was kept as fallow due to absentee landlordism, irrigation and drainage problems, and mere lack of interest on the part of owners. Legally, restricting the conversion of paddy land for any other use seems to be the only possible way to prevent the decline in paddy area. Formulating and implementing programmes to boost production is equally important.

Land Marketing around Pune City

R.D. Khodaskar and A.A. Rane*

An attempt is made in the paper to analyse 19 land transactions (19 case studies) around Pune City, so as to identify the characteristics of land sellers and land buyers. The reasons for such land transactions are also identified. The data were collected by interviewing the sellers of land and buyers of land during May-June 1991. Urulikanchan village of Haveli taluka (Pune district) in Maharashtra, which is located 35 km. away from Pune city and village Sastabad of Sirur taluka (Pune district) which is 40 km. away from Pune city are selected for this study.

Farm net income, net dairy income, incomes from (jobs) services and from other sources, such as house rent, transport services, etc., were estimated with the help of collected data. The analysis of data revealed that there was not much difference in the average size of holding of land buyers and sellers, being 5.92 ha and 5.72 ha respectively. The size of family in terms of adult units of a buyer and seller farmer was more or less similar. It is also observed that the sellers and buyers enjoyed equal status in village society because their average total family income was more or less similar. It is also revealed that sellers have made more investment in vehicles, tractors, etc., as compared to the buyers and they are more inclined

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towards transport and other businesses. The sellers and buyers have invested on an average Rs. 56,166 and Rs. 33,154 each respectively in means of transport, tractors, etc. The sellers and buyers possessed average total assets worth Rs. 87,500 and 67,633 respectively. The analysis of data showed that income from jobs and income from other sources like house rent, transport services, etc., were more in the case of sellers than in the case of buyers. Seventy per cent of the sellers were buyers and they sold their highly priced piece of land in their own village and bought a bigger size of land in a distantly situated village (50 to 60 km away from Pune city). The average price of land in the two villages located near the Pune city (distance of 15 to 20 km) and away from the city (50 to 60 km) was Rs. 1,55,647 and Rs. 28,467 respectively. Because of this price difference, farmers used to sell small pieces of land (average 0.61 ha) from their own village and purchased bigger size of land (average 2.05 ha) in a distantly situated village with a view to generating more farm income. Part of the money received by selling the land was spent on developing the land for improving the farm business. There were no cases of distress sale of land in the area under study. The existing land market around Pune city also helped to generate more employment on newly purchased bigger farms and also helped the farmers to earn more farm income through increased size of holding.

The analysis of land price data revealed that the price of land per hectare in 1989-90 in the area under study was seven times more than that in 1980-81 and it was Rs. 22,424 in 1980-81, Rs. 77,083 in 1984-85 and Rs. 1,55,000 in 1989-90.

Dynamics of Land Market Forces and Its Determinants in Vidarbha Region of Maharashtra State

N.A. Gadre, S.L. Deshpande, D.P. Wahile and V.N. Autkar†

The paper attempts to study the dynamics of land market forces and to find out the determinants of land sale pressure. Quinquennial data for the period 1947-48 to 1986-87 were collected from the tahasil office to find out the effect of the land reform measures in Vidarbha region. Data from 32 randomly selected villages from the entire Vidarbha region pertaining to sale transactions were used for studying the determinants of land sale pressure. Two-stage stratified random sampling technique was used for selecting the villages. The data pertaining to the sale transactions related to the years 1985-86 to 1990-91. All the data were obtained from the revenue records whereas information regarding reasons for selling of agricultural land was collected by personal interview with the transferees.

It was observed that the sale of land amongst the market forces and inheritance and partitions amongst the non-market forces were prominent till 1952-53 with a share of 66.47 per cent and 33.53 per cent respectively of the total land transacted. The land reform force has emerged as the third force influencing the land market after 1957-58, accounting for a sizeable share of area, *i.e.*, 14.30 per cent in the total transactions.

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It was observed that 53.52 per cent of the total of 327 sale transactions made in the selected villages during the period of study were effected from medium size-group of cultivators, followed by small size-group of cultivators (40.06 per cent), whereas the area transacted accounted for 59.36 per cent and 27.09 per cent of the total area transacted respectively, indicating thereby a movement of small and medium farmers towards the path of poverty by loosing income generated on a piece of land. Family consumption pressure was found to be the prominent determinant out of eleven determinants studied, reported by 25.38 per cent of the cultivators involved in the process. This is more so in the case of medium farmers followed by small farmers.

Changing Pattern of Land Sales and Land Prices in Ahmednagar District of Maharashtra

R.R. Suryawanshi, B.V. Pagire, Jg. R. Pawar and D.L. Sale*

Though land is considered as the fixed natural resource at the macro level, the same becomes a specific type of immovable but exchangeable resource commodity which is being transacted in the micro level land markets at prices determined by demand and supply forces. The prices of land determined in the land markets vary greatly depending upon many factors. The characteristics of land markets and the pattern of land sales and land prices have, however, not been studied critically. An attempt has been made in this paper to study in brief the changing pattern of land sales and land prices in five distinct areas of Ahmednagar district in Maharashtra. The study is based on the villagewise time-series data on the number of land sales, area of land sold, registered and actual land prices and changes in land use and crop patterns for a period of 26 years from 1965 through 1990. The data were collected from the office records of the Sub-Registrar, Land Records, Rahuri tahsil and the talathis/patwaries of the sample villages. Information on actual land prices was obtained through group discussions with the old farmers from the respective villages. The Rahuri tahsil was divided into five distinct areas, *viz., (i)* old canal system area (Pravara irrigation project command), *(ii)* new canal system area (Mula irrigation project command), *(iii)* raninfed hill area, *(iv)* rainfed plain area and *(v)* lift irrigation benefited area. The data on the above aspects were collected from four sample villages in the new canal system area and two sample villages from each of the remaining four areas. The data were analysed to obtain per village land sale transactions, area of land sold and per hectare registered and actual land prices. The influence of land sales, area of land sold, land revenue as a proxy variable for quality of land and general price rise on the per hectare registered and actual land prices were examined with the help of multiple linear regression analysis framework.

The study revealed that the number of land sale transations increased significantly in the newly irrigated areas as compared to the old canal system area and rainfed areas of the tahsil. The magnitude of land area sold, however, showed a declining trend over a period of time in almost all the areas excepting the lift irrigation benefited area. There existed a gap between

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the per hectare actual and registered land prices in all the areas, the gap being relatively high for the newly irrigated areas compared to other areas. The annual compound growth rates of the per hectare actual and registered land prices, however, paralleled each other during the period under consideration. The differentials in the land use and crop patterns seemed to be responsible for the variations in the land prices among the areas at different points of time. The estimated land price function revealed that the adjusted land prices were inversely related with the magnitude of land area sold per transaction, whereas the same was positively influenced by the general price rise in the economy.

Agricultural Land Market: A Micro Economic Analysis

D.K. Marothia, A.K. Gauraha and V.K. Choudhary†

Land market transactions play an important role in the process of agricultural transformation. Understanding the roles of farm land prices and the factors responsible for transfers of land should therefore command high research priority. While we have seen some clarification of the relationship between transaction of farm land and polarisation or equalisation through time from an aggregate perspective, such questions still remain enigmas at the micro level due to non-availability of reliable data. An attempt has therefore been made in this study to discern the trends in land sales and land prices and to determine the magnitude of land transactions in the Dharampura village of the Dharsiva block of Raipur district of Madhya Pradesh. Information on the number of sales, area sold, price paid and details of the sellers and buyers who have transacted land was collected from separate sale register of the village for the years 1981 to 1990. To find out the actual amount of land exchanged in these sale transactions and prices paid, intensive field visits were made by the authors. Wherever the actual sellers could not be contacted, having either died or left the village, the respective buyers were interviewed and the information was cross-checked from others in the village. Linear trends and growth rates of land sales and land prices were estimated. The results of this study indicated that more than 70 per cent of farm land was sold to non-villagers and the sale of cultivated land was slightly more than that of fallow land. The current status of the land sold in the respective years indicates that almost 10 per cent of additional land was brought under cultivation by reducing fallow land and some land has also been used for poultry production in the village. The gap between price actually paid and the one registered in sale deeds also widened over time. Similarly, the registered and the actual price deflated by paddy price indicated a more realistic picture of the real land values. The concentration of land sales has not increased apparently in any farm size-group, indicating that polarisation has not occurred in the process of land transfers. However, the tendency towards equalisation may be observed. Farmers having income below Rs. 25,000 sold more land than the higher income categories. More than 70 per cent of the total land was sold by the landless who left the village after selling their entire holdings. This may be attributed to the inactive tenancy market, less remunerative dryland cultivation in a

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mono-cropped cropping system and opportunities of working in urban areas or even in casual village labour market. The households of other categories sold land to meet the expenses for marriage and other social functions, repayment of old debts, house construction, financing the purchase of other assets and to satisfy other needs. It is suggested that in view of the wide gap between the actual and the registered price, the land market transactions' record should be improved at the village level so that micro-economic analysis can provide meaningful signals of the land market behaviour. Looking to the extent of land sales and factors affecting the process, diversification of paddy based farming may help in stabilising farmers' income and minimising migration to the urban area. This requires reorientation of agricultural and non-agricultural developmental programmes. In order to reduce the tendency of small farmers to sell their land, it is suggested that legislation may be introduced to stop the transfer or sale rights of small holders. This may be achieved by providing institutional finance through banks or co-operative agencies and curb the imperfections existing in the village financial market.

An Economic Analysis of Agricultural Productivity and Land Market in Orissa

Binod Chandra Mohanty and Dibakar Naik*

The agricultural income derived from agricultural land has increased from Rs. 973 to Rs. 1,368 per hectare (at 1970-71 prices) during 1970-71 to 1985-86. The yield variability among the districts also affects the income derived per unit of land. The rate of increase in the prices of inputs used by the land operators has been much more than the increase in procurement prices of agricultural commodities over the years. Further, the farmers are not getting fair price for their produce due to limited network of government procurement. As against this, the prices to be paid by farmers for essential items of consumption are increasing at a rapid rate. Thus the agricultural price policy has not benefited a large section of small and marginal land operators. Further, the fluctuations and variability in crop yield with uniform support price affect the operators with less fertile land. In view of the above scenario, the agricultural productivity and the farm income per hectare are to be considered as the basis of valuation of land for the purpose of land reform and other measures in the land market. Therefore, in this paper an attempt is made to examine how far the valuation of agricultural land depends upon its productivity and product prices in different districts of Orissa.

The value of the agricultural produce produced from 1.73 hectare of land in Orissa is the same as the value of the output produced in 0.61 hectare, 0.74 hectare and 1.01 hectare of land in West Bengal, Punjab and Haryana respectively. This suggests the criteria for valuation of land on the basis of the productivity and the value of the produce obtained per unit of land in the national land market.

Similarly, a certain level of income, *i.e.*, Rs. 6,400 is obtained from a size of holding

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varying from 1.45 hectare in Sambalpur to 2.19 hectares in Kalahandi in 1985-86. This indicates that the valuation of 1.45 hectare of land in Sambalpur should be the same as 2.19 hectares in Kalahandi in 1985-86. This criterion should be followed by the land valuation department of the State Government. The land reform policy as well as land distribution system should be based upon such principle. The land market cell should not only consider the productivity and farm income per unit area for valuing land but should also consider the other parameters like irrigation, cropping pattern, type of soil, infrastructure facilities, rainfall pattern and the level of technology adopted. These areas need further illumination for valuation of land.

Emerging Issues on Land Transactions - A Micro Level Study

R.K. Panda and G.C. Kar†

The last forty years of planning has witnessed continuous decline in the share of agriculture in the net domestic product from 58.69 per cent in 1950-51 to 37.48 per cent in 1982-83 and to 30.8 per cent in 1986-87. Yet land continues as the single largest component, constituting 62 per cent of the total assets of the rural households. The land market in India remains far from competitive and land transactions are seen to be very few. Moreover, the land market being very much regional in character, the price of land and its transaction are influenced by a number of factors like location, productivity, extent of land put to alternative uses, available opportunity to invest in non-land assets, etc. So the problems involved in the sale and purchase of land varies across the regions and across the locations within a region. In this context, the paper attempts to highlight the position of land transactions and analyse the impact of such transactions on different categories of farm households under urban and rural locations. The study also analyses the factors influencing the sale of land among different farm sizes under both the locations.

Bhubaneswar tahasil in Puri district, Orissa is taken as the area of the study. After listing all the villages under the said tahasil, they are classified into two categories - villages under urban set-up and villages under rural set-up, following the census principle. All the farm households of the selected villages are enumerated and then classified into three size-groups, on the basis of ownership holding - farm size I with less than one hectare, farm size II between 1.01 to 2 hectares and farm size III having 2.01 hectares and above. From each size-group, 20 per cent sample was chosen at random. Altogether, 97 households were selected (49 under urban set-up - 31 from size-group I, 13 from size-group II and five from size-group III and 48 under rural set-up - 27 from size-group I, 14 from size-group II and 7 from size-group III). The data were collected through specially structured schedules during 1990-91.

The results of the study revealed that land transactions (both in terms of number and

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area) are higher with urban farm households than those with rural farm households. But in general, the sale of land was more common with the farmers than purchase of land in both the locations. Between the locations, the urban farm households suffered a higher loss of land than their rural counterparts as the sale of land was more with the former than that with the latter. Among the size-groups, sale of land was inversely related with the size of holding. Factors like rise in the price of land and higher rate of return on non-land investments have caused sale of land in a big way in the urban location. On the other hand, non-viability of the land to meet the consumption requirements and ceremonial expenditures have resulted in frequent sale of land among rural farm households.

Land Market and Land Reform in West Bengal

Amalesh Banerjee†

With the introduction of Five Year Plans and the abolition of Zamindary system the old order in agrarian relation began to change and some rudiments of agrarian reforms began to be tested in some parts of the country. However, the abolition of old intermediaries yielded place to new intermediaries - transfer of land to the jotdars who combine the complexion of moneylenders, traders and non-cultivating landlord. The land market is now dominated by this landed aristocracy which constitutes only 15 per cent of the agricultural population but holding 60 per cent of land.

How the land market stands in West Bengal and in some other states where land reform has been pursued in a vigorous scale? The first principle of reform is to give land to the tillers. Several findings suggest that low asset holding of which land is the most important has been the main cause of poverty, particularly in the rural areas. Instead of owning the land, the poor or the landless work as tenants and share-croppers, because they are unable to purchase land. Thus the land market transforms to tenancy and share-cropping relation - the transaction to buy and sell land has been virtually reduced to one of bargain or contract for rent payment for tenancy or share of produce under share-cropping. This is a subterfuge for perpetuating exploitation. Market exploitation and contractual exploitation have differences; while in the former case change is possible under market forces, in the latter case the exploitation is time bound.

In order to correct this situation and to raise the market power of the weaker section in the bargain, tenancy reform and 'Operation Barga' have been introduced. But this is only one step; several steps are needed to improve the conditions of the poor. Land market as well as lease market will be stronger by collectivisation and co-operativisation of lessees. Organised share-croppers and lessees will be in a better position to receive different inputs and credit ffom financial institutions on a group basis. This will increase the security, enhance productivity and the land-lease market will be a better bargaining centre.

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Land Market Transactions: A Study of Four Villages in Midnapore District of West Bengal

Arun Nandi and Sachinandan Sau*

The present study is devoted to understanding the dynamics of land market transactions by the sample households in purposely chosen four villages in Midnapore district of West Bengal. It is based on primary data collected from 190 sample households - 100 'growing' households (with net land purchases), 60 'declining' households (with negative net purchases) and 30 'static' households (with zero net purchases). These three categories of households do not differ much in either social status (the majority belong to Mahisya/Kayastha) or economic status (the majority are cultivators). In our sample villages there is a tendency of some growing households in the lower ownership categories improving their land base while some declining households in the higher groups losing in terms of area owned. This is an indication of an in-built tendency of land market transactions to equalise ownership holdings across rural households.

Acute shortage of land among the rural households has been the prime motivating force behind land purchases, while precarious economic condition as also the responsibility of fulfilling social obligations compelled a section of them to sell their lands. These land market transactions have been primarily confined to the cultivating community.

An important factor encouraging purchase of land by the 'growing' households has been the greater availability of working family members. It is also observed that the growing households are the most productive ones in terms of land/labour productivity. Further, they derive significant proportion of their family income from non-agricultural sources along with higher per capita income from all sources.

In terms of our survey data, it may be argued that the standard Chayanovian view (that the demographic factors such as family size and number of working hands in the family determine the chances of gaining or losing land by a rural household) or the contrary view, associated with the writings of Lenin and his followers (that the level and nature of technology used and economic efficiency determine the outcome of land transactions) offers only a partial explanation behind the land transactions in our surveyed villages. While it is observed that the greater availability of family workers encouraged the households to augment their land base, it is also a fact that these households turned out to be the most productive ones and they also derived a significant proportion of their family income from non-agricultural sources. Thus it would perhaps be reasonable to adopt an 'eclectic' view that the demographic factors are as important as the technological factors in determining the nature of transactions in the land market for a rural household.

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Factors Influencing Market Prices of Land: A Case Study of Nadia and Hooghly Districts of West Bengal

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In an agrarian economy like India, competition among the farmers occurs mainly in the land market. The production efficiency of farmers and their social and economic status in the community are also reflected through the size of holding and the amount of land transacted by them. Further, redistribution of farm land amongst peasant's family via the land market is the main mechanism through which amorphous peasants gradually get differentiated into classes over time. Besides permanent transaction, temporary transactions like mortgaging of land also play a key role in determining the social and economic status of the farmer in the rural society. Therefore, in this paper an attempt has been made to identify the factors which play an important role in the land markets of West Bengal. However, the main objectives of the study were to examine *(i)* the variation of land prices on different size of farms, *(ii)* the reasons for the variation of terms and conditions of mortgaging of land in two districts of West Bengal and *(iii)* the factors influencing land market prices in different size-groups of farms.

The study highlighted that the prices of sold out land were higher in Hooghly than in Nadia district on account of its better income and employment position. However, the prices of both irrigated and unirrigated land were lower on small farms as compared to their counterparts.

The study showed that mortgaging of land is a common practice in the study areas, particularly among small farmers. The terms and conditions of mortgaging varied from place to place depending upon the urgency and the nature of cash requirement of the farmers.

The price of land is positively and significantly influenced not only by the area of land owned by a farmer, but also by his non-farm income and tendency to early adoption of new technology. In the process of determination of land prices, the number of adult family members did not play any significant role. Further, this study also revealed that education has no direct influence on the land market prices but it operated probably via inducting early adoption of new technology and generating higher per capita income from farm and non-farm sources.

Land Market in West Bengal

Ashish Kumar Banik*

The paper describes briefly the background against which the land reforms programmes were introduced after Independence and the legislation in force leading to Operation Barga in West Bengal. It also probes into the distribution of surplus land available in rayati system over regions and according to irrigation status in the state. The surplus land/rayat available

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for vesting was 7 per cent in irrigated areas whereas it was lower at 5 per cent in non-irrigated areas. About 45 to 62 per cent of surplus land was concentrated with the big rayats who were less than 5 per cent of total rayats. Among the cultivators cultivating the rented land on cropshare, only 9 per cent of the tenanted cultivators possessed the rights of transfer. Court injunctions retarded the progress of land reforms. On an average, nearly 15 per cent of the total land available for vesting was hit by court injunctions.

The administrative divisionwise performance of land actually distributed after vesting and the land available for distribution showed sharp divergence in North Bengal Division. More than 50 per cent of the beneficiaries were scheduled castes/scheduled tribes who predominated particularly in Burdwan Division.

Agrarian indebtedness is traditionally linked with the class. The role of non-institutional village moneylenders and mahajans vis-a-vis that of co-operatives and commercial banks in financing of agriculture was also examined. It is surprising to note that the agriculturists borrowed 54 per cent of the loans from non-institutional agencies in 1981-82. About 59 per cent of the loans were repaid to the non-institutional agencies and 31 per cent of the loans were repaid to the institutional agencies, indicating the discouraging trends in the institutional credit set-up. The indebtedness of the lower income groups is still unchanged though attempts are made to improve the situation.

The distribution of groundwater is quite uneven. The non-institutional control over the water market is also alarming. The study suggests the need for effective implementation of agrarian legislation, creation of special courts to avoid delay in the disposal of law suits of vestable land due to injunctions, delimitation of variable land holding, provision of farm inputs at the right time at the grass-root level and guidance to improve the skills of farmers to adopt modern farm practices, simplification of procedures for availing financial assistance, provision of social security to bargadars, crop insurance, abolition of Mithakshara code of inheritance, etc.

Dynamics of Land Transaction and Structural Change in Eastern Region Agriculture

Binoy N. Verma†

With a view to analysing the net direction of inter-class transfer of land and its implications to the process of agricultural transformation in the region, appropriate data on land transfer for three constituent States of Bihar, West Bengal and Eastern Uttar Pradesh (U.P.) have been analysed in this paper. Data on land transaction in Bihar and U.P. respectively show a shift of land from marginal and small farm size-groups to large farm size-groups. In the case of U.P., medium farm size-groups also are net gainers, *i.e.*, purchasing rather than selling land. This process of transfer of land from marginal and small farm size-groups to larger farm sizes has given rise to the process of depeasantisation in the region. Its direct implication is more and more skewed land distribution pattern in the region. This may be due to the fact that petty peasants are not able to adopt modern cultivation which is highly

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capital intensive and prefer to remain agricultural labour rather than to continue with unviable size of farm providing not sufficient return even for subsistence. Moreover, their disposal of land is generally out of distress and bare necessity.

Data on land transaction in West Bengal show, however, a different trend. Farmers in the size-group of 3 hectares and above (comprising medium and large farm sizes) turn out to be net sellers (with a share of 48.70 per cent of the total sales of land and a share of just 10.07 hectares in the total land purchased). Large farmers in West Bengal may be selling comparatively more land due to the threat of effective implementation of progressive agrarian reform legislation by the left government in power in the state. All-India figures also support the process of depeasantisation as well as growth of agricultural labour. Comparing 1971 and 1981 census data with that of 1961, one finds that the number of cultivators (with consistent definition of those who had some rights to the land) rose by 15 million in 1971 and by 17 million in 1981. Again the proportion of agricultural labourers, *i.e.*, those who till the land without having any rights to it, rose from about 17 per cent to about 31 per cent in 1971 and to around 40 per cent in 1981. All the constituent states of the eastern region also show the same trend. Another dimension of land transaction is the shift of land from one caste group to another caste group. Castewise land transaction data are available for Bihar and U.P. only. Caste is not as important a factor in the agrarian society of West Bengal as it is in Bihar and U.P. The emerging trends in the related data are important and interesting.

The net direction of land transfer in Bihar and U.P. is from the forward caste group to the backward caste group. The forward castes consist of mostly the upper caste non-cultivating absentee farmers. They dispose of the land partly to invest in other assets and partly apprehending implementation of agrarian reform measures. The backward castes, on the other hand, are mainly composed of Yadavas and Kurmis. They do progressive farming, members of their families are engaged in services outside the village and remit their savings for the purchase of land. Castewise land transfer matrix in U.P. shows that the backward castes had the largest share (42 per cent) in the total purchase of land followed by forward castes (31 per cent) and Muslims (15 per cent). Thus in U.P. also, the backward castes are emerging as the main gainers of land with their obvious impact on the emerging capitalist farming in the state.

Direction of Land Transfers in Ballia District (Eastern Uttar Pradesh)

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Land transfer by sale and purchase is a natural phenomenon of land resource market. The question of transfer of agricultural land within caste hierarchy of Ballia district is examined in this paper. The data used were taken from the office of the Registrar at tahsil headquarters of the district for three consecutive years (1988-90). The paper attempts to

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examine the caste hierarchy of the sellers and the purchasers of agricultural land, as also the direction of land transfers from one caste group to another.

The results of the study show that with the transfer of agricultural land, the area under holdings of the higher caste group declined gradually and the area under holdings of the middle and lower caste groups increased. Among the sellers of agricultural land, the higher caste group of farmers led with 75 per cent of the total land sold, followed by the middle and lower caste groups, accounting for 17 and 7 per cent respectively of the total land sold. Among the purchasers of cultivable land, the leading position was occupied by the middle caste group accounting for two-thirds of the total land purchased, while the lower caste group and the higher caste group occupied the second and third position respectively with a share of 19 and 15 per cent. The direction of transfer of agricultural land shows that the culturable land is being transferred from the higher caste group of farmers to the middle and lower caste group.

Market Segmentation and Determinants of Land Prices - A Case Study of Nainital Tarai Region

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Based on the expected differences in the price elasticities of demand and supply, the study hypothesised segmentation of land market into agricultural and non-agricultural segments. To test the hypothesis, the study investigated into market dominance, differences in price and its determinants in land market of Kichha tehsil of Nainital Tarai region. A purposively drawn sample of 50 sellers and buyers, based on their willingness to provide the relevant confidential information from the two clusters of villages,was used for collection of primary data. The sample was later separated into agricultural and non-agricultural segments respectively having 30 and 20 cases of land sales. Simple percentage distributions of sellers/buyers and quantity of land sold/bought by some economic class characters of sellers and buyers were used for examining the market dominance in each segment. The weighted average prices, using the quantity of land sold as the weight, were worked out to see the price differentials. In order to find out the determinants of land prices, the regression analysis was done separately for each segment. The land price per hectare was regressed upon the following determinants: size or land parcel sold, holding size of the seller, education level of the seller, topography, irrigation status, distances from village and town and metalled road, distress sale pressure and crop yield index. The linear regression giving better results was selected for discussion.

The sample results indicated dominance by only cultivator sellers in both the segments because resale of housing and industrial plots was not conspicuous due to low level of urbanisation in the area. Medium and large holder sellers dominated the sales both in number (together 80 per cent) and the quantity of land sold (together 95 per cent), and also received

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higher price than small holder sellers in agricultural segment. Distress sales accounted for about 53 per cent in number and 38 per cent in quantity. Among the buyers, cultivators dominated both in number (67 per cent) and quantity (60 per cent). However, small holder buyers dominated the purchases both in number (73 per cent) and quantity (55 per cent) compared to medium and large holders. In non-agricultural segment also, medium and large holder sellers dominated both in number (together 85 per cent) and quantity (together 98 per cent), but received lower price than small holder sellers. Distress sales dominated both in number (65 per cent) and quantity (52 per cent) in this segment also. Among the buyers in non-agricultural segment, the non-cultivators dominated both in number (80 per cent) and quantity (83 per cent). Also, small holder buyers (including landless) dominated the purchases which were mostly for housing purposes, and paid higher price than a few large holder buyers who bought for industrial purposes.

The regression results indicated that education of seller, crop yield index and holding size of seller significantly and positively influenced land price, and parcel size, distances from village and town, and distress sale pressure significantly and negatively influenced land price in agricultural segment. Only distances from village and town and holding size of seller significantly and negatively influenced land price in non-agricultural segment. Because of low level of urbanisation and industrialisation in the area, the specific parcel characteristics had not yet got capitalised in land price in the area and, hence the behaviour of non-agricultural segment did not appear distinctly sharpened. Yet, the results of dominance, price differential and determinants did indicate the difference in the structure and behaviour of the two segments of land market in the area. The results also indicated significant land transfers from cultivators to non-cultivators, and from medium and large holders to small holders in the area.

Temporal Land Distribution and Land Market Structure

B.R. Atteri and Geeta Bisaria*

In this paper an attempt has been made to study the temporal changes in the structure of operational holdings as a result of population pressure and land concentration and land market structure and to find out the most probable size class of sellers and buyers of land in India. The data on various aspects were collected from various Agricultural Census reports as well as from the Ministry of Agriculture, Government of India. The results of the study indicated that operated area per holding of all size classes has decreased. Large farms, above 10 hectares, were most adversely affected as their average operated area decreased by 5 per cent during 1970-71 to 1985-86. The distribution of land has changed marginally, *i.e.*, the value of Gini coefficient decreased from 0.62 in 1970-71 to 0.58 in 1985-86. The rented/leased area has also decreased, which is a testimony to the changing agrarian structure. While demand for land has increased by all size classes of farms, the net supply was available

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only with the large farmers who operated above 10 hectares of land. As a result of this, the value of land has increased significantly. The land market in India was adjudged as imperfect based on various measures of competitiveness of the market. The average size of operated land in India has decreased considerably (by 24 per cent) during 1970-71 to 1985-86. It can be increased by giving employment to the surplus population of the agricultural sector in the industrial sector. This is only possible by checking population growth rate on the one hand and developing the industrial sector on the other. The increased size of the farms will also yield higher returns through the adoption of modern technology.