CHAPTER VI

MOVEMENT OF LAND PRICE IN STUDY AREA

Introduction

This chapter is devoted to the study of change in price of land in the study area during the period of our study. The analysis is exclusively based on primary survey data. The first section briefly discusses the determinants of agricultural land price. The second section will analyse the trend in the price of land prevailing in the study area and the trend in the sale of plots. The third section will analyse the factors influencing the land price. The fourth section provides a brief summary of the chapter.

SECTION-I

Theoretical literature on the price of land identifies three sets of factors which influence the geographic and temporal variance of land prices. These factors are: (a) factors linked to the nature of the site, (b) factors associated with the relative location and accessibility of each plot, and (c) external factors, for instance, the time of sale and purchase which serves as a proxy for series of variables that influence the dynamic of land price (see Alouso 1964; Clark, 1973). Following these theoretical consideration it is assumed that land prices and their
variability are influenced mainly by three groups of factors. They are site characteristics, relative geographical location, and various external factors (have mainly the time of purchase)\(^1\).

Site:

Site characteristics include the quality of land and its topography, the size of plot offered for sale. The quality of land and its physical characteristics influence the type of crops to be grown and their yields and thus determine a dimension of the value of land. The plots which were deemed to be the best quality, and hence the most expensive, were those which were fertile, irrigated and suited to irrigated and high valued crops. On the contrary, the least desirable plots were sandy and suitable for inferior or low value crops (see Katz and Neuman, 1990). Thus land characteristics may affect the productivity and hence prices of a piece of land.

Natural attribute: Soil type (fertile / sandy)

It is expected that the price of land will be positively associated with fertile land and negatively associated with sandy land. Similarly land with

irrigation facility is more productive hence its price will be high as compared to dry land.

**Size of plot**

The size of plot is also correlated with its price. There is a fixed cost for each selling and buying transaction, which is invariant with respect to plot size (Binswanger and Silleers 1983). A possible reason for this is that most of the transaction cost such as information gathering relating to finding potential buyer or seller, negotiation between buyer and seller, obtaining certified copy of the plot from the land revenue authority, registration of the plot with the registration office, cost incurred for taking witnesses during the execution of the registration deeds etc. are fixed cost and are not dependent on the size of plot. As such the price per unit of land will be inversely correlated with the size of plot.

**Location and transportation**

This relates to location in relation to buyer’s site; potential non agricultural use and the distance to reach the plot. Buying a plot in the vicinity of the buyer’s land would establish territorial contiguity of the plot. This will also reduce the transaction cost of the buyer in terms of supervision cost for enforcing the security of crops, and reduce time for moving the agricultural implements (tractors and other machines) for cultivation and collection of crops after its
maturity. As such the buyer will save transaction cost of transportation and travel time. Thus favourable location reduces the cost of cultivation by increasing the farm gate price of output and by reducing the effective costs of inputs.

Similarly, if the plot is situated nearby the village, the household will save travel time from transportation of inputs and output. Besides the cost of enforcement of security of crops from theft will also be reduced. Thus the price of a land will be high if it is situated near a village. Further, if the plot is located near a road side or in such a place which is suitable for immediate non agricultural use then the potential intensity of land-use will go up and hence the price will be high. But if the quality of such land is barren, dry and has no immediate use for non-agricultural purpose its price may be low.

External factor related to time of sale and purchase. This serves as a proxy for a series of variables that influence the dynamics of land price. In our sample we have plots which were sold from 1950-51 to 1992 i.e. for a period of 42 years.

SECTION-II

In this section we will analyse the trend in the price per unit of land prevailing in the study area.
The units of average price of land and average area sold of land were different so to plot their trend on the same graph I had taken their Z-scores with the help of the formula:

\[
Z \text{scores} = \frac{x - \bar{x}}{\text{St. deviation}}
\]

After calculating the Z-scores, I have plotted the Z-scores for average price and average area sold on the Y axis and the years on the X-axis. Fig. 6.1,2,3 & 4 gives the graph for the least developed area, the relatively developed area, the developed area and then aggregate of all these respectively. In the graph I have omitted those years in which there were no transaction at all. The price movement graph upto year 1968 showed a steady trend. The increase in land prices were not remarkable in all the three areas. After year 1968 showed a steady trend. The increase in land prices were not remarkable in all the three areas. After year 1968 the land prices showed an abrupt change. As it increased from Rs. 1500/- per acre in 1968 to Rs. 5530/- per acre in 1970, and after that showed a steady trend. In the early eighties it again showed an upward jump. Prices increased with a slower rate upto the green revolution period, and in the post green revolution period. They increased with a greater pace, in the sample areas (see table 6.1,2,3,4). The average area sold did not show any steady trend, after the mid seventies it showed
a declining trend (see Fig.6.4).

SECTION-III

In this section we will analyse the factors which may influence the land price. The data consists of actual sale of plots of land in the sample villages between the period 1951 to 1992. It consists of 143 plots which included the plots sold by local residents as well as households who have migrated to town or other villages.

We have taken the following variables:

(a) Dependent variable: The price per acre of land (i.e. current price)

(b) The explanatory variable: (1) The size of plot in acre. The following are dummy variables which take on the value 1 when the land fits a certain characteristics and the value 0 otherwise. The characteristic described by each of the variables is as follows:

\[ P_2 = \begin{cases} 1 & \text{if the land is fertile,} \\ 0 & \text{otherwise.} \end{cases} \]

\[ P_3 = \begin{cases} 1 & \text{if the land is situated near to the buyer's plot,} \\ 0 & \text{otherwise.} \end{cases} \]

\[ P_4 = \begin{cases} 1 & \text{if the land is situated near to the village,} \\ 0 & \text{otherwise.} \end{cases} \]

\[ T = \text{Year of land transaction (1951-52 - 1991-92)} \]
Table 6.1
Determinants of Land Price in the Sample Village
Results of Regression Analysis

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Time</td>
<td>8.89581 (27.724)</td>
</tr>
<tr>
<td>2. Size of plot sold</td>
<td>-0.54147 (-4.368)</td>
</tr>
<tr>
<td>3. Fertility of land</td>
<td>0.76658 (4.364)</td>
</tr>
<tr>
<td>4. Location near to buyer</td>
<td>0.363319 (2.001)</td>
</tr>
<tr>
<td>5. Location near to village</td>
<td>0.791921E-0.1 (.397) Not statistically important</td>
</tr>
</tbody>
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<tr>
<td>No. of observations</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.40925</td>
</tr>
<tr>
<td>$R^{-2}$</td>
<td>0.392</td>
</tr>
<tr>
<td>$F$ (Stat.)</td>
<td>$(4,138) = 23.9$</td>
</tr>
</tbody>
</table>

Note: Figures in the brackets show T value.

We expected that the price per unit of land will be negatively correlated with the size of land purchased. This is because of the fact that the buyer has to incur a fixed cost while negotiating for the purchase of land, which we discussed earlier. A buyer purchasing a fertile piece of land is expected to pay more as compare to the less fertile land; because the rate of return of the fertile land will be higher as compared to the less fertile land. Similarly, the land situated near a
Per Year Movement of Prices

(In the Least Developed Vill.)
Per Year Movement of Prices
(In current Prices) (In the Relatively Developed Village)
Per Year Movement of Prices

(At current prices) (In the Developed Village)
PER YEAR MOVEMENT OF PRICES
(At current Prices) (Overall)

[Graph showing price movements over years]

- Average price
- Years
- Average area
buyer's land will fetch higher price as compared to land located in other site, 
lastly, a piece of plot situated near by the village is also advantageous to the owner 
as he can manage cultivation with lower cost and enforces the security of the crop. 
In view of this we expect a positive relationship between price and land situated 
early by the buyer and near the village. The time captures the changes that have 
taken place over the years. As expected all the independent variables have 
expected signs and coefficient of the variables: size of plot, fertility of land, plot 
location near to the buyer are statistically significant at 5% level of significance 
or more. Further, even though the coefficient of the variable; land located near to 
village is not statistically significant, the sign of the variable is in expected 
direction. Similarly the variable time has positive coefficient and expected sign. 
These above variables had explain 40% of the variation in the price of land. 
Clearly, the price of land is influenced by size of plot, fertility, and its location. 

Summary

It is clear from the graph pictures that the price of land showed an 
upward trend. The prices of land increased but with a slower pace upto 1968. 
After the onset of the green revolution phase the prices increased sharply. And, 
the increase in prices is more after 1982-83 as compared to the earlier period.

It is evident from table 6.1 that the explanatory variables: size of plot, 
fertility and location of a piece of land near to the buyer's land described nearly 
40% variation in the dependent variable: price of land.