CONSEQUENCES OF INDEBTEDNESS

1. The Opening Remarks

We have noted that indebtedness has been alleged to be a serious ailment of the rural economy. Allegedly, it abates agricultural productivity, aggravates skewness in income distribution, fastens the prevalent power structure and thwarts agricultural development.

Indebtedness in rural areas has been observed to manifest six characteristic features. These features, to reiterate, are:

(i) It often originates with nonfunctional consumption expenditure incurred on account of exigencies or ceremonial occasionalities.

(ii) It captivates resources of the debtor. Often it goes along with mortgaging of land or labour such that the repaying capacity of the debtor is paralysed.

(iii) It is often associated with an exorbitantly high rate of interest doubling the principal within a year.

(iv) It is associated with an exercise of coercive powers by the lender who wields such powers in the rural surroundings. Recovery of loan is often coercive and exploitative.
It erodes social status of the debtor.

The debtor has a feeling of helplessness, plight and misery. The debtor often pays off the debt by selling his belongings at a very low price.

We have seen in the earlier chapter that the degree of indebtedness can be measured by suitable indicators designed to quantitate the characteristics noted above. Further, these indicators may be employed to analyse the process in which they reinforce each other and, in turn, affect productive and distributive performance of the rural economy.

We propose in this chapter to identify the process or the causal chain through which it may be understood how indebtedness reinforces itself, becomes self-perpetuating, and paralyses the repaying capacity of the debtor. First we outline the methodology of causal chain analysis. Further, we carry out this analysis to understand the causal chain of indebtedness in our empirical study.

2. The Methodology of Causal Chain Analysis

We are aware of the fact that in careful discussions of scientific methodology, it is now customary to avoid any use of the notion of causation. In vogue is the use of
functional relations and interdependence among variables. This avoidance is derived from the role that the concept of causality has played in the literature on philosophy implicating itself into severe objectionable epistemological overtones. Nevertheless, causality has remained functional in scientific writings. It implies that we wish to retain the concept of causality, though we want it not to be implicated in philosophical controversies. This causality — in the narrow sense — may be termed as "functional causality." Henceforth by causality we mean functional causality.

We may define functional causality as follows: In a deterministic setting we say that \( X_t \) is the functional cause of \( Y_s \) if \( s \) is greater than \( t \) and there is a function \( f_c \) such that \( Y_s = f_c(X_t) \). Once errors are introduced, the relationship becomes \( Y_s = f_c(X_t) + e \), and now we add one more conditional statement that there is a function \( f_c \) such that for all real numbers \( x \).

\[
\mathbb{E}(Y_s/X_t = x) = f_c(x)
\]
read as "the expectation (statistical) of \( Y_s \) given that \( X_t \) is equal to \( x \) is equal to the function of \( x \).

Usually, causal relations are formulated for some definite set of variables before hand on the basis of
professional experience and the logic of the discipline backed up by real world experiences. But often it happens so that real world experiences and the logic of the discipline do not suffice to assert whether Y causes X or X causes Y. It so happens that both seem to cause each other in turn or simultaneously, and then we face the problem of circular causation.

We propose here a procedure to sail out from the calm, though explicitly noting that it is rather a heuristic procedure. The heuristic proceeds like follows:

(i) Estimate the regression equation $Y^*$ on $X^*$ and the variance of error $e_{yx}^*$.

(ii) Estimate the regression equation $X^*$ on $Y^*$ and the variance of error $e_{xy}^*$.

(iii) Compute the ratio $\eta = \frac{\text{var}(e_{yx}^*)}{\text{var}(e_{xy}^*)}$.

For this analysis it is required that $Y^*$ and $X^*$ both should be measured such that their arithmetic means are equal, that is to say that $\bar{Y}^* = \bar{X}^*$. This condition can be fulfilled if we transform the variables Y and X (observed data) such that

$Y_i^* = \frac{Y_i}{\bar{Y}}; \ i = 1, 2, \ldots, n$

$X_i^* = \frac{X_i}{\bar{X}}; \ i = 1, 2, \ldots, n$
Now, if the ratio $\eta^i$ is sufficiently less than unity, we say that $Y^i$ is caused by $X^i$ and vice versa. Of course, the ratio $\eta^i$ may be approximately equal to unity leading to the indicisive state, but it would not occur very often.

Based on the decision of the causal direction obtained through the procedure noted above, we may formulate a model of causal relation as follows:

$$
\begin{align*}
U_1^i &= X_1^i \\
U_2^i &= X_2^i - a_{12}X_1^i \\
U_3^i &= X_3^i - a_{13}X_2^i - a_{23}X_1^i \\
U_4^i &= X_4^i - a_{14}X_3^i - a_{24}X_2^i - a_{34}X_1^i \\
&\vdots \\
U_{k+1}^i &= X_{k+1}^i - a_{1,k+1}X_k^i - \cdots - a_{k,k+1}X_1^i.
\end{align*}
$$

We can estimate the regression coefficients of the above presented model by some suitable method, say least squares method. The regression coefficient matrix, $A$, is triangular (or triangulable by suitable row-column interchange). The elements in the principal diagonal of $A$ are all unity.
It is obvious that $X^* = A^{-1}U^*$ or by renaming $B = A^{-1}$, we may write $X^* = BU^*$. From $B$ matrix we can compute $C$, the matrix of influence coefficients defined as

$$C_{ij} = \frac{b_{ij}}{\sqrt{\eta_{ij}^* + b_{ij}^2}}$$

where $\eta_{ij}^* = \var(U_j^*)/\var(U_i^*)$.

We note in passing that transformation of variables such that

$$X_i^* = (X_i - \bar{X})/\sigma_X$$

and computation of regression coefficients with $X^*$ has several merits facilitating analysis and interpretation.

We note that in the formula for computing $C_{ij}$ above, we have used $\eta_{ij}^*$. The numerical value of $\eta_{ij}^*$ will be zero if and only if $\var(U_j^*)$ is zero, and this is in conformity with our former heuristic. In case $\eta_{ij}^*$ is zero, $C_{ij}$ is equal to unity. Except in the case when $\eta_{ij}^*$ is infinite, we have finite value of $C_{ij}$ whose lower limit is zero and upper limit is unity (signed in accordance with the sign of $b_{ij}$). The magnitude of $C_{ij}$ gives us the strength of functional causality while its sign gives us the direction of influence.
3. Effects of Indebtedness on Productivity

We have identified four main indicators of indebtedness that may be relevant to explain productivity. They are:

(i) Per capita amount of loan (Rs.) observed by the household.

(ii) Amount of loan per bigha of cultivable land owned by the household.

(iii) Amount of loan per rupee of repaying capacity of the household.

(iv) Amount of loan per rupee of the value of agricultural assets owned by the household.

These indicators represent some of the main characteristics of indebtedness that we noted previously. We concede that these indicators do not represent many other characteristics like erosion of social status of the loanee or feeling of compulsion or exploitation by the loaner. We regret our inability to incorporate relevant indicators to measure these characteristics.

As we have proceeded for analysing the effects of indebtedness on productivity we must define an operational measure of productivity. Productivity is defined here as the value of agricultural production per bigha of landholding owned by the loanee household. Thus, by productivity
we mean agricultural productivity, or more specifically, the productivity of resources like land, assets, and labour of the loanee employed for raising agricultural output. Note that in our sample all households own landholdings of different sizes.

However, we raise a pertinent question here. One may think that low productivity is the reason of low level of income of the household which makes the household susceptible to indebtedness. Given the condition that most of the farmers who are indebted are owning small areas of land barely enough to provide them subsistence (or not enough even for that) low productivity may reasonably account for indebtedness. Again, indebtedness, captivating productive resources and paralysing repaying capacity may reasonably weaken the efforts to maintain or raise productivity. Nevertheless, it is possible that both the processes hinted at above may be at work. We envisage, however, that the strength of both these processes must not be the same. One process may be leading while the other trailing. We take up here to resolve this issue.

A review of the literature on the determinants of productivity (operationally measured by the ratio of value
of agricultural output per unit area of land) suggests that holding size is one of the factors of relevance. Since in the context of our empirical study at hand, utilization of family labour on farm is quite substantial, we have opted to use "per capita land owned by the household" as we think that it is a more suitable measure than the absolute holding size. Thus we envisage that the four measures of indebtedness, per capita land owned by the household, and productivity are the components of the causal chain.

We apply the heuristic mentioned in the beginning of this chapter to formulate the causal chain model. Below, we present the $\eta_i^*$ matrix (where $\eta_i^*_{ij}$ is the ratio of standardised variances, $\text{var} (U_i^*)/\text{var} (U_j^*)$) obtained by fitting regression equations $X_i^*$ on $X_j^*$ and $X_j^*$ on $X_i^*$. These regression equations have been fitted by the ordinary least squares method.

Table - 4.1: Error-variance Ratio ($\eta_i^*$) matrix: $e_i^* \rightarrow U_i^*$.

<table>
<thead>
<tr>
<th></th>
<th>$e_1^*$</th>
<th>$e_2^*$</th>
<th>$e_3^*$</th>
<th>$e_4^*$</th>
<th>$e_5^*$</th>
<th>$e_6^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$e_1^*$</td>
<td>-</td>
<td>0.290</td>
<td>0.373</td>
<td>0.166</td>
<td>0.035</td>
<td>6.216</td>
</tr>
<tr>
<td>$e_2^*$</td>
<td>3.452</td>
<td>-</td>
<td>1.284</td>
<td>0.572</td>
<td>0.120</td>
<td>0.744</td>
</tr>
<tr>
<td>$e_3^*$</td>
<td>2.684</td>
<td>0.779</td>
<td>-</td>
<td>0.445</td>
<td>0.094</td>
<td>0.578</td>
</tr>
<tr>
<td>$e_4^*$</td>
<td>6.033</td>
<td>1.748</td>
<td>2.248</td>
<td>-</td>
<td>0.211</td>
<td>1.336</td>
</tr>
<tr>
<td>$e_5^*$</td>
<td>28.648</td>
<td>8.299</td>
<td>10.674</td>
<td>4.748</td>
<td>-</td>
<td>6.182</td>
</tr>
<tr>
<td>$e_6^*$</td>
<td>4.640</td>
<td>1.344</td>
<td>1.729</td>
<td>0.748</td>
<td>0.162</td>
<td>-</td>
</tr>
</tbody>
</table>
Henceforth the subscripts of variable X would be used to signify as follows in this chapter. 1. Productivity, 2. Per capita loan, 3. Per capita holding size, 4. Loan per cultivable area (bigha) of land, 5. Loan per rupee of repaying capacity, 6. Loan per rupee of value of agricultural assets.

A perusal of table 3.1 reveals that $X_5$ emerges as the most strong causal variable which influences all others but is not influenced by any variable. On the contrary, $X_1$ (productivity) is influenced by all variables but does not influence any. Thus, $X_1$ and $X_5$ are the two ends of the causal chain, the causal arrow running from $X_5$ to $X_1$.

Taking $X_1$ and $X_5$ apart, the relationship among $X_2$, $X_3$, $X_4$, and $X_6$ are interesting. $X_2$, $X_4$, and $X_6$ make a causal ring. $X_4$ influences $X_6$ and $X_2$; $X_6$ influences $X_2$ directly, and $X_4$, $X_2$, and $X_6$ influence $X_3$ directly and indirectly.

From the foregoing analysis we have learned that productivity is influenced by holding size (per capita) and indebtedness and not vice versa. Hence we specify that

$$X_1 = f_c (X_2, X_3, X_4, X_5, X_6) + e$$

and for the sake of simplicity and greater degree of falsifiability, we further hold that $f_c$ is a linear function.
We estimated the regression equation by ordinary least squares method and obtained:

\[
\hat{X}_1 = 526.817 + 0.460X_2 - 132.900X_3 - 0.180X_4 - 6.815X_5
\]
\[
- 52.825X_6; \quad R^2 = 0.518
\]

(0.26) (0.635) (0.113) (0.112)

In the empirical regression equation above, the value of \(R^2\) is quite high but none of the coefficients are significant (Figures in brackets are Students' t values). This led us to suspect that the residual vector was violating the standard assumptions of Gauss-Markov. We found that the error vector is highly correlated with \(X_1\), the coefficient of correlation being equal to 0.70.

Analysis of residual vector suggested us to use a dummy variable. For the purpose of estimation, the use of dummy variable is permitted, but the dummy variable is not interpreted. If the dummy variable is suitable, it helps the estimation of coefficients to become unbiased and efficient. This respecified model with dummy variable \(X_7\) was estimated to give:

\[
\hat{X}_1 = 483.776 + 0.275X_2 - 112.135X_3 + 0.210X_4 - 7.809X_5
\]
\[
- 68.717X_6 + 116.239X_7; \quad R^2 = 0.979
\]

(0.72) (2.50) (0.60) (0.47)

(2.33) (4.60)
We observe that the value of $R^2$ has increased substantially and coefficients associated with $X_3$, $X_6$ and $X_7$ are significant. Thus by using dummy we have enhanced the efficiency of the estimator.

The coefficients associated with $X_2$ and $X_4$ have shown unexpected sign (positive), but they are insignificant. We suspected specification error and dropped $X_2$ from the model and estimated the regression equation afresh. We obtained:

$$
\hat{X}_1 = 451.706 - 84.967X_2 + 0.4208X_4 - 10.165X_5 - 63.519X_6
$$

+ 118.151X_7^2

$$
R^2 = 0.967.
$$

We note that we have lost insignificantly by dropping $X_2$ from the model as there is a marginal fall in the value of $R^2$, but gains in the efficiency of the estimator are substantial. The coefficient associated with $X_4$ has turned out significant.

The coefficient associated with $X_4$, however, is positive, though we expected it to be negative since we hold that $X_4$ affects productivity adversely. Once again, therefore, we suspected that $X_5$, insignificant as it appears,
might be responsible for the estimation error on account
of inclusion of irrelevant variable. We dropped $X_5$ from
the model and re-estimated the model. We obtained:

$$
\hat{X}_1 = 456.457 - 89.113X_3 + 0.401X_4 - 64.929X_6
$$

(2.80) (1.57) (1.65)

$$
+ 118.273X_7 ; R^2 = 0.959
$$

(3.41)

By dropping $X_5$ we did not lose much in terms of the
value of $R^2$, but the loss in efficiency is substantial,
reflected in the increase of standard errors associated
with $X_4$ and $X_6$. However, the coefficient associated with
$X_4$ remained positive. We conclude, therefore, that by drop­
ping $X_5$ we have lost efficiency without gaining anything.

Then we decided to retain $X_5$ and drop $X_4$ and expec­
ted the coefficient associated with $X_5$ to improve. The
estimated regression equation by reinstating $X_5$ and drop­
ping $X_4$ is given as:

$$
\hat{X}_1 = 506.499 - 105.105X_3 - 3.922X_5 - 29.728X_6
$$

(1.85) (0.09) (0.49)

$$
+ 101.985X_7 ; R^2 = 0.858
$$

(1.66)
We observe that the effects of dropping $X_i$ are disastrous on the efficiency of the estimator.

We conclude, therefore, that productivity is negatively influenced by $X_3$ and $X_6$; positively influenced by $X_4$, and though negatively influenced by $X_5$ also, the influence of the same cannot be ascertained statistically. We conclude further that $X_2$ has proved to be an irrelevant variable. Lastly, we take note of the dummy variable. The coefficient associated with $X_7$ has remained positive and highly significant.

4. The causal chain of Indebtedness

Earlier we have noted that $X_2$, $X_4$, and $X_6$ make a causal ring. We have also mentioned that the heuristic of causal relation is indicated by the value of $\eta^*$. If the value of $\eta^*$ is appreciably smaller than unity, we have a considerable evidence of causal relation between the variables. The qualifying term "appreciably" demands quantification. Again, heuristically, we decide that 0.70 might prove a good starting point, that is to say that if $\eta^*$ is less than 0.70 we consider it to be considerably smaller than unity.
Once we derecognise the causal relations that have a value of $\eta$ lying between 0.70 and 1.0, we observe that the causal ring of $X_2$, $X_4$, and $X_6$ has been opened. Now $X_4$ influences $X_2$, while $X_4$ and $X_6$ both influence $X_3$. Note that $X_2$ has ceased to influence $X_3$; $X_6$ does not influence $X_2$ and $X_4$ does not influence $X_6$. Now $X_2$ has become a terminal point in itself. This might be one of the reasons why $X_2$ was found insignificant and irrelevant in explaining $X_1$, productivity as we saw in the preceding section of this chapter.

Now that we have decided to drop out $X_2$ from our causal analysis, we formulate our recursive model with rest of the variables. We specify the system of equations as:

\[
\begin{align*}
U_2^* &= X_2^* \\
U_4^* &= X_4^* - a_{12}X_5^* \\
U_6^* &= X_6^* - a_{13}X_4^* - a_{23}X_5^* \\
U_3^* &= X_3^* - a_{14}X_6^* - a_{24}X_4^* - a_{34}X_5^* \\
U_1^* &= X_1^* - a_{15}X_3^* - a_{25}X_6^* - a_{35}X_4^* - a_{45}X_5^*.
\end{align*}
\]

The estimated regression equations are as follows: (note that these equations relate to the standardised variable $X_1^*$ with mean zero and variance unity).
\[ U_5^* = X_5^* \]
\[ U_4^* = X_4^* - 0.13657X_5^*; R^2 = 0.019 \]
\[ U_6^* = X_6^* - 0.62996X_4^* - 0.02947X_5^*; R^2 = 0.403 \]
\[ U_3^* = X_3^* - 0.166503X_6^* + 0.441122X_4^* - 0.239016X_5^*; \]
\[ R^2 = 0.335 \]
\[ U_1^* = X_1^* + 0.65911X_3^* + 0.29768X_6^* - 0.19089X_4^* \]
\[ + 0.10190X_5^*; R^2 = 0.51. \]

The triangular matrix, A (coefficient matrix of the model) has been presented in Table 4.2. The last row of this table presents the variance of errors, \( U^* \).

We have inverted the matrix A. The Inverted A matrix, designated by B, has been presented in table 4.3.

The upper triangle cells including the main diagonal cells of table 4.3 present the elements of B, \( b_{ij}; i \leq j \).

*Elsewhere we have presented variance covariance matrixes also in the triangular form. But those matrixes are symmetric, and hence their triangular form implies that the opposite triangular cells are not blank. But in the present case, A, B, and C are a really triangular matrixes; one triangle is full, the other is blank.
Table - 4.2: Triangular Coefficient Matrix, A.

<table>
<thead>
<tr>
<th>X</th>
<th>1</th>
<th>3</th>
<th>6</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.000</td>
<td>0.659</td>
<td>0.298</td>
<td>-0.191</td>
<td>0.102</td>
</tr>
<tr>
<td>3</td>
<td>1.000</td>
<td>0.167</td>
<td>0.441</td>
<td>-0.239</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.000</td>
<td>-0.300</td>
<td>-0.029</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.000</td>
<td>0.137</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \text{var}(u^*) \begin{bmatrix} 0.514 & 0.665 & 0.597 & 0.981 & 1.000 \end{bmatrix} \]

Table - 4.3: Inverted Coefficient Matrix, B.

<table>
<thead>
<tr>
<th>X</th>
<th>1</th>
<th>3</th>
<th>6</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.000</td>
<td>-0.659</td>
<td>-0.188</td>
<td>0.363</td>
<td>-0.315</td>
</tr>
<tr>
<td>3</td>
<td>1.000</td>
<td>-0.167</td>
<td>-0.546</td>
<td>0.309</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.000</td>
<td>0.630</td>
<td>-0.057</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.000</td>
<td>-0.137</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Using the relevant formula given before we have computed \( C_{ij} \), the coefficients of influence. The influence coefficients are given in the matrix, C, presented in Table 4.4.
Table - 4.4: Influence Coefficient Matrix, C

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>3</th>
<th>6</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-0.501</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-0.172</td>
<td>-0.173</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.254</td>
<td>-0.410</td>
<td>0.441</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-0.220</td>
<td>0.244</td>
<td>-0.137</td>
<td>-0.134</td>
<td>-</td>
</tr>
</tbody>
</table>

The influence coefficient $C_{ij}$ measures the influence of $i$th variable on the $j$th variable. A perusal of the influence coefficients reveals that causal links are not strong. This is partly because we expect the reality to be quite complicated while our analytical method naive and data base insufficient and weak. We note here that for identifying causal chains efficiently we need time series data. At present we lack in time series data and this constraint puts us in a disadvantageous position.

However, we have been able to resolve the problem we started with, and conclude that productivity is influenced by indebtedness and not vice-versa. $X_5$ has a depressing influence on $X_6$ and $X_4$, while it enhances $X_3$. Further, $X_6$ and $X_4$ have depressing influence on $X_3$, while $X_4$ has an
THE CAUSAL CHAIN DIAGRAM

INFLUENCE
DIRECTOR OF
DEPRESSING
ENHANCING
AGRI. ASSETS
LOAN P. VALUE OF
CAPACITY
LOAN P. REPEATING
P. CULTIVABLE LAND
AMOUNT OF LOAN
P. C. HOLDING
PRODUCTIVITY
enhancing influence on $X_6$. The causal chain identified by the influence analysis has been presented in the Diagram that follows.

In this diagram positive influence has been presented by smooth line while negative influence has been presented by broken lines. The thickness of the line represents the strength of influence. We observe that $X_5 - X_4 - X_3 - X_1$ link is quite strong. We conclude that an increase in the amount of loan per rupee of repaying capacity burdens the cultivable area of land and reduces the per capita holding size (may be due to a transfer of land from the loanees to the loaner by way of sale or mortgaging of land). This has a positive effect on productivity. But since the elasticity of productivity with respect to per capita holding size ($E_{13} = 0.3$) is smaller than the elasticity of per capita holding size with respect to amount of loan per capita holding size ($E_{34} = 4.1$), the burden of loan on the household goes on increasing and thus, indebtedness becomes self-perpetuating. It is to be noted that increase in productivity is not synonymous with increase in production. Since a portion of the productive assets of the loanees are captured by indebtedness, he puts in extra efforts, especially labour, to produce enough for his
subsistence. This leads to an increase in the production per unit area of land cultivated by him. But the total production on his land decreases as the productivity increased on account of intensive application of labour on the land cannot compensate for the loss of production on account of land disposed off or mortgaged.

5. **Distributive Consequences of Indebtedness**

After investigating the productive consequences of indebtedness we may now turn to assess the distributive consequences of the same. A loanee household pays a portion of his income and resources to the loaner as a tribute. Thus, indebtedness has distributive consequences. Not only this, loanee households often mortgage land as a security against the debt. The loaner then possesses the land under mortgage and cultivates the land. Thus, indebtedness, by way of mortgaging, transfers the land resources from the loanee to the loaner. Such a transfer of land has distributive effects. Third, the loanee households often provide the services of the assets and labour days to the loaner against the debt. Further, loanees often sell their production at cheaper rates to the loaner, which has its distributive consequences.
First let us study how much amount is transferred from the loanees to the loaners in terms of interest.

Our sample data reveals that about 90 thousand rupees are paid as interest for the loan of Rs. 134.5 thousand. The total agricultural production (in value terms) is about Rs. 372.4 thousand. Thus about 36% of the agricultural income goes to the loaner. Of course, our sample households have other sources of income also. If we take these sources also into account, the total income of the sample households is about 707 thousand rupees. The interest paid from this dividend is about 19%. It is to be noted that the said share of interest in the income of our sample households is quite large.

Now let us turn to mortgaging of land against debt. Our sample data reveals that out of 82 loanee households 37 households have mortgaged a portion of their land against debt. The total area of land under mortgage is 117.5 bighas. The households who have mortgaged a portion of their land against debt own 556 bighas of cultivable land. Thus the percentage area of cultivable land mortgaged against debt is 21. The average productivity of land is Rs. 330.6 per bigha. Thus the agricultural income of Rs. 38.8 thousand
is transferred from the loanees to the loaners by way of land mortgaging. If we add this amount to the transfer of income by way of interest, the total amount of transfer of income on account of indebtedness is Rs. 173.3 thousand which amounts to 24.7% of the total income of the households.

Sixteen households have reported that they worked in the fields of the loaner for about 19 days without any remuneration except food supplied to them. Had these people worked on the basis of market wages, they would have earned about 3 thousand rupees. This amount may be considered as a payment against debt. Further, helping the loaner with agricultural assets like ploughs, bulls, bullock cart, and services rendered to his household activities also may be accounted for as a payment to the lender. It is difficult to impute monetary values to many such services. Nevertheless, a rough measure may give us an amount of Rs. 4,000 or so. All these included together amount to Rs. 180 thousand. Thus, about 25% of the domestic product of the village is transferred on account of indebtedness. Indeed, it is a substantially large part of the pie.
Notes and References


