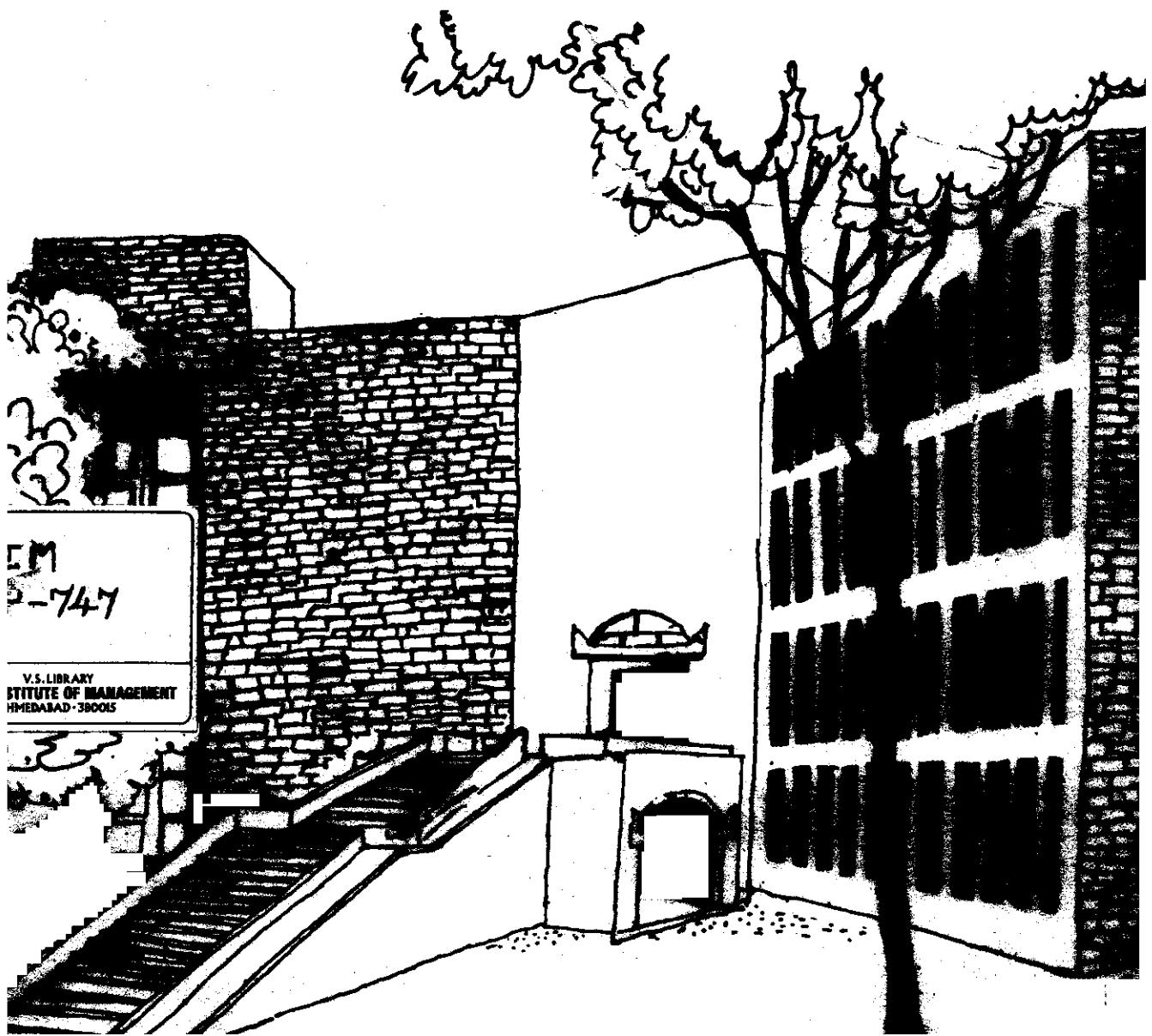




Working Paper



**INPUT-OUTPUT TABLES FOR KERALA
METHODOLOGY AND ESTIMATES**

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INPUT-OUTPUT TABLES FOR KERALA
METHODOLOGY AND ESTIMATES

- Ravindra H. Dholakia
and
Bakul H. Dholakia

Abstract

Input coefficient matrix and input transaction matrix for Kerala State are estimated in the present paper for 50 x 50 commodity sectors for the year 1984-85 at current prices. The sectors and methodology followed here are compatible and consistent with those of the national I-O tables which form the basis for the 7th Five Year Plan. The Kerala I-O matrices are estimated using both the survey based and non-survey based methods. Comparison of the estimates based on both these methods reveals that non-survey based method used in the paper performs satisfactorily to capture the overall regional differences from the national technology. If, however, the purpose is to capture sector-activity-specific differences in the regional technology, the survey-based method should be preferred over the non-survey based method although the former involves much greater time and effort.

INPUT-OUTPUT TABLES FOR KERALA :
METHODOLOGY AND ESTIMATES

by

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&
BAKUL H. DHOLAKIA

1. Need for Regional Tables

Inter-Industry table, popularly known as input-output (I/O) table, is an accounting device to represent the flows of transactions taking place in an economy over a given period of time which is generally taken to be a year. It captures the sectoral inter-dependence, basic structure and broad technology in the economy. Since development planning in the economy aims at achieving different goals by carefully avoiding bottlenecks and imbalances in the system, the detailed description of the economy provided in the inter-industry table assumes special importance in the planning models. After the Third Five Year Plan, the macro planning models used in India have been based on an input-output table for the whole economy. While such aggregative planning models based on I/O tables ensure internal consistency at the macro level for the specific sectoral targets, they fail to capture the dimension of space. Recent studies on regional disparities have clearly

shown that not only the levels of technology and production structure differ substantially but their rates of change over time also vary considerably across the regions in India (R.H. Dholakia, 1985). In order to make the plan targets more realistic, it is, therefore, necessary to incorporate the spatial dimension explicitly into the planning model.

One approach to tackle this problem is to decentralize the planning process by adopting the multi-level planning framework so as to capture the local circumstances and information more effectively. This would require preparation of state plans in the framework of the national plan. The requirement of the internal consistency of the state plans can be met only when the sectoral interdependence and sectoral links existing in the state are clearly spelt out. In other words, an inter-industry table at the state level should be used as the basis for the state plan just as the national inter-industry table is used as the basis for national plan. The state I/O table is expected to capture the basic differences between the state economy and the national economy in terms of the production structure and technology. The method of decentralized planning can thus result in a direct incorporation of the spatial dimension into the overall planning model.

The other approach to deal with the spatial dimension in the national planning is to directly attack the problem by replacing regional I/O tables for the national I/O matrix. In other words, the planning model itself can be modified by decentralizing the I/O table rather than the plan itself. The specific requirement of such an approach is that (i) I/O table for each of the regions in the nation must be prepared; (ii) the reference year for all regional I/O tables must be the same; (iii) the sectoral dimensions of all regional I/O tables should also be the same; and (iv) broad methodology for constructing I/O tables must be the same for all regions.

It is evident that, in both these approaches designed to incorporate the spatial dimension in the national plan model, we require estimation of the regional I/O matrix compatible with the national I/O matrix. Since the I/O tables prove most useful in deriving a consistent estimate of the target of gross output for different sectors on the basis of given levels of final demands, the regional I/O tables are required essentially to get more realistic targets of the gross output in different sectors of the economy.

Another important use of the regional I/O tables is in estimating or forecasting the region specific total demand of critical input industries in future. The regional I/O table

can predict with greater degree of reliability the input demand implications of various alternative developmental strategies under consideration at the regional level. It can also be used to predict the likely effects of any type of supply shocks like drought on the regional economy. Thus, the inter-industry transaction structure in a regional economy is a valuable tool for forecasting the demand for inputs and supply of outputs in the specific regional developmental context. It can also serve as a basis for transport planning since a complete system of regional I/O tables provides the implicit estimates of interregional flows by commodities.

In short, the importance of regional I/O tables compatible with the national I/O table cannot be overstated in the context of realistic planning for economic development in any large sized multi-region national economy like India.

II. Previous Studies for Kerala

Efforts in the direction of preparing regional I/O matrices in India were initiated in the 1950's. Subsequently, several individual researchers and institutions have constructed I/O tables for different states during the last two decades. A detailed survey of the availability of regional I-O tables in different states in India has been presented in Prasad and Dalvi (1982). Brief surveys of available studies on regional I-O tables are also presented in Venkatramiah et. al. (1979) and Saluja (1980).

In spite of Kerala being highly researched state, it is surprising to find that preparation of detailed input-output tables for Kerala has not found favour with researchers. Hardly any effort is made to construct special I-O matrices for the state economy of Kerala. The only study where Kerala's I-O tables are available is the wider study carried out by Venkatramaiah, Kulkarni and Argade (1979). It is, however, a detailed study attempting relatively comprehensive sectoral classification for Kerala. This study presents a rectangular 64 x 53 input coefficients matrix for the Kerala state for the year 1965. Thus, after the 1965 I-O table which was constructed in 1979, no serious effort seems to have been made either for updating the existing I-O matrix or for constructing a fresh one for the Kerala State. On the other hand, at the national level, the Seventh Plan is based on an I-O matrix of 50 x 50 size for the year 1984-85. It is an updated but abridged version of the I-O table for the year 1973-74 prepared and published by CSO (1981). No effort, however, is made to construct compatible I-O matrices at regional level even for the base year 1973-74. The only I-O table available for Kerala up to now is for the year 1965. It not only involves sectoral mismatch with the latest national I-O table but is also very outdated in terms of the reference year as well as the basic

source material. It, therefore, cannot capture adequately the regional differences in technology and production structure. In view of this, we have to necessarily think in terms of a direct approach to construct the I-O table for Kerala compatible and consistent with the latest national I-O table.

III. Basic Approaches for Constructing Regional I-O Tables

There are basically two alternative approaches for estimating the regional I-O matrix, viz., the Survey Method and Non-Survey Method. In the survey-based method of estimating regional matrix, all the actual input-output transactions are estimated by using whatever information is available on such transactions from the secondary and primary sources for the regional unit. If some gaps in the availability of data are found, they are sought to be bridged by conducting specific primary surveys in the region. On the other hand, the non-survey method of estimating the regional I-O matrix uses the national I-O matrix as the basic reference and modifies it to the necessary extent by using the corresponding estimates of the gross output, value added and other relevant data readily obtainable for the regional unit. In particular, the two approaches differ on the following grounds :

1. While the compatibility and consistency of the regional matrix with the national matrix need to be carefully ensured in the survey method, these are always ensured in the non-survey method.
2. The survey method requires enormous time and effort whereas the non-survey method requires significantly less time and effort.
3. Voluminous amount of data collection and processing is involved in the survey method with the result that its requirement in terms of appropriate software and computer time is substantial. The amount of data collection and processing and hence software requirements are minimal for the non-survey method.
4. As against all the above mentioned disadvantages of the survey method vis-a-vis the non-survey method, the relative merit of the former lies in its ability to capture all of the regional variations in the production technology. While the non-survey method captures some regional variation, it fails to capture all relevant regional variations in production technology including major changes in the input structures of individual industries that may be found at the regional level.

In the present paper, we construct the I-O table for Kerala based on both the survey and the non-survey methods. An attempt has also been made to present some comparisons of our regional tables with the national I-O table of 50 x 50 sectors for the year 1984-85. The basic table that we have constructed is the one showing input coefficients of 50 commodity x 50 commodity matrix for Kerala. The input transaction table has also been derived by using the corresponding estimates of gross outputs.

IV. Data Sources and Method of Estimation for Survey-Based I-O Matrix

As we have already discussed above, in the survey method we have to take special care to ensure compatibility and consistency of the regional I-O table with the national I-O table. Accordingly, in the present case, we have to ensure compatibility with the national table in the following aspects :

- 1) Coverage in terms of the number of sectors and their precise definitions in the I-O table. The Technical Note on Seventh Five Year Plan provides the relevant information about the number and definition of sectors in National I-O matrix. The reference year for the national I-O table is 1984-85 and the table is at current prices. Moreover, it is based on 50-sector

classification of the economy. We have to use the same number and definitions of sectors and the reference year for Kerala.

- ii) Concepts used for the regional I-O table should be the same as the ones used for constructing the national I-O table. Particularly, we should ensure that the I-O table should be in terms of commodity x commodity matrix. Further, it should be based on the 'industry technology assumption' which states that the input structure of a secondary product is considered to be similar to that of the industry where it has been produced (see, CSO 1981). Finally the regional I-O table should be in terms of producers' prices for inputs and outputs.
- iii) Apart from the similarity of broad methodology followed in the estimation of input coefficients in different sectors, the adjustment for the following aspects should be on similar lines in the regional I-O table as in the national I-O table : (a) unregistered manufacturing; (b) trade-margins; and (c) indirect taxes.

Keeping these requirements in view to ensure compatibility of the regional I-O table with the national I-O table, we may now outline the details of the methodology adopted in the present paper to construct the survey-based I-O table for Kerala for the year 1984-85.

As a first step in the methodology, we divide the regional economy into four broad categories. Since the national I-O table describes the whole economy with 50 sectors/commodities, we classify the same 50 commodities describing the whole economy of Kerala into four broad categories based on the following criteria : (i) the level of the sectoral disaggregation given in the national I-O matrix; (ii) the nature of the data availability at the regional level; and (iii) the nature of the activity. The four categories are :

- A. Industry including Electricity (30 sectors)
- B. Agriculture and Animal Husbandry (8 sectors)
- C. Fishing, Forestry and Mining (7 sectors)
- D. Supra-regional Transactors and Services (5 sectors).

We may now discuss the details of the methodology to derive the I-O coefficients for Kerala, in each of the four above-mentioned categories.

IV-A: Industrial Sector: The industrial sector including electricity covers 30 out of the total of 50 commodities of the economy. It consists of not only the registered manufacturing and electricity sectors but also the unregistered manufacturing sector in the income accounts of the state. Since the basic source material and nature as well as availability of data differ substantially in these two sub-sectors, we distinguish these two segments of the industrial sector and treat

them separately to begin with. Later on we add them to derive the required estimates for the industrial sector.

IV-A (a) : Registered Manufacturing and Electricity

The basic source material in this sub-sector is the detailed tabulation of the factory sector of the Annual Survey of Industries (ASI). The latest year for which these detailed tables of the ASI are available is 1978-79. We have, therefore, made use of this information as the basic source.*¹ Tables 4, 5 and 7 in the ASI detailed tabulation provide very useful information on the inputs and outputs of the registered factories at four digit level of industrial aggregation. These data are both in the physical units and value terms. The data on inputs were classified first into three categories:

- (i) Material inputs
- (ii) Fuel Inputs
- (iii) Other Inputs

Having first identified the four digit level industries for which the data on all these 3 types of inputs are separately available for Kerala State, an exhaustive list of the value of material input items by each of the 4-digit level industries was made. This information is available from Tables of the ASI

*1. It may be noted here that the national I-O table for 1984-85 as available in the Technical Note on the 7th Plan, uses the detailed tabulation of ASI for the year 1973-74. However, the tabulation of 1978-79 ASI data was completed subsequently, but it was only in the year 1987 that the corresponding results in the form of relevant detailed tables were available from CSO. We have made use of this most recently available information for constructing the I-O table for Kerala.

detailed tabulation. Using the NIC (1970) codes for 8-digit level product/commodity classification, we identified each of the items used as material inputs in each of the ASI 4-digit level industries in the State. Using the definitions of the 50 sectors of the national I-O matrix as given in the Technical Note on 7th Plan and CSO (1981), we then arrived at the aggregation of the 8-digit level inputs item codes into our required sectors for each of 4-digit level ASI industries in the state for the year 1978-79.

Table 4 in the ASI detailed tabulation for the factory sector provides information on the fuel inputs and lubricants used in the production of outputs in different industries at 4-digit level. It provides data on physical units as well as in value terms on 15 categories of fuels and lubricants. The values of these items were collected and aggregated into our required 50 sectors by using the definitions of the sectors for each of the 4 digit level industries.

In the case of other inputs, the information was obtained from Table 7 of the detailed tabulation of ASI, 1978-79 for each of the 4-digit level industry in the state. The broad treatment of different items in Table 7 was similar to the one followed in CSO (1981) which underlies the national I-O matrix for the year 1984-85. Table 7 in ASI detailed tabulation provides information in value terms on the following items which deserve special mention : (i) addition to stock of semi-

finished products, (ii) work done for customers, (iii) sale value of goods sold in the same condition as purchased, (iv) cost of contracts and commission, (v) products reported for sale in last year but used for further manufacture, (vi) miscellaneous charges, (vii) office supplies, (viii) purchase value of goods sold in the same condition as purchased, (ix) cost of repair and maintenance. Whereas the first 3 items relate to output, the remaining 6 items are essentially input items. The difference between (iii) and (viii) is taken as the trade input. Items (iv) and (vi) are allocated to the "other services" sector (Sector No. 50). Item (v) is considered as commodity produced and consumed in the same industry. Item (vii) is broken up equally into two groups of items, viz., paper & stationery and other office equipments. Item (ix) is allocated to "other manufacturing" sector (Sector No. 44).

IV-A (b) : Unregistered Manufacturing

In terms of availability of reasonably detailed information on inputs and outputs, the unregistered manufacturing sector is not at all comparable to the registered manufacturing sector. The data for unregistered manufacturing is collected only through sample surveys which are not very frequently conducted. The latest year for which a detailed sample survey in this sector was conducted through NSSO and for which the results are now available, is 1978-79. It provides information

on aggregate inputs, gross outputs, value added, depreciation, etc. by 2-digit industry groups for major state economies. The results of the central sample are published recently by CSO (1985). Since our required sectoral classification does not match with the 2-digit industrial classification, the first step is to enlarge and match the two classifications. This was accomplished by assuming that within the given 2-digit level industry group, the further disaggregation pattern in the unregistered manufacturing sector is similar to the one in the registered manufacturing sector in the state economy. This method was followed in respect of the aggregates like gross value added and gross output.

Since we do not have any details for the input structure within the unregistered manufacturing, although we have the overall gross value added proportion by industry groups, we have to generate the total input proportions by our required industrial sectors within the unregistered manufacturing in Kerala. For the same industry groups, we also have the total input proportions from the ASI tabulations. By adjusting the input-use proportions for the registered manufacturing based on the ASI data to the total input-use proportion in the unregistered manufacturing in each of the required sectors, the required input-use proportions were obtained for the unregistered manufacturing for the year 1978-79.

As we can see from the above discussion, the input-use coefficient matrices for all the sectors covered under the registered as well as unregistered manufacturing pertained to the year 1978-79. We can, therefore, take their weighted average and combine the registered and unregistered manufacturing technologies in the "average" input-use proportions prevalent in the economy. It may be pointed out here that such a procedure of taking weighted average, which is also followed in the national I-O matrix, would necessitate changes in the input-use proportions whenever the relative weightage of the registered and unregistered manufacturing changes in the economy. If we consider any change in the input-use coefficient as revealing the technological change as is often treated in the literature (see for instance, Ramachandra Rao and Narayana 1987), we should treat the changing proportion of registered and unregistered manufacturing as a source for technological change in the economy.

Having obtained the input-use coefficients for the industry sectors for the year 1978-79, the problem was to carry it forward to the year 1984-85. Basically, two different but related phenomena occur in any economy over time in this context : (i) prices of inputs and outputs change at different rates over time; and (ii) the input substitution on account of either changing relative input prices and/or

changing technology takes place. The latter is usually related to the former. It is well-known that relatively cheaper inputs are substituted for relatively costlier inputs. Thus, two opposite effects are likely to operate on the input use coefficients over time. The net impact could be in any direction as far as the input use coefficient in value terms is concerned. We compared the total input use proportions for all the industry sectors covered under registered manufacturing for the year 1978-79 with the ones in the year 1982-83 obtained from the ASI factory sector's summary results for Kerala State. The two proportions were found to be remarkably similar in most of the sectors. On the other hand, when we made price adjustments by using the data on price indices by sectors from Finance Ministry (1979; 1983 and 1985) and deflators for state domestic product estimates, the total input use proportions in several sectors were considerably distorted, even to the extent of indicating negative value added proportions in some cases, for both the years 1982-83 and 1984-85. One of the main reasons for this phenomenon may perhaps lie in the fact that such price adjustments at best represent only partial adjustments inasmuch as the corresponding changes in input use proportions in physical terms are not captured by these adjustments. Moreover, it may also be noted that detailed product-wise price information is not readily available at the state level in the required form. In view of

this, it is preferable not to make any price adjustments while deriving regional I-O matrix, especially in the light of available empirical evidence on relative stability of input use coefficients in the short run. Thus, we are in effect assuming that the net impact of relative price changes and inter-input substitution taken together is negligible on the input use coefficients in value terms over the period 1978-79 to 1984-85 in Kerala.

In order to generate the transaction matrix, we require to estimate gross output for the year 1984-85 in different industrial sectors covered in our 50×50 sector framework. The latest ASI results for the factory sector are available only in the summary form for Kerala state for the year 1982-83. Moreover, these summary results are available for the 3-digit level disaggregation only. On the other hand, the state income data provide the estimates of net value added at current prices in the registered and unregistered manufacturing sectors separately for the year 1984-85. Using the estimate for the rate of depreciation for the registered and unregistered manufacturing sectors from CSO (1987), we generated the gross value added at current prices for these two sectors in 1984-85. Then, by applying the profile of the gross value added for our required industrial sectors from the ASI summary results for the year 1982-83, we obtained the estimates of gross value added in 1984-85 for our different industrial sectors consistent with the

corresponding overall estimate of the gross value added for the entire registered manufacturing sector provided by the official state income statistics. Applying the ratio of gross value added to gross output from the 1982-83 ASI data for Kerala by industry groups, the corresponding estimates of gross output by the required sectors were obtained for the registered manufacturing for the year 1984-85.

The 1978-79 data on unregistered manufacturing by the required 30 sectors were similarly processed to obtain the percentage share of gross value added. These percentages were applied to the estimated gross value added for the unregistered manufacturing sector in 1984-85 to get the series of gross value added by the required sectors in 1984-85. The 1978-79 value added proportions for these sectors were used to obtain the corresponding estimates of gross output from gross value added for unregistered manufacturing in 1984-85. The gross outputs in the registered and unregistered manufacturing by the required sectors were then added so as to obtain the corresponding input use transactions matrix for manufacturing in Kerala for the year 1984-85 at current prices.

IV-B Agriculture and Animal Husbandry

The main source of data on these sub-sectors is the basic set of worksheets of the state income unit of the Directorate of Economics and Statistics, Government of Kerala. From this

source, we obtained the data on gross output by different crops and animal husbandry sub-sectors. However, data on inputs by different items and depreciation were available only for the agriculture and animal husbandry sector as a whole. These data were readily available both at constant and current prices for the year 1984-85. However, in order to allocate the input cost by items to different crops and animal husbandry, we have to use other sources of information. Cost of diesel and electricity were allocated to crops using the statistics on area under irrigation by crops available from the Directorate of Agriculture, Government of Kerala. Having generated the transaction columns for the 8 sub-sectors of agriculture in the required 50×50 sector I-O table, these transactions were added to the manufacturing transactions matrix already derived as per the methodology described in the section IV-A above.

In order to adjust these transactions for the trade and transport margins, commodity specific margin rates for railways, other transport and trade were obtained from the Technical Note on the Seventh Plan. These rates were applied to the transaction table for manufacturing and agricultural sectors. The aggregated margins in each column were then added to their respective sector rows.

IV-C. Fishing, Forestry and Mining :

The main source of data for these sectors is again the state domestic product accounts. From this source, we get the data on net domestic product, depreciation rates and other inputs used by the required sub-sectors at current prices for the year 1984-85. It was, therefore, possible to calculate the total input use proportions and gross value added proportions in these sub-sectors in Kerala. The allocation of inputs by commodities in the state was obtained by adjusting the national input use coefficients in each sub-sector at the same rate as the overall input use proportion in the respective sector. The inter-industry transactions were then added to the already obtained transaction matrix for the manufacturing and agriculture.

IV-D. Supra-Regional Transactors and Services :

The main source of data in this sector is also the state income accounts and the CSO. Official estimates of Net State Domestic Product at current prices for the year 1984-85 in these sub-sectors were converted into gross value added by applying sector-specific depreciation rates obtained from the CSO. In the case of the supra-regional transactors like railways, communication, banking and insurance, etc., even the estimates of SDP are received by the state statistical bureau from the CSO. Moreover, in the case of most of

these services, the technology is unlikely to show significant regional variations. National input use coefficients were, therefore, adopted in these sectors and the corresponding transactions were generated.

When these transactions were added to the already derived transaction table, a complete 50 x 50 sector transaction table for Kerala State was formed. It was then converted into the input use coefficient form. By post-multiplying this input use coefficient matrix by the Make Matrix obtained from the Technical Note on 7th Plan, the required input-output coefficient matrix for Kerala was obtained. The input-output coefficient matrix for Kerala for 1984-85, so derived, is presented in Appendix Table 1. The inter-industry transaction table for Kerala corresponding to the input-output coefficient matrix for the year 1984-85 at current prices is presented below in Appendix Table 2.

V. Data Sources and Method of Estimation for Non-Survey-Based I-O Matrix

There are several non-survey methods available to regionalize the national inter-industry table. The method that is conventionally used for this purpose is the well-known RAS method (for discussion of RAS method, see Kundu et al., 1978; and Saluja, 1980). Further improvements and refinements in the application of the RAS method is suggested in Braschler et al.,(1984). Dalvi and Prasad (1981 and 1982)

have proposed another non-survey method based on the generalized inverse technique. They have also compared the performance of their method based on the Moore-Penrose inverse and the RAS method in the case of the two Indian states. They have found that use of generalized inverse for regionalization of a national I-O matrix can be made for empirical research with a larger degree of confidence as compared to RAS method (see Dalvi and Prasad, 1982). Subsequently, Dholakia and Choudhry (1986) have modified the Dalvi-Prasad (1981) method based on generalized inverse by explicitly introducing the value added constraints. They have demonstrated with the help of the Canadian regional input-output tables for the year 1974 that their method performs far better than the method of Dalvi and Prasad based on the Moore-Penrose generalized inverse. We have, therefore, used the Dholakia-Choudhry method of regionalizing the national I-O matrix for Kerala.

Central to the non-survey method based on the generalized inverse technique is the proposition that the national coefficients are weighted averages of the corresponding regional coefficients, the weights being the proportion of regional gross outputs to national gross output in a given industry (j). Symbolically,

$$a_{ij} = \sum_{r=1}^K p_j^r \cdot a_{ij}^r \quad \dots \quad (1)$$

where a_{ij} is the national input use coefficient for the i^{th} commodity in the j^{th} industry, p_j^r is the r^{th} region's share

of j^{th} industry's national gross output and a_{ij}^r is the input use coefficient for the i^{th} commodity in the j^{th} industry for the r^{th} region. In matrix form, (1) may be expressed as :

$$\begin{matrix} A \\ (mxmn) \end{matrix} = \begin{matrix} P \\ (mxmk) \end{matrix} \cdot \begin{matrix} A^R \\ (mkxm) \end{matrix} \dots (2)$$

where n is number of commodities, m is number of industries, and k is the number of regions. All these matrices are defined for the sake of convenience in row diagonal and block diagonal matrix form. (for details, see Dholakia and Choudhry, 1986). From (2), we obtain :

$$A^R = P^+ \cdot A \dots (3)$$

where P^+ is a generalized inverse of P . Dalvi and Prasad (1981) use the Moore-Penrose generalized inverse of P to get the solution as :

$$a_{ij}^r = p_j^r \cdot a_{ij} / \sum_{r=1}^k (p_j^r)^2 \dots (4)$$

Dholakia and Choudhry (1986) on the other hand, impose the value added constraint and obtain the solution as :

$$a_{ij}^r = a_{ij} \left(\sum_{i=1}^n a_{ij}^r \right) / \left(\sum_{i=1}^n a_{ij} \right) \dots (5)$$

Since the Dholakia-Choudhry method worked far more satisfactorily than the Dalvi-Prasad method, which in turn worked more efficiently than the traditional RAS method, we have used the Dholakia-Choudhry solution to generate the non-survey based Kerala matrix from the national input use matrix for the year 1984-85.

The data requirements for this method are relatively less as compared to the other methods. We require the estimates of the value of gross output and total inputs used in each of the 50 sectors for Kerala for the given reference year. The most comprehensive source of such data at the state level is generally the state income division of the Directorate of Economics & Statistics of the state government. Although the required data are available at the aggregate sectoral level in the state economy, the same are not always available at the required disaggregated sectoral levels. In such cases, allocation of the aggregates particularly the total inputs used among the corresponding sub-sectors has been made by using appropriate methods.

In order to allocate the total inputs used in a sector, say agriculture, to the sub-sectors covered in our 50×50 classification, we have used the value added proportions obtained from the national table for each of the sub-sectors. Since at the aggregate sector level, we have the regional value added proportion which may be different from the corresponding proportion for the national sector, we adjust the value added proportions in the sub-sectors at the national level in the same direction and rate for estimating the Kerala proportions. For the industrial sub-sectors' gross output and total input use proportions, the same data sources and methods were used as described above in section IV-A.

For supra-regional transactors and services, we adopt the national input use coefficients for the respective columns for Kerala state.

The input use coefficient matrix for Kerala based on the non-survey method was obtained by consolidating the above estimates for the respective coefficients. After post multiplying the input use coefficient matrix by the make matrix for 1984-85 obtained from the Technical Note on 7th Plan, we get the input-output coefficient matrix for Kerala, which is presented below in Appendix Table 3. The corresponding transaction table for Kerala State for the year 1984-85 at current prices based on the non-survey method is presented in Appendix Table 4.

VI. Analysis of the Results

The two alternative methods of estimating the regional I/O matrices give two different sets of estimates of the coefficients. Since both are estimates, their comparison has to be made with respect to some welldefined common characteristic. As we have discussed in the beginning, the need for regional matrices is felt basically to capture the extent of regional variation in the technology. We should, therefore, examine the deviations of the regional matrices obtained by the two alternative methods from the national matrix. The summary of the results in terms of frequency distributions

of deviations from the national input-use matrix of the estimated regional matrix by the survey and the non-survey methods are presented below in a tabular form.

Frequency Distribution of the Deviations of
Kerala Input-Use Coefficients from the National
Coefficients, 1984-85

Frequency Range	Frequency of Differences Between Survey-Based - National	Non-Survey-Based - National
-0.15 or less	18	14
-0.149999 to -0.1	17	4
-0.099999 to -0.05	32	20
-0.049999 to -0.01	160	93
-0.009999 to -0.001	319	270
-0.000999 to -0.0001	97	212
-0.000099 to -0.00001	12	28
-0.000009 to +0.000009	1518	1375
0.00001 to 0.000099	50	159
0.0001 to 0.000999	123	244
0.001 to 0.009999	78	59
0.01 to 0.049999	43	15
0.05 to 0.099999	12	4
0.1 to 0.149999	8	2
0.15 or more	13	1
Total	2500	2500

From these frequency distributions of the deviations of regional coefficients from the national coefficients, it is evident that the Kerala input use coefficients differ on the whole from the national ones. Although most of the coefficients of Kerala are not different from the national coefficients in the first three decimal places, about 4% of the total coefficients of Kerala differ from the national ones by 0.05 or more. In specific sectors or activities, therefore, there appears to be considerable regional differences in the technology as reflected by input use coefficients. The most interesting question in this regard is whether the non-survey based method of estimating regional I/O matrix performs as efficiently as the survey based method in capturing the regional variations in the coefficients. We may use the test of mean difference for this purpose on the distributions of differences of regional input use coefficients and national coefficients. When we consider all the observations (i.e. 2500 coefficient differences), the calculated t-value turns out to be only 0.5341 which is statistically insignificant. This implies that the average overall difference of the regional coefficient from the national coefficient remains statistically the same whether we use the survey based method or non-survey based method to estimate the regional coefficients. Thus, if the purpose is to capture the overall difference of the regional technology from the national technology, both the survey based and non-survey based methods of estimating the regional coefficients appear to perform almost equally.

If, however, our purpose is to look into the differences of regional technology from national technology in the sector-activity-specific context, we need to consider those ranges of differences which are more than 5 percentage points in absolute terms. If we apply the mean difference test only to these ranges of differences in the two methods, we get the calculated t-value of 2.6744 which is significant at 5% level of significance. This implies that on an average the differences in regional coefficients from national coefficients when exceed 0.05 in absolute terms, the two methods of estimating regional coefficients differ statistically significantly. Thus, if our interest is to capture sector-activity -specific differences in the regional technology, we have to make a conscious choice between the two alternative methods of estimating the regional coefficients. It is obvious at this stage that survey based method should be given priority over the non-survey based method if the estimates based on the former are available for any regional economy.

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APPENDIX : INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85 (Survey Method)
 TABLE I -31-

**Appendix Table-I: INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85
(Contd.)**

-32-

sector code/item	8	9	10	11	12	13	14
1 paddy	0.022706	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2 wheat	0.000005	0.000009	0.000000	0.000000	0.000000	0.000000	0.000000
3 other cereals	0.000067	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4 pulses	0.003115	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
5 fibre crops	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6 tea, coffee	0.000035	0.000003	0.000000	0.000000	0.000000	0.000000	0.000000
7 other crops	0.503237	0.000009	0.000000	0.000000	0.000000	0.000000	0.000000
8 animal husbandry	0.000005	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9 forestry & logging	0.000000	0.000028	0.000000	0.000000	0.000000	0.000000	0.000000
10 fishing	0.000020	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000
11 coal & lignite	0.000001	0.000827	0.000000	0.000000	0.000000	0.000000	0.000000
12 crude petroleum & natural gas	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
13 iron ore	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
14 other metallic minerals	0.000000	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
15 non-metallic minerals	0.000000	0.000003	0.000000	0.000000	0.000000	0.000000	0.000000
16 sugar	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
17 khandsari & boora	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
18 other food & beverage indu.	0.058442	0.000001	0.000300	0.000000	0.000000	0.000000	0.000000
19 cotton textiles	0.012573	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
20 art silk & synthetic fibre textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
21 woollen textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
22 other textiles	0.000000	0.000681	0.020055	0.000000	0.000000	0.000000	0.000000
23 wood based industries	0.000003	0.004782	0.000358	0.000000	0.000000	0.000000	0.000000
24 paper & paper based industries	0.000001	0.005476	0.000000	0.000000	0.000000	0.000000	0.000000
25 leather & leather products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
26 rubber products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
27 plastics	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
28 petroleum products	0.000003	0.003016	0.017069	0.000000	0.000000	0.000000	0.000000
29 coal tar products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
30 fertilizers	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
31 pesticides	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
32 synthetic fibre resin	0.000000	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000
33 other chemicals	0.004060	0.000002	0.000389	0.000000	0.000000	0.000000	0.000000
34 cement	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
35 other non-metal mineral products	0.000001	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000
36 iron & steel	0.000000	0.000007	0.000302	0.000000	0.000000	0.000000	0.000000
37 non-ferrous metal	0.000000	0.000001	0.000029	0.000000	0.000000	0.000000	0.000000
38 non-electrical machinery	0.000000	0.001140	0.000000	0.000000	0.000000	0.000000	0.000000
39 electrical machinery	0.000000	0.003458	0.000000	0.000000	0.000000	0.000000	0.000000
40 rail equipments	0.000000	0.000003	0.000000	0.000000	0.000000	0.000000	0.000000
41 motor vehicles	0.000000	0.008691	0.000000	0.000000	0.000000	0.000000	0.000000
42 other transport equipment	0.000000	0.000405	0.038366	0.000000	0.000000	0.000000	0.000000
43 communication & electronic equipments	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
44 other manufacturing	0.000007	0.002023	0.000011	0.000000	0.000000	0.000000	0.000000
45 rail transport service	0.000829	0.001965	0.000271	0.000000	0.000000	0.000000	0.000000
46 other transport service	0.010122	0.014064	0.000880	0.000000	0.000000	0.000000	0.000000
47 electricity	0.000002	0.001778	0.000000	0.000000	0.000000	0.000000	0.000000
48 construction	0.009709	0.022619	0.000000	0.000000	0.000000	0.000000	0.000000
49 communication	0.000000	0.003892	0.000000	0.000000	0.000000	0.000000	0.000000
50 other services	0.083738	0.019133	0.006232	0.000000	0.000000	0.000000	0.000000
51 total 1 to 50	0.708681	0.094025	0.084284	0.000000	0.000000	0.000000	0.000000
52 indirect taxes	0.019979	0.006047	0.006865	0.000000	0.000000	0.000000	0.000000
53 val added	0.271340	0.899928	0.908851	0.000000	0.000000	0.000000	0.000000
54 gross output	1.000000	1.000000	1.000000	0.000000	0.000000	0.000000	0.000000

APPENDIX : INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85
Table 1 (Contd.)

-33-

sector code\item	15	16	17	18	19	20	21
1 paddy	0.000000	0.000000	0.000000	0.000069	0.000028	0.000000	0.000000
2 wheat	0.000000	0.000000	0.000000	0.015352	0.000036	0.000000	0.000000
3 other cereals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4 pulses	0.000000	0.000000	0.000000	0.001546	0.000012	0.000000	0.000000
5 fibre crops	0.000000	0.000000	0.000000	0.000202	0.349162	0.000000	0.000000
6 tea, coffee	0.000000	0.000000	0.000000	0.112963	0.000262	0.000000	0.000000
7 other crops	0.000002	0.000000	0.000000	0.311809	0.001207	0.000000	0.000000
8 animal husbandry	0.000000	0.000000	0.000000	0.017472	0.000067	0.000000	0.000000
9 forestry & logging	0.000117	0.000000	0.000000	0.001263	0.001718	0.000000	0.000000
10 fishing	0.000000	0.000000	0.000000	0.065774	0.000152	0.000000	0.000000
11 coal & lignite	0.000121	0.000000	0.000000	0.001687	0.000048	0.000000	0.000000
12 crude petroleum & natural gas	0.000000	0.000000	0.000000	0.000010	0.000000	0.000000	0.000000
13 iron ore	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
14 other metallic minerals	0.000010	0.000000	0.000000	0.000121	0.000008	0.000000	0.000000
15 non-metallic minerals	0.000041	0.000000	0.000000	0.000121	0.000017	0.000000	0.000000
16 sugar	0.000000	0.000000	0.000000	0.000922	0.000002	0.000000	0.000000
17 khandsari & beets	0.000000	0.000000	0.000000	0.000000	0.000332	0.000000	0.000000
18 other food & beverage indu.	0.000000	0.000000	0.000000	0.040922	0.000778	0.000000	0.000000
19 cotton textiles	0.000000	0.000000	0.000000	0.000063	0.107768	0.000000	0.000000
20 art silk & synthetic fibre textiles	0.000000	0.000000	0.000000	0.000002	0.002611	0.000000	0.000000
21 woollen textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
22 other textiles	0.000000	0.000000	0.000000	0.000820	0.011270	0.000000	0.000000
23 wood based industries	0.000001	0.000000	0.000000	0.010125	0.001028	0.000000	0.000000
24 paper & paper based industries	0.000001	0.000000	0.000000	0.005114	0.002478	0.000000	0.000000
25 leather & leather products	0.000000	0.000000	0.000000	0.000000	0.000155	0.000000	0.000000
26 rubber products	0.000000	0.000000	0.000000	0.000000	0.000251	0.000000	0.000000
27 plastics	0.000000	0.000000	0.000000	0.000693	0.005803	0.000000	0.000000
28 petroleum products	0.051036	0.000000	0.000000	0.008959	0.000000	0.000000	0.000000
29 coal tar products	0.000001	0.000000	0.000000	0.000000	0.000006	0.000000	0.000000
30 fertilizers	0.000000	0.000000	0.000000	0.000044	0.000011	0.000000	0.000000
31 pesticides	0.000000	0.000000	0.000000	0.000004	0.000000	0.000000	0.000000
32 synthetic fibre resin	0.000001	0.000000	0.000000	0.000169	0.000027	0.000000	0.000000
33 other chemicals	0.015527	0.000000	0.000000	0.002697	0.011167	0.000000	0.000000
34 cement	0.000005	0.000000	0.000000	0.000001	0.000000	0.000000	0.000000
35 other non-metal mineral products	0.000024	0.000000	0.000000	0.002560	0.000153	0.000000	0.000000
36 iron & steel	0.000008	0.000000	0.000000	0.000196	0.000097	0.000000	0.000000
37 non-ferrous metal	0.000000	0.000000	0.000000	0.000553	0.000040	0.000000	0.000000
38 non-electrical machinery	0.033552	0.000000	0.000000	0.000001	0.001086	0.000000	0.000000
39 electrical machinery	0.000000	0.000000	0.000000	0.000001	0.000000	0.000000	0.000000
40 rail equipments	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
41 motor vehicles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
42 other transport equipment	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
43 communication & electronic equipments	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
44 other manufacturing	0.000034	0.000000	0.000000	0.022448	0.013713	0.000000	0.000000
45 rail transport service	0.000664	0.000000	0.000000	0.001984	0.001025	0.000000	0.000000
46 other transport service	0.001278	0.000000	0.000000	0.011058	0.018678	0.000000	0.000000
47 electricity	0.029536	0.000000	0.000000	0.005489	0.016514	0.000000	0.000000
48 construction	0.009162	0.000000	0.000000	0.001403	0.004032	0.000000	0.000000
49 communication	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
50 other services	0.011740	0.000000	0.000000	0.094558	0.070088	0.000000	0.000000
51 total 1 to 50	0.152879	0.000000	0.000000	0.739173	0.621831	0.000000	0.000000
52 indirect taxes	0.013024	0.000000	0.000000	0.044818	0.023590	0.000000	0.000000
53 val added	0.834097	0.000000	0.000000	0.216009	0.354579	0.000000	0.000000
54 gross output	1.000000	0.000000	0.000000	1.000000	1.000000	0.000000	0.000000

APPENDIX : INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85
 Table-1 (contd..)

-34-

sector code\item	22	23	24	25	26	27	28
1 paddy	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2 wheat	0.000004	0.000021	0.000000	0.000000	0.000848	0.000000	0.000000
3 other cereals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4 pulses	0.000000	0.000002	0.000000	0.000000	0.000084	0.000000	0.000000
5 fibre crops	0.006004	0.000016	0.000013	0.000000	0.000031	0.000000	0.000000
6 tea, coffee	0.000031	0.000158	0.000001	0.000000	0.006290	0.000000	0.000001
7 other crops	0.001131	0.000577	0.000108	0.000000	0.291540	0.002609	0.000399
8 animal husbandry	0.000010	0.000026	0.000003	0.000000	0.000968	0.000009	0.000010
9 forestry & logging	0.002818	0.226113	0.000081	0.000000	0.000569	0.000094	0.000045
10 fishing	0.000018	0.000092	0.000001	0.000000	0.003663	0.000000	0.000000
11 coal & lignite	0.000086	0.000122	0.000008	0.000000	0.000120	0.000024	0.000268
12 crude petroleum & natural gas	0.000000	0.000000	0.000057	0.000000	0.000001	0.000000	0.709026
13 iron ore	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
14 other metallic minerals	0.000022	0.000008	0.000011	0.000000	0.000002	0.000042	0.000042
15 non-metallic minerals	0.000118	0.000015	0.000012	0.000000	0.001757	0.000058	0.000045
16 sugar	0.000000	0.000001	0.000000	0.000000	0.000051	0.000000	0.000000
17 khandsari & boora	0.000006	0.000000	0.000045	0.000000	0.000000	0.000000	0.000000
18 other food & beverage indu.	0.006897	0.000978	0.000246	0.000000	0.002396	0.002551	0.000927
19 cotton textiles	0.030610	0.000113	0.000704	0.000000	0.003159	0.000359	0.000004
20 art silk & synthetic fibre textiles	0.000045	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
21 woollen textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
22 other textiles	0.534072	0.000730	0.000562	0.000000	0.018549	0.007747	0.000571
23 wood based industries	0.000498	0.180004	0.000060	0.000000	0.004564	0.000587	0.001637
24 paper & paper based industries	0.008557	0.003516	0.429960	0.000000	0.001365	0.001016	0.000297
25 leather & leather products	0.000003	0.000000	0.000549	0.000000	0.000000	0.000000	0.000000
26 rubber products	0.000251	0.000293	0.000001	0.000000	0.137018	0.001464	0.000000
27 plastics	0.000281	0.000008	0.000034	0.000000	0.001342	0.058573	0.000013
28 petroleum products	0.004205	0.013523	0.003768	0.000000	0.019486	0.004621	0.016472
29 coal tar products	0.000002	0.000733	0.000014	0.000000	0.000001	0.000023	0.000000
30 fertilizers	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
31 pesticides	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000061
32 synthetic fibre resin	0.000436	0.029384	0.000186	0.000000	0.036351	0.355038	0.000317
33 other chemicals	0.025371	0.007347	0.024150	0.000000	0.097746	0.009481	0.034760
34 cement	0.000000	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
35 other non-metal mineral products	0.000058	0.001617	0.000198	0.000000	0.000395	0.000051	0.000041
36 iron & steel	0.001979	0.002175	0.001073	0.000000	0.000256	0.001464	0.006586
37 non-ferrous metal	0.000291	0.001415	0.005982	0.000000	0.000050	0.001159	0.000715
38 non-electrical machinery	0.000141	0.000742	0.000484	0.000000	0.000066	0.000276	0.000797
39 electrical machinery	0.000204	0.002970	0.000129	0.000000	0.000064	0.000196	0.000005
40 rail equipments	0.000000	0.000173	0.000001	0.000000	0.000035	0.000000	0.000000
41 motor vehicles	0.000011	0.000001	0.000000	0.000000	0.000567	0.000179	0.000332
42 other transport equipment	0.000000	0.000000	0.000000	0.000000	0.000009	0.000003	0.000000
43 communication & electronic equipments	0.001139	0.000000	0.000000	0.000000	0.000070	0.000002	0.000000
44 other manufacturing	0.018234	0.019920	0.016506	0.000000	0.019098	0.044581	0.010994
45 rail transport service	0.007455	0.008843	0.003423	0.000000	0.003963	0.000789	0.000794
46 other transport service	0.024170	0.015559	0.014526	0.000000	0.016456	0.017835	0.001583
47 electricity	0.001973	0.008677	0.006483	0.000000	0.008834	0.019770	0.006116
48 construction	0.000296	0.000638	0.008971	0.000000	0.007625	0.000710	0.000142
49 communication	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
50 other services	0.106656	0.173366	0.141249	0.000000	0.077931	0.101664	0.020749
51 total 1 to 50	0.784082	0.699878	0.659597	0.000000	0.763319	0.632979	0.813748
52 indirect taxes	0.025084	0.025727	0.053282	0.000000	0.121268	0.273727	0.122353
53 val added	0.190834	0.274395	0.287121	0.000000	0.115413	0.093294	0.063899
54 gross output	1.000000	1.000000	1.000000	0.000000	1.000000	1.000000	1.000000

APPENDIX : INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85
Table-1 (contd.)

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APPENDIX : INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85
Table-1 (contd.)

-36-

sector code/item	36	37	38	39	40	41	42
1 paddy	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2 wheat	0.000000	0.000000	0.000000	0.000001	0.000000	0.000000	0.000000
3 other cereals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4 pulses	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5 fibre crops	0.000000	0.000121	0.000000	0.000000	0.000000	0.000000	0.000000
6 tea, coffee	0.000000	0.000000	0.000000	0.000010	0.000000	0.000000	0.000000
7 other crops	0.000004	0.000003	0.000034	0.000248	0.000000	0.000000	0.000152
8 animal husbandry	0.000000	0.000000	0.000000	0.000003	0.000000	0.000000	0.000001
9 forestry & logging	0.000597	0.000179	0.001701	0.000915	0.000000	0.000291	0.010083
10 fishing	0.000000	0.000000	0.000000	0.000006	0.000000	0.000000	0.000000
11 coal & lignite	0.000028	0.000020	0.000024	0.000019	0.000000	0.000011	0.000057
12 crude petroleum & natural gas	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000007
13 iron ore	0.000014	0.000000	0.000001	0.000000	0.000000	0.000000	0.000000
14 other metallic minerals	0.000344	0.096541	0.000005	0.000242	0.000000	0.000000	0.000004
15 non-metallic minerals	0.000757	0.000245	0.000051	0.000131	0.000000	0.000000	0.000008
16 sugar	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
17 khandsari & boora	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
18 other food & beverage indu.	0.000105	0.000329	0.000198	0.049427	0.000000	0.000084	0.000115
19 cotton textiles	0.000055	0.000082	0.000047	0.000042	0.000000	0.000001	0.000011
20 art silk & synthetic fibre textiles	0.000000	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
21 woollen textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
22 other textiles	0.000527	0.000478	0.000077	0.000139	0.000000	0.000001	0.000101
23 wood based industries	0.000181	0.003296	0.006853	0.005037	0.000000	0.000033	0.000497
24 paper & paper based industries	0.000489	0.000669	0.001280	0.002399	0.000000	0.000558	0.002019
25 leather & leather products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
26 rubber products	0.000186	0.000195	0.003140	0.014546	0.000000	0.233773	0.002969
27 plastics	0.000003	0.000018	0.000004	0.000255	0.000000	0.000009	0.000005
28 petroleum products	0.037154	0.013542	0.010037	0.032629	0.000000	0.028030	0.003080
29 coal tar products	0.001993	0.000105	0.001685	0.000167	0.000000	0.000008	0.000131
30 fertilizers	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
31 pesticides	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
32 synthetic fibre resin	0.000075	0.000180	0.000125	0.025802	0.000000	0.000093	0.000120
33 other chemicals	0.000445	0.032990	0.001099	0.002502	0.000000	0.008518	0.007958
34 cement	0.000001	0.000004	0.000002	0.000016	0.000000	0.000000	0.000000
35 other non-metal mineral products	0.000176	0.000068	0.000363	0.000364	0.000000	0.000004	0.000660
36 iron & steel	0.388883	0.015526	0.102041	0.090129	0.000000	0.002979	0.075817
37 non-ferrous metal	0.035733	0.114230	0.016917	0.215295	0.000000	0.001621	0.003170
38 non-electrical machinery	0.001199	0.000209	0.167794	0.002533	0.000000	0.000734	0.002153
39 electrical machinery	0.000545	0.000802	0.044730	0.093148	0.000000	0.007728	0.001531
40 rail equipments	0.000060	0.000046	0.000041	0.000027	0.000000	0.000086	0.036863
41 motor vehicles	0.000081	0.000065	0.001504	0.000957	0.000000	0.119363	0.001480
42 other transport equipment	0.000001	0.000001	0.000022	0.000014	0.000000	0.001801	0.000022
43 communication & electronic equipments	0.000028	0.000872	0.000084	0.004021	0.000000	0.000014	0.000001
44 other manufacturing	0.123344	0.035472	0.021106	0.012322	0.000000	0.018297	0.029567
45 rail transport service	0.012310	0.008267	0.004026	0.005201	0.000000	0.001967	0.002750
46 other transport service	0.009535	0.017117	0.009167	0.014661	0.000000	0.011160	0.004376
47 electricity	0.035907	0.180019	0.019064	0.007810	0.000000	0.004735	0.012325
48 construction	0.002406	0.010410	0.002555	0.002296	0.000000	0.000283	0.001727
49 communication	0.000000	0.000000	0.000000	0.000041	0.000000	0.000000	0.000000
50 other services	0.184713	0.219641	0.160006	0.153858	0.000000	0.099539	0.094740
51 total 1 to 50	0.837880	0.751745	0.575782	0.737217	0.000000	0.541722	0.294503
52 indirect taxes	0.058078	0.085087	0.083475	0.097120	0.000000	0.139862	0.098110
53 val added	0.104042	0.163168	0.340743	0.165663	0.000000	0.318416	0.607387
54 gross output	1.000000	1.000000	1.000000	1.000000	0.000000	1.000000	1.000000

APPENDIX : INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85
Table-1 (contd.)

-37-

APPENDIX : INPUT - OUTPUT COEFFICIENT MATRIX FOR KERALA, 1984-85
 Table-1 (contd.)

-38-

sector code\item	50
1 paddy	0.002703
2 wheat	0.000809
3 other cereals	0.000000
4 pulses	0.000476
5 fibre crops	0.000000
6 tea, coffee	0.000000
7 other crops	0.004738
8 animal husbandry	0.028336
9 forestry & logging	0.000000
10 fishing	0.006061
11 coal & lignite	0.001001
12 crude petroleum & natural gas	0.000252
13 iron ore	0.000000
14 other metallic minerals	0.000000
15 non-metallic minerals	0.000000
16 sugar	0.000985
17 khandsari & besra	0.000000
18 other food & beverage indu.	0.003110
19 cotton textiles	0.000034
20 art silk & synthetic fibre textiles	0.000000
21 woollen textiles	0.000000
22 other textiles	0.003971
23 wood based industries	0.003988
24 paper & paper based industries	0.011280
25 leather & leather products	0.000000
26 rubber products	0.000036
27 plastics	0.000118
28 petroleum products	0.001089
29 coal tar products	0.000013
30 fertilizers	0.000000
31 pesticides	0.000020
32 synthetic fibre resin	0.000000
33 other chemicals	0.044221
34 cement	0.000000
35 other non-metal mineral products	0.000422
36 iron & steel	0.000011
37 non-ferrous metal	0.000000
38 non-electrical machinery	0.000716
39 electrical machinery	0.000782
40 rail equipments	0.000000
41 motor vehicles	0.000626
42 other transport equipment	0.000719
43 communication & electronic equipments	0.000031
44 other manufacturing	0.014282
45 rail transport service	0.004101
46 other transport service	0.030593
47 electricity	0.003988
48 construction	0.033540
49 communication	0.008620
50 other services	0.081518
51 total 1 to 50	0.293190
52 indirect taxes	0.014186
53 val added	0.692624
54 gross output	1.000000

APPENDIX 1 : INPUT - OUTPUT TRANSACTIONS MATRIX FOR KERALA, 1984-85 (Survey Method)

Table-2

(Rs. lakhs)

-39-

sector code/item	1	2	3	4	5	6	7
1 paddy	3275.78	0.54	0.00	0.06	0.00	0.00	1041.59
2 wheat	5.08	1977.25	0.00	0.27	0.00	0.00	5148.73
3 other cereals	0.00	0.00	0.99	0.00	0.00	0.00	68.51
4 pulses	2.13	244.81	0.00	32.11	0.00	0.00	812.54
5 fibre crops	1.35	0.06	0.00	0.15	2.19	0.00	6.23
6 tea, coffee	8.91	0.37	0.00	0.16	0.00	0.00	141.45
7 other crops	24.53	1.12	0.00	0.44	0.00	0.00	1070.11
8 animal husbandry	2121.41	0.69	7.03	23.75	13.00	746.73	6053.30
9 forestry & logging	0.10	0.01	0.00	0.00	0.00	0.00	1.51
10 fishing	5.19	0.22	0.00	0.09	0.00	0.00	82.36
11 coal & lignite	0.13	0.01	0.00	0.00	0.00	0.00	2.08
12 crude petroleum & natural gas	0.00	0.00	0.00	0.00	0.00	68.42	0.01
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	0.01	0.00	0.00	0.00	0.00	0.05
15 non-metallic minerals	0.00	0.01	0.00	0.00	0.00	0.00	0.05
16 sugar	0.07	0.00	0.00	0.00	0.00	0.00	1.15
17 khandasari & baora	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	3.03	0.33	0.00	0.06	0.00	0.00	49.13
19 cotton textiles	0.42	0.02	0.00	0.05	0.00	0.00	0.47
20 art silk & synthetic fibre textiles	0.01	0.00	0.00	0.00	0.00	0.00	0.01
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	23.81	15.31	0.00	0.01	0.00	0.00	49.61
23 wood based industries	0.80	0.04	0.00	0.01	0.00	0.00	12.64
24 paper & paper based industries	0.78	0.74	0.00	0.01	0.00	0.00	8.13
25 leather & leather products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26 rubber products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27 plastics	0.05	0.01	0.00	0.00	0.00	0.00	0.34
28 petroleum products	1612.46	3.29	0.00	0.04	0.56	0.00	1019.52
29 coal tar products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30 fertilizers	1084.15	0.00	1.29	4.71	7.67	375.64	4362.37
31 pesticides	56.59	0.00	0.02	0.00	4.94	251.63	82.31
32 synthetic fibre resin	0.01	0.00	0.00	0.00	0.00	0.00	0.15
33 other chemicals	0.09	0.00	0.00	0.01	0.00	0.00	1.72
34 cement	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 other non-metal mineral products	0.19	0.02	0.00	0.00	0.00	0.00	3.11
36 iron & steel	0.01	0.01	0.00	0.00	0.00	0.00	0.12
37 non-ferrous metal	0.00	0.04	0.00	0.00	0.00	0.00	0.22
38 non-electrical machinery	0.02	0.00	0.00	0.00	0.00	0.00	11.28
39 electrical machinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40 rail equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41 motor vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42 other transport equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44 other manufacturing	14.87	13.84	0.00	0.04	0.00	0.00	67.61
45 rail transport service	260.76	38.89	0.22	1.21	1.41	68.12	876.59
46 other transport service	142.18	12.70	0.21	1.14	0.96	45.13	442.55
47 electricity	137.63	19.84	0.00	0.02	0.04	2.74	136.24
48 construction	565.16	0.17	2.29	6.30	2.56	53.02	1099.07
49 communication	10.07	0.00	0.01	0.04	0.03	0.00	11.50
50 other services	702.21	100.27	1.03	4.85	4.82	244.69	2018.16
51 total 1 to 50	10059.98	2430.63	13.08	75.55	38.17	1867.41	24671.77
52 indirect taxes	-372.26	-79.34	0.01	0.98	-1.38	-333.56	-1742.74
53 val added	23582.28	210.71	49.91	379.48	231.21	11889.16	177155.97
54 gross output	33270	2562	63	456	268	13423	200085

APPENDIX : INPUT - OUTPUT TRANSACTIONS MATRIX FOR KERALA, 1984-85
Table-2 (contd.)

-40-

sector code\item	8	9	10	11	12	13	14
1 paddy	625.69	0.00	0.00	0.00	0.00	0.00	0.00
2 wheat	0.13	0.06	0.00	0.00	0.00	0.00	0.00
3 other cereals	1.85	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	85.82	0.01	0.00	0.00	0.00	0.00	0.00
5 fibre crops	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 tea, coffee	0.96	0.02	0.00	0.00	0.00	0.00	0.00
7 other crops	13867.20	0.06	0.00	0.00	0.00	0.00	0.00
8 animal husbandry	0.15	0.00	0.00	0.00	0.00	0.00	0.00
9 forestry & logging	0.01	0.18	0.00	0.00	0.00	0.00	0.00
10 fishing	0.56	0.01	0.00	0.00	0.00	0.00	0.00
11 coal & lignite	0.01	5.31	0.00	0.00	0.00	0.00	0.00
12 crude petroleum & natural gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 non-metallic minerals	0.00	0.02	0.00	0.00	0.00	0.00	0.00
16 sugar	0.01	0.00	0.00	0.00	0.00	0.00	0.00
17 khandasari & boora	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	1610.43	0.01	3.41	0.00	0.00	0.00	0.00
19 cotton textiles	346.45	0.00	0.00	0.00	0.00	0.00	0.00
20 art silk & synthetic fibre textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	0.01	4.36	227.72	0.00	0.00	0.00	0.00
23 wood based industries	0.09	30.67	4.06	0.00	0.00	0.00	0.00
24 paper & paper based industries	0.04	35.12	0.00	0.00	0.00	0.00	0.00
25 leather & leather products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26 rubber products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27 plastics	0.01	0.00	0.00	0.00	0.00	0.00	0.00
28 petroleum products	0.07	19.34	193.82	0.00	0.00	0.00	0.00
29 coal tar products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30 fertilizers	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32 synthetic fibre resin	0.00	0.02	0.00	0.00	0.00	0.00	0.00
33 other chemicals	111.88	0.01	4.42	0.00	0.00	0.00	0.00
34 cement	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 other non-metal mineral products	0.02	0.01	0.00	0.00	0.00	0.00	0.00
36 iron & steel	0.00	0.05	3.43	0.00	0.00	0.00	0.00
37 non-ferrous metal	0.00	0.01	0.33	0.00	0.00	0.00	0.00
38 non-electrical machinery	0.00	7.31	0.00	0.00	0.00	0.00	0.00
39 electrical machinery	0.00	22.18	0.00	0.00	0.00	0.00	0.00
40 rail equipments	0.00	0.02	0.00	0.00	0.00	0.00	0.00
41 motor vehicles	0.00	55.74	0.00	0.00	0.00	0.00	0.00
42 other transport equipment	0.00	2.59	435.65	0.00	0.00	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44 other manufacturing	0.19	12.98	0.13	0.00	0.00	0.00	0.00
45 rail transport service	22.85	12.60	3.07	0.00	0.00	0.00	0.00
46 ether transport service	278.91	90.19	10.00	0.00	0.00	0.00	0.00
47 electricity	0.04	11.40	0.00	0.00	0.00	0.00	0.00
48 construction	267.53	145.05	0.00	0.00	0.00	0.00	0.00
49 communication	0.00	24.96	0.00	0.00	0.00	0.00	0.00
50 other services	2307.49	122.70	70.99	0.00	0.00	0.00	0.00
51 total 1 to 50	19528.42	602.98	957.04	0.00	0.00	0.00	0.00
52 indirect taxes	550.54	38.78	77.95	0.00	0.00	0.00	0.00
53 val added	7477.03	5771.24	10320.01	0.00	0.00	0.00	0.00
54 gross output	27556	6413	11355	0	0	0	0

: INPUT - OUTPUT TRANSACTIONS MATRIX FOR KERALA, 1984-85

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APPENDIX
Table-2 (contd.)

sector code/item	15	16	17	18	19	20	21
1 paddy	0.00	0.00	0.00	8.45	0.82	0.00	0.00
2 wheat	0.00	0.00	0.00	1887.16	1.06	0.00	0.00
3 other cereals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	0.00	0.00	0.00	190.00	0.36	0.00	0.00
5 fibre crops	0.00	0.00	0.00	24.81	10263.61	0.00	0.00
6 tea, coffee	0.00	0.00	0.00	13886.44	7.69	0.00	0.00
7 other crops	0.00	0.00	0.00	38330.38	35.47	0.00	0.00
8 animal husbandry	0.00	0.00	0.00	2147.87	1.96	0.00	0.00
9 forestry & logging	0.07	0.00	0.00	155.32	50.49	0.00	0.00
10 fishing	0.00	0.00	0.00	8085.50	4.48	0.00	0.00
11 coal & lignite	0.07	0.00	0.00	207.39	1.42	0.00	0.00
12 crude petroleum & natural gas	0.00	0.00	0.00	1.23	0.00	0.00	0.00
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.01	0.00	0.00	14.86	0.24	0.00	0.00
15 non-metallic minerals	0.03	0.00	0.00	14.85	0.50	0.00	0.00
16 sugar	0.00	0.00	0.00	113.35	0.06	0.00	0.00
17 khandsari & boora	0.00	0.00	0.00	0.02	9.76	0.00	0.00
18 other food & beverage indu.	0.00	0.00	0.00	5030.45	22.86	0.00	0.00
19 cotton textiles	0.00	0.00	0.00	7.73	3167.83	0.00	0.00
20 art silk & synthetic fibre textiles	0.00	0.00	0.00	0.19	76.75	0.00	0.00
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	0.00	0.00	0.00	100.81	331.28	0.00	0.00
23 wood based industries	0.00	0.00	0.00	1244.60	30.21	0.00	0.00
24 paper & paper based industries	0.00	0.00	0.00	628.70	72.85	0.00	0.00
25 leather & leather products	0.00	0.00	0.00	0.03	4.54	0.00	0.00
26 rubber products	0.00	0.00	0.00	0.01	0.00	0.00	0.00
27 plastics	0.00	0.00	0.00	85.23	7.39	0.00	0.00
28 petroleum products	31.74	0.00	0.00	1101.31	170.57	0.00	0.00
29 coal tar products	0.00	0.00	0.00	0.01	0.16	0.00	0.00
30 fertilizers	0.00	0.00	0.00	5.44	0.32	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.46	0.01	0.00	0.00
32 synthetic fibre resin	0.00	0.00	0.00	20.79	0.80	0.00	0.00
33 other chemicals	9.66	0.00	0.00	331.48	328.27	0.00	0.00
34 cement	0.00	0.00	0.00	0.08	0.01	0.00	0.00
35 other non-metal mineral products	0.02	0.00	0.00	314.69	4.51	0.00	0.00
36 iron & steel	0.00	0.00	0.00	24.08	2.84	0.00	0.00
37 non-ferrous metal	0.00	0.00	0.00	68.02	1.18	0.00	0.00
38 non-electrical machinery	20.87	0.00	0.00	0.08	31.91	0.00	0.00
39 electrical machinery	0.00	0.00	0.00	0.07	0.00	0.00	0.00
40 rail equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41 motor vehicles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42 other transport equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44 other manufacturing	0.02	0.00	0.00	2759.54	403.10	0.00	0.00
45 rail transport service	0.41	0.00	0.00	243.91	30.14	0.00	0.00
46 other transport service	0.79	0.00	0.00	1359.30	549.05	0.00	0.00
47 electricity	18.38	0.00	0.00	674.74	485.44	0.00	0.00
48 construction	5.70	0.00	0.00	172.44	118.52	0.00	0.00
49 communication	0.00	0.00	0.00	0.03	0.00	0.00	0.00
50 other services	7.30	0.00	0.00	11623.91	2060.25	0.00	0.00
51 total 1 to 50	95.09	0.00	0.00	90865.76	18278.72	0.00	0.00
52 indirect taxes	8.10	0.00	0.00	5509.43	693.43	0.00	0.00
53 val added	518.81	0.00	0.00	26553.81	10422.85	0.00	0.00
54 gross output	622	0	0	122929	29395	0	0

APPENDIX : INPUT - OUTPUT TRANSACTIONS MATRIX FOR KERALA, 1984-85
Table-2 (contd..)

-42-

sector code\item	22	23	24	25	26	27	28
1 paddy	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 wheat	0.05	0.49	0.00	0.00	43.96	0.00	0.00
3 other cereals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	0.01	0.05	0.00	0.00	4.36	0.00	0.00
5 fibre crops	77.69	0.36	0.13	0.00	1.60	0.00	0.00
6 tea, coffee	0.40	3.60	0.01	0.00	326.10	0.00	0.02
7 other crops	14.63	13.16	1.09	0.00	15113.74	33.75	7.54
8 animal husbandry	0.12	0.58	0.03	0.00	50.18	0.12	0.18
9 forestry & logging	36.46	5157.42	0.81	0.00	29.48	1.22	0.86
10 fishing	0.23	2.10	0.01	0.00	189.87	0.00	0.01
11 coal & lignite	1.11	2.78	0.08	0.00	6.22	0.31	5.07
12 crude petroleum & natural gas	0.00	0.00	0.57	0.00	0.03	0.00	13405.83
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.28	0.17	0.11	0.00	0.12	0.54	0.80
15 non-metallic minerals	1.53	0.34	0.12	0.00	91.11	0.75	0.85
16 sugar	0.00	0.03	0.00	0.00	2.66	0.00	0.00
17 khandsari & boora	0.07	0.00	0.45	0.00	0.00	0.00	0.00
18 other food & beverage indu.	89.24	22.31	2.47	0.00	124.22	33.00	17.53
19 cotton textiles	396.09	2.57	7.07	0.00	163.79	4.65	0.07
20 art silk & synthetic fibre textiles	0.58	0.00	0.00	0.00	0.01	0.00	0.00
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	6910.89	16.66	5.64	0.00	961.58	100.20	10.79
23 wood based industries	6.45	4105.70	0.60	0.00	236.58	7.60	30.94
24 paper & paper based industries	110.73	80.20	4316.37	0.00	70.74	13.14	5.61
25 leather & leather products	0.04	0.01	5.51	0.00	0.01	0.00	0.00
26 rubber products	3.25	6.68	0.01	0.00	7103.13	18.94	0.01
27 plastics	3.64	0.19	0.34	0.00	69.58	757.59	0.25
28 petroleum products	54.42	308.46	37.82	0.00	1010.16	59.77	311.43
29 coal tar products	0.02	16.71	0.14	0.00	0.06	0.30	0.01
30 fertilizers	0.00	0.00	0.00	0.00	0.01	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.00	0.00	0.00	1.16
32 synthetic fibre resin	5.64	670.21	1.87	0.00	1884.47	4592.07	5.99
33 other chemicals	328.30	167.59	242.44	0.00	5067.24	122.62	657.22
34 cement	0.00	0.02	0.00	0.00	0.00	0.00	0.01
35 other non-metal mineral products	0.75	36.88	1.99	0.00	20.46	0.66	0.77
36 iron & steel	25.61	49.62	10.77	0.00	13.26	18.94	124.52
37 non-ferrous metal	3.76	32.26	60.05	0.00	2.58	14.99	13.52
38 non-electrical machinery	1.82	16.93	4.86	0.00	3.41	3.57	15.08
39 electrical machinery	2.64	67.75	1.30	0.00	3.31	2.54	0.09
40 rail equipments	0.00	3.95	0.01	0.00	1.81	0.00	0.00
41 motor vehicles	0.14	0.03	0.00	0.00	29.37	2.32	6.27
42 other transport equipment	0.00	0.00	0.00	0.00	0.44	0.04	0.00
43 communication & electronic equipments	14.74	0.00	0.00	0.00	3.61	0.02	0.00
44 other manufacturing	235.95	454.36	165.70	0.00	990.07	576.61	207.86
45 rail transport service	96.47	201.69	34.36	0.00	205.46	10.20	15.01
46 other transport service	312.76	354.87	145.83	0.00	853.10	230.68	29.93
47 electricity	25.53	197.91	65.08	0.00	457.97	255.70	115.64
48 construction	3.84	14.53	90.06	0.00	395.31	9.18	2.69
49 communication	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50 other services	1380.13	3954.31	1418.00	0.00	4040.04	1314.92	392.32
51 total 1 to 50	10146.03	15963.51	6621.69	0.00	39571.22	8186.95	15385.86
52 indirect taxes	324.59	586.81	534.90	0.00	6286.65	3540.39	2313.38
53 val added	2469.39	6258.68	2882.41	0.00	5983.12	1206.67	1208.16
54 gross output	12940	22809	10039	0	51841	12934	18907

APPENDIX : INPUT - OUTPUT TRANSACTIONS MATRIX FOR KERALA, 1984-85
Table-2 (contd.)

-43-

sector code/item	29	30	31	32	33	34	35
1 paddy	0.00	0.00	0.00	0.00	0.51	0.00	0.02
2 wheat	0.00	0.00	0.06	0.00	18.74	0.00	0.07
3 other cereals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	0.00	0.00	0.01	0.00	1.91	0.00	0.01
5 fibre crops	0.00	0.00	0.00	0.00	4.99	0.00	0.00
6 tea, coffee	0.00	0.00	0.43	0.00	126.86	0.00	0.49
7 other crops	0.00	12.41	302.93	13.38	1908.95	0.00	14.73
8 animal husbandry	0.00	0.30	7.26	0.31	57.01	0.00	0.09
9 forestry & logging	0.00	1.00	22.20	1.06	117.82	0.14	939.70
10 fishing	0.00	0.00	0.25	0.00	73.87	2.45	0.31
11 coal & lignite	0.00	0.41	9.90	0.45	53.04	0.10	3.81
12 crude petroleum & natural gas	0.00	0.00	0.00	21.41	183.12	0.00	0.00
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	3.67	32.02	1.40	170.57	0.01	79.91
15 non-metallic minerals	0.00	72.10	45.48	1.62	168.11	5.93	330.45
16 sugar	0.00	0.00	0.10	0.00	1.52	0.00	0.00
17 khandsari & beera	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	0.00	27.11	661.12	94.90	3483.24	1.09	1.12
19 cotton textiles	0.00	0.00	0.03	0.04	1.77	0.00	0.02
20 art silk & synthetic fibre textiles	0.00	0.00	0.00	0.00	0.04	0.00	0.44
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	0.00	499.72	62.21	2.80	36.22	8.60	0.16
23 wood based industries	0.00	0.41	24.49	0.49	53.83	26.57	4.72
24 paper & paper based industries	0.00	3.77	99.20	3.97	391.21	9.78	8.15
25 leather & leather products	0.00	0.00	0.03	0.00	0.15	0.00	0.00
26 rubber products	0.00	0.00	0.00	0.18	0.72	0.00	0.28
27 plastics	0.00	85.98	26.50	4.99	53.80	0.79	0.32
28 petroleum products	0.00	11.38	393.44	25.49	591.69	4.46	130.53
29 coal tar products	0.00	0.35	0.00	0.03	0.06	0.04	7.81
30 fertilizers	0.00	5874.86	19.72	18.40	162.10	0.00	0.01
31 pesticides	0.00	0.00	2061.87	0.00	60.30	157.54	1.81
32 synthetic fibre resin	0.00	0.34	13.60	404.51	215.66	0.00	12.59
33 other chemicals	0.00	2446.33	1481.52	52.26	2924.97	102.15	113.08
34 cement	0.00	0.01	0.16	0.01	0.92	0.00	43.36
35 other non-metal mineral products	0.00	1.26	38.53	1.32	157.94	0.82	195.73
36 iron & steel	0.00	71.07	38.62	3.38	204.08	3.53	66.44
37 non-ferrous metal	0.00	14.70	297.92	7.21	765.14	2.12	3.95
38 non-electrical machinery	0.00	0.00	0.00	0.05	0.95	8.36	0.31
39 electrical machinery	0.00	0.00	0.00	0.02	0.37	0.00	0.83
40 rail equipments	0.00	0.00	0.00	0.00	0.01	0.00	0.00
41 motor vehicles	0.00	0.00	0.00	0.01	0.16	1.53	0.11
42 other transport equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.05	0.89	0.00	0.01
44 other manufacturing	0.00	29.03	621.58	40.65	632.03	21.89	271.82
45 rail transport service	0.00	1046.52	121.53	6.75	218.74	9.81	121.14
46 other transport service	0.00	442.88	193.80	20.13	346.69	10.28	85.46
47 electricity	0.00	16.22	271.60	10.66	719.29	16.36	197.45
48 construction	0.00	63.06	42.57	6.00	107.86	2.02	48.74
49 communication	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50 other services	0.00	2257.69	1531.35	100.63	2144.60	361.03	943.66
51 total 1 to 50	0.00	12982.55	8422.02	844.57	16162.45	757.40	3629.65
52 indirect taxes	0.00	321.79	247.61	138.52	1832.77	38.41	400.77
53 val added	0.00	2452.66	6053.37	169.91	7433.78	262.19	3323.58
54 gross output	0	15757	14723	1153	25429	1058	7354

APPENDIX : INPUT - OUTPUT TRANSACTIONS MATRIX FOR KERALA, 1984-85
Table-2 (contd.)

-44-

sector code/item	36	37	38	39	40	41	42
1 paddy	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 wheat	0.00	0.00	0.00	0.01	0.00	0.00	0.00
3 other cereals	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 fibre crops	0.00	0.92	0.00	0.00	0.00	0.00	0.00
6 tea, coffee	0.00	0.00	0.00	0.11	0.00	0.00	0.00
7 other crops	0.03	0.02	0.21	2.70	0.00	0.00	0.54
8 animal husbandry	0.00	0.00	0.00	0.03	0.00	0.00	0.00
9 forestry & logging	3.75	1.35	10.55	9.95	0.00	1.35	35.63
10 fishing	0.00	0.00	0.00	0.06	0.00	0.00	0.00
11 coal & lignite	0.18	0.15	0.15	0.21	0.00	0.05	0.20
12 crude petroleum & natural gas	0.00	0.00	0.00	0.00	0.00	0.00	0.03
13 iron ore	0.09	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	2.16	732.65	0.03	2.63	0.00	0.00	0.01
15 non-metallic minerals	4.76	1.86	0.32	1.42	0.00	0.00	0.03
16 sugar	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 khandsari & boora	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	0.66	2.49	1.22	537.32	0.00	0.39	0.41
19 cotton textiles	0.35	0.62	0.29	0.46	0.00	0.00	0.04
20 art silk & synthetic fibre textiles	0.00	0.01	0.00	0.00	0.00	0.00	0.00
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	3.32	3.63	0.47	1.51	0.00	0.01	0.36
23 wood based industries	1.14	25.01	42.49	54.76	0.00	0.15	1.76
24 paper & paper based industries	3.07	5.08	7.94	26.08	0.00	2.58	7.14
25 leather & leather products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26 rubber products	1.17	1.48	19.47	158.13	0.00	1080.97	10.49
27 plastics	0.02	0.14	0.02	2.77	0.00	0.04	0.02
28 petroleum products	233.55	102.77	62.23	354.71	0.00	129.61	10.88
29 coal tar products	12.53	0.80	10.44	1.82	0.00	0.03	0.46
30 fertilizers	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32 synthetic fibre resin	0.47	1.37	0.78	280.50	0.00	0.43	0.43
33 other chemicals	2.80	250.36	6.81	27.20	0.00	39.39	28.12
34 cement	0.01	0.03	0.01	0.17	0.00	0.00	0.00
35 other non-metal mineral products	1.10	0.51	2.25	3.96	0.00	0.02	2.33
36 iron & steel	2444.52	117.83	632.65	979.80	0.00	13.77	267.94
37 non-ferrous metal	224.62	866.89	104.89	2340.47	0.00	7.49	11.20
38 non-electrical machinery	7.53	1.59	1040.32	27.53	0.00	3.39	7.61
39 electrical machinery	3.43	6.09	277.32	1012.62	0.00	35.74	5.41
40 rail equipments	0.37	0.35	0.25	0.30	0.00	0.40	130.27
41 motor vehicles	0.51	0.49	9.32	10.40	0.00	551.93	5.23
42 other transport equipment	0.01	0.01	0.14	0.15	0.00	8.33	0.08
43 communication & electronic equipments	0.17	6.62	0.52	43.72	0.00	0.06	0.00
44 other manufacturing	775.34	269.20	130.86	133.95	0.00	84.61	104.49
45 rail transport service	77.38	62.74	24.96	56.54	0.00	9.09	9.72
46 other transport service	59.94	129.90	56.84	159.38	0.00	51.61	15.46
47 electricity	225.71	1366.17	118.20	84.91	0.00	21.90	43.56
48 construction	15.12	79.00	15.84	24.96	0.00	1.31	6.10
49 communication	0.00	0.00	0.00	0.44	0.00	0.00	0.00
50 other services	1161.11	1666.86	992.04	1672.60	0.00	460.27	334.81
51 total 1 to 50	5266.91	5705.00	3569.85	8014.28	0.00	2504.92	1040.77
52 indirect taxes	365.08	645.73	517.55	1053.79	0.00	646.72	346.72
53 val added	654.01	1238.28	2112.61	1800.93	0.00	1472.35	2146.51
54 gross output	6286	7589	6200	10871	0	4624	3534

KERALA I/O TRANSACTION MATRIX FOR 1984-85 [SURVEY METHOD] ^{and} Appendix Table 2 contd.

sector code\item	43	44	45	46	47	48	49
1 paddy	0.00	0.12	0.00	40.42	0.00	0.00	0.00
2 wheat	0.00	0.12	0.00	0.00	0.12	0.00	0.00
3 other cereals	0.00	0.00	0.00	6.54	0.00	0.00	0.00
4 pulses	0.00	0.01	0.00	3.96	0.01	0.00	0.00
5 fibre crops	0.00	0.01	0.00	0.00	23.66	0.00	0.00
6 tea, coffee	0.00	0.91	0.00	0.00	0.91	0.00	0.00
7 other crops	0.01	131.48	0.00	364.05	7.93	4219.34	0.00
8 animal husbandry	0.00	3.28	0.00	0.00	0.22	0.00	0.00
9 forestry & logging	0.60	128.70	0.04	0.00	2.70	1072.48	0.00
10 fishing	0.00	0.53	0.00	0.00	0.62	0.00	0.00
11 coal & lignite	0.11	46.14	0.00	0.00	0.39	65.38	0.00
12 crude petroleum & natural gas	0.06	162.64	0.00	0.00	46.38	0.00	0.00
13 iron ore	0.00	0.01	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	17.88	0.00	0.00	1.50	0.00	0.00
15 non-metallic minerals	0.01	19.82	0.00	0.00	1.42	1475.49	0.00
16 sugar	0.00	0.05	0.00	0.00	0.01	0.00	0.00
17 khandsari & boora	0.00	0.00	0.00	0.00	0.03	0.00	0.00
18 other food & beverage indu.	3.86	285.18	0.00	78.07	13.42	0.00	0.00
19 cotton textiles	0.98	84.49	0.00	18.43	7.99	0.00	0.00
20 art silk & synthetic fibre textiles	0.00	0.00	0.00	0.00	0.18	0.00	0.00
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	5.24	50.16	0.00	3.83	14.79	0.00	0.16
23 wood based industries	11.12	166.82	0.00	12.28	1.68	2845.01	19.72
24 paper & paper based industries	4.20	77.27	6.76	36.99	73.99	3.06	44.73
25 leather & leather products	0.00	0.03	0.00	0.00	0.08	0.00	0.00
26 rubber products	1.46	44.62	0.00	1212.36	3.41	0.00	0.00
27 plastics	5.94	5.54	0.00	0.20	0.61	12.81	0.01
28 petroleum products	10.66	234.17	744.22	14863.02	101.53	808.90	87.72
29 coal tar products	0.28	85.38	0.00	0.00	0.59	893.30	0.00
30 fertilizers	0.00	24.88	0.00	0.00	28.52	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.00	6.11	0.00	0.00
32 synthetic fibre resin	5.88	19.07	0.00	0.00	30.05	0.00	0.00
33 other chemicals	12.77	495.40	0.00	5.02	31.82	499.03	0.00
34 cement	0.00	0.12	0.00	0.00	0.04	3707.50	0.00
35 other non-metal mineral products	8.26	51.06	0.17	0.00	0.71	7575.71	0.00
36 iron & steel	80.76	4909.98	4.40	0.00	122.71	9906.05	0.00
37 non-ferrous metal	50.76	2870.34	0.00	0.00	16.42	0.00	0.00
38 non-electrical machinery	9.63	59.02	37.34	6.60	2.70	0.63	1.52
39 electrical machinery	53.46	25.90	180.27	26.75	2.16	1989.04	7.59
40 rail equipments	0.00	1.67	543.05	0.00	5.18	0.00	0.00
41 motor vehicles	2.83	22.41	0.00	1255.95	1.20	15.80	49.38
42 other transport equipment	0.00	0.34	1.96	1508.98	0.02	0.00	1.18
43 communication & electronic equipments	282.20	9.69	6.46	0.00	0.32	0.00	17.66
44 other manufacturing	74.38	1751.49	20.91	14.73	1769.29	132.10	15.88
45 rail transport service	12.62	191.16	138.25	77.21	22.38	887.33	105.59
46 other transport service	19.20	249.64	302.86	745.01	48.92	876.80	70.49
47 electricity	19.75	224.15	261.58	41.87	3399.99	43.30	52.12
48 construction	2.77	43.04	1062.62	44.38	243.00	0.00	150.40
49 communication	0.00	0.00	0.09	224.69	0.00	19.41	0.00
50 other services	294.34	3430.02	266.51	1073.53	498.33	8942.18	89.72
51 total 1 to 50	974.16	15924.75	3577.49	21664.87	6534.06	45990.63	713.89
52 indirect taxes	145.40	1655.67	199.54	5170.09	879.12	4336.27	60.22
53 val added	794.45	6464.58	3389.97	39212.04	10805.82	28260.10	5491.90
54 gross output	1914	24045	7167	66047	18219	78587	6266

sector code\item	50	51 total	52 f.d. gross output	53
1 paddy	1012.08	6006	27264	33270
2 wheat	302.80	9386	-6824	2562
3 other cereals	0.00	78	-15	63
4 pulses	178.16	1556	-1100	456
5 fibre crops	0.00	10408	-10140	268
6 tea, coffee	0.00	14506	-1083	13423
7 other crops	1773.76	77266	122819	200085
8 animal husbandry	10608.13	21844	5712	27556
9 forestry & logging	0.00	7783	-1370	6413
10 fishing	2268.95	10718	637	11355
11 coal & lignite	374.66	787	-787	0
12 crude petroleum & natural gas	94.32	13984	-13984	0
13 iron ore	0.00	0	0	0
14 other metallic minerals	0.00	1062	-1062	0
15 non-metallic minerals	0.00	2239	-1617	622
16 sugar	368.68	488	-488	0
17 khandsari & boora	0.00	10	-10	0
18 other food & beverage indu.	1164.42	13364	109565	122929
19 cotton textiles	12.73	4225	25170	29395
20 art silk & synthetic fibre textiles	0.00	78	-78	0
21 woollen textiles	0.00	0	0	0
22 other textiles	1486.68	10939	2001	12940
23 wood based industries	1493.04	10496	12313	22809
24 paper & paper based industries	4222.79	10381	-342	10039
25 leather & leather products	0.00	10	-10	0
26 rubber products	13.47	9680	42161	51841
27 plastics	44.17	1170	11764	12934
28 petroleum products	407.80	25244	-6337	18907
29 coal tar products	4.87	1036	-1036	0
30 fertilizers	0.00	11970	3787	15757
31 pesticides	7.49	2692	12031	14723
32 synthetic fibre resin	0.00	8168	-7015	1153
33 other chemicals	16554.85	32447	-7018	25429
34 cement	0.00	3752	-2694	1058
35 other non-metal mineral products	157.95	8584	-1230	7354
36 iron & steel	4.12	20145	-13859	6286
37 non-ferrous metal	0.00	7781	-192	7589
38 non-electrical machinery	267.99	1600	4600	6200
39 electrical machinery	292.69	4020	6851	10871
40 rail equipments	0.00	688	-688	0
41 motor vehicles	234.31	2255	2369	4624
42 other transport equipment	269.11	2229	1305	3534
43 communication & electronic equipments	11.60	398	1516	1914
44 other manufacturing	5346.70	18144	5901	24045
45 rail transport service	1535.34	6858	309	7167
46 other transport service	11452.91	20198	45849	66047
47 electricity	1492.98	11232	6987	18219
48 construction	12556.31	17469	61118	78587
49 communication	3227.13	3518	2748	6266
50 other services	30517.72	90507	283860	374367
51 total 1 to 50	109760.69			
52 indirect taxes	5310.77			
53 val added	259295.54			
54 gross output	374367			

(concluded)

APPENDIX TABLE 3

KERALA (1984-85) I/O COEFFICIENT MATRIX (NON SURVEY METHOD)

KERALA (1984-85) INPUT USE COEFFICIENT MATRIX (NON SURVEY METHOD) Appendix Table 3 contd.

	9	10	11	12	13	14	15	16
1 paddy	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2 wheat	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3 other cereals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4 pulses	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5 fibre crops	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6 tea, coffee	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7 other crops	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
8 animal husbandry	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9 forestry & logging	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
10 fishing	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
11 coal & lignite	0.000827	0.000000	0.000000	0.000000	0.000000	0.000000	0.000120	0.000000
12 crude petroleum & natural gas	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
13 iron ore	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
14 other metallic minerals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
15 non-metallic minerals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
16 sugar	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
17 khandsari & boora	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
18 other food & beverage indu.	0.000000	0.000200	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
19 cotton textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
20 art silk & synthetic fibre textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
21 woollen textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
22 other textiles	0.000631	0.020055	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
23 wood based industries	0.004768	0.000358	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
24 paper & paper based industries	0.005477	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25 leather & leather products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
26 rubber products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
27 plastics	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
28 petroleum products	0.003014	0.017070	0.000000	0.000000	0.000000	0.000000	0.051967	0.000000
29 coal tar products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
30 fertilizers	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
31 pesticides	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
32 synthetic fibre resin	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
33 other chemicals	0.000000	0.000389	0.000000	0.000000	0.000000	0.000000	0.015527	0.000000
34 cement	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
35 other non-metal mineral products	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
36 iron & steel	0.000000	0.000302	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
37 non-ferrous metal	0.000000	0.000029	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
38 non-electrical machinery	0.001140	0.000000	0.000000	0.000000	0.000000	0.000000	0.033583	0.000000
39 electrical machinery	0.003459	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
40 rail equipments	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
41 motor vehicles	0.008694	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
42 other transport equipment	0.002405	0.038366	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
43 communication & electronic equipments	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
44 other manufacturing	0.002017	0.000011	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
45 rail transport service	0.001963	0.000271	0.000000	0.000000	0.000000	0.000000	0.000650	0.000000
46 other transport service	0.014065	0.000830	0.000000	0.000000	0.000000	0.000000	0.001268	0.000000
47 electricity	0.001775	0.000000	0.000000	0.000000	0.000000	0.000000	0.029558	0.000000
48 construction	0.022624	0.000000	0.000000	0.000000	0.000000	0.000000	0.009164	0.000000
49 communication	0.003393	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
50 other services	0.019105	0.006252	0.000000	0.000000	0.000000	0.000000	0.011634	0.000000
51 total	0.093906	0.084284	0.000000	0.000000	0.000000	0.000000	0.152571	0.000000
52 i-tax	0.006047	0.006365	0.007229	0.015405	0.029156	0.013132	0.013024	0.010218
53 val add.	0.000047	0.908851	0.000000	0.000000	0.000000	0.000000	0.834405	0.000000
54 gross output	1	1	0	0	0	0	1	0

KERALA (1984-85) INPUT USE COEFFICIENT MATRIX (NON SERVEY METHOD) Appendix Table 3 contd.

	17	18	19	20	21	22	23	24
1 paddy	0.000000	0.005264	0.000361	0.000000	0.000000	0.000000	0.000010	0.000024
2 wheat	0.000000	0.010865	0.000450	0.000000	0.000000	0.000024	0.000003	0.000599
3 other cereals	0.000000	0.001772	0.000004	0.000000	0.000000	0.000035	0.000000	0.000000
4 pulses	0.000000	0.002686	0.000508	0.000000	0.000000	0.000000	0.000000	0.000000
5 fibre crops	0.000000	0.000579	0.298562	0.000000	0.000000	0.104531	0.001051	0.000002
6 tea, coffee	0.000000	0.068019	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7 other crops	0.000000	0.360941	0.000833	0.000000	0.000000	0.009215	0.006355	0.010626
8 animal husbandry	0.000000	0.025501	0.00022	0.000000	0.000000	0.058066	0.000417	0.000008
9 forestry & logging	0.000000	0.000999	0.000274	0.000000	0.000000	0.000654	0.035517	0.010776
10 fishing	0.000000	0.006771	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
11 coal & lignite	0.000000	0.000675	0.002018	0.000000	0.000000	0.000685	0.000582	0.004346
12 crude petroleum & natural gas	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
13 iron ore	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
14 other metallic minerals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000002
15 non-metallic minerals	0.000000	0.000059	0.000023	0.000000	0.000000	0.000017	0.000027	0.000008
16 sugar	0.000000	0.004346	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
17 khangsari & boora	0.000000	0.000655	0.000000	0.000000	0.000000	0.000000	0.000111	0.000648
18 other food & beverage indu.	0.000000	0.093031	0.006043	0.000000	0.000000	0.002481	0.001909	0.002737
19 cotton textiles	0.000000	0.007021	0.043751	0.000000	0.000000	0.044669	0.000620	0.003156
20 art silk & synthetic fibre textiles	0.000000	0.000000	0.006608	0.000000	0.000000	0.016846	0.000019	0.000000
21 woollen textiles	0.000000	0.000000	0.000013	0.000000	0.000000	0.031294	0.000049	0.000000
22 other textiles	0.000000	0.004342	0.014782	0.000000	0.000000	0.138539	0.006443	0.009199
23 wood based industries	0.000000	0.011037	0.005931	0.000000	0.000000	0.009474	0.271819	0.012125
24 paper & paper based industries	0.000000	0.003445	0.002335	0.000000	0.000000	0.002497	0.004895	0.127212
25 leather & leather products	0.000000	0.000002	0.000147	0.000000	0.000000	0.000074	0.000070	0.000284
26 rubber products	0.000000	0.000001	0.000067	0.000000	0.000000	0.000247	0.002071	0.000044
27 plastics	0.000000	0.001026	0.000312	0.000000	0.000000	0.000429	0.000952	0.000180
28 petroleum products	0.000000	0.006479	0.005683	0.000000	0.000000	0.005216	0.002498	0.012014
29 coal tar products	0.000000	0.000166	0.000149	0.000000	0.000000	0.000121	0.000130	0.000095
30 fertilizers	0.000000	0.000015	0.000039	0.000000	0.000000	0.000000	0.000000	0.000000
31 pesticides	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
32 synthetic fibre resin	0.000000	0.000139	0.000568	0.000000	0.000000	0.002747	0.005443	0.002147
33 other chemicals	0.000000	0.009901	0.042377	0.000000	0.000000	0.013317	0.015628	0.063967
34 cement	0.000000	0.000000	0.000000	0.000000	0.000000	0.000099	0.000000	0.000101
35 other non-metal mineral products	0.000000	0.002388	0.000101	0.000000	0.000000	0.000213	0.001206	0.006422
36 iron & steel	0.000000	0.001082	0.002138	0.000000	0.000000	0.002363	0.007871	0.001462
37 non-ferrous metal	0.000000	0.000293	0.000071	0.000000	0.000000	0.007233	0.000369	0.002597
38 non-electrical machinery	0.000000	0.004185	0.023292	0.000000	0.000000	0.024360	0.020264	0.019514
39 electrical machinery	0.000000	0.000000	0.000000	0.000000	0.000000	0.000002	0.000292	0.000005
40 rail equipments	0.000000	0.000000	0.000007	0.000000	0.000000	0.000000	0.000000	0.000000
41 motor vehicles	0.000000	0.000810	0.001802	0.000000	0.000000	0.001432	0.001360	0.002773
42 other transport equipment	0.000000	0.000000	0.000000	0.000000	0.000000	0.000008	0.000000	0.000000
43 communication & electronic equipments	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
44 other manufacturing	0.000000	0.010208	0.000744	0.000000	0.000000	0.012897	0.014376	0.010180
45 rail transport service	0.000000	0.002817	0.002841	0.000000	0.000000	0.002595	0.011953	0.009336
46 other transport service	0.000000	0.019063	0.025676	0.000000	0.000000	0.020176	0.014928	0.019171
47 electricity	0.000000	0.009031	0.051958	0.000000	0.000000	0.030415	0.023523	0.055282
48 construction	0.000000	0.001368	0.004433	0.000000	0.000000	0.000310	0.000582	0.006771
49 communication	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
50 other services	0.000000	0.138241	0.120665	0.000000	0.000000	0.207916	0.194737	0.205291
51 total	0.000000	0.815221	0.670647	0.000000	0.000000	0.801186	0.699179	0.604154
52 i.tax	0.022009	0.044818	0.023590	0.209036	0.027743	0.025084	0.025727	0.053282
53 val add.	0.000000	0.139959	0.305766	0.000000	0.000000	0.173725	0.275067	0.342564
54 gross output	0	1	1	0	0	1	1	1

	25	26	27	28	29	30	31	32
1 paddy	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2 wheat	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3 other cereals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4 pulses	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5 fibre crops	0.000000	0.000018	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6 tea, coffee	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7 other crops	0.000000	0.099632	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
8 animal husbandry	0.000000	0.000091	0.000101	0.000000	0.000000	0.001246	0.000000	0.000000
9 forestry & logging	0.000000	0.000245	0.000012	0.000012	0.000000	0.000020	0.000019	0.007530
10 fishing	0.000000	0.000000	0.000000	0.000000	0.000000	0.000088	0.001685	0.000000
11 coal & lignite	0.000000	0.001083	0.000205	0.000263	0.000000	0.028573	0.000069	0.004202
12 crude petroleum & natural gas	0.000000	0.000000	0.000000	0.731249	0.000300	0.050030	0.000000	0.000000
13 iron ore	0.000000	0.000000	0.000000	0.000000	0.000000	0.000003	0.000000	0.000000
14 other metallic minerals	0.000000	0.000000	0.000000	0.000000	0.000000	0.000007	0.000000	0.000000
15 non-metallic minerals	0.000000	0.001921	0.000000	0.000001	0.000000	0.044239	0.004051	0.008446
16 sugar	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000220
17 khandasi & boora	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
18 other food & beverage indu.	0.000000	0.000012	0.000020	0.000006	0.000000	0.000500	0.000748	0.000819
19 cotton textiles	0.000000	0.003192	0.004391	0.000002	0.000000	0.000000	0.000000	0.001877
20 art silk & synthetic fibre textiles	0.000000	0.000142	0.000208	0.000000	0.000000	0.000000	0.000000	0.000856
21 woollen textiles	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
22 other textiles	0.000000	0.026867	0.009823	0.000556	0.000000	0.022353	0.005911	0.006083
23 wood based industries	0.000000	0.007497	0.008831	0.001675	0.000000	0.002673	0.018279	0.012192
24 paper & paper based industries	0.000000	0.001714	0.006476	0.000204	0.000000	0.000259	0.006728	0.038483
25 leather & leather products	0.000000	0.000008	0.000147	0.000000	0.000000	0.000042	0.000000	0.000000
26 rubber products	0.000000	0.252926	0.000108	0.000000	0.000000	0.000000	0.000000	0.000005
27 plastics	0.000000	0.000487	0.013353	0.000000	0.000000	0.000389	0.000541	0.000183
28 petroleum products	0.000000	0.015181	0.061110	0.016814	0.000000	0.243407	0.002829	0.109342
29 coal tar products	0.000000	0.000037	0.000042	0.000000	0.000000	0.001960	0.000017	0.000023
30 fertilizers	0.000000	0.000000	0.000000	0.000000	0.000000	0.160369	0.000000	0.004485
31 pesticides	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.108377	0.000000
32 synthetic fibre resin	0.000000	0.012246	0.166302	0.000001	0.000000	0.001042	0.000000	0.068096
33 other chemicals	0.000000	0.059876	0.030649	0.035065	0.000000	0.023518	0.070266	0.142581
34 cement	0.000000	0.000053	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
35 other non-metal mineral products	0.000000	0.000069	0.003595	0.000000	0.000000	0.000655	0.000551	0.000065
36 iron & steel	0.000000	0.003136	0.000609	0.006715	0.000000	0.000000	0.000000	0.000009
37 non-ferrous metal	0.000000	0.001010	0.000420	0.000525	0.000000	0.000007	0.001249	0.000509
38 non-electrical machinery	0.000000	0.002852	0.005188	0.000804	0.000000	0.009764	0.005752	0.015253
39 electrical machinery	0.000000	0.005346	0.000628	0.000000	0.000000	0.000000	0.000000	0.000000
40 rail equipments	0.000000	0.000000	0.000008	0.000000	0.000000	0.000000	0.000000	0.000000
41 motor vehicles	0.000000	0.001268	0.001448	0.000342	0.000000	0.002266	0.001053	0.001499
42 other transport equipment	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
43 communication & electronic equipments	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
44 other manufacturing	0.000000	0.005012	0.014101	0.011137	0.000000	0.005135	0.014266	0.003513
45 rail transport service	0.000000	0.003570	0.002136	0.000765	0.000000	0.007576	0.006661	0.007441
46 other transport service	0.000000	0.016512	0.017526	0.001532	0.000000	0.005123	0.007007	0.016637
47 electricity	0.000000	0.023633	0.029178	0.006115	0.000000	0.069520	0.011019	0.063091
48 construction	0.000000	0.007861	0.000441	0.000115	0.000000	0.003842	0.001369	0.006220
49 communication	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
50 other services	0.000000	0.111715	0.121448	0.020775	0.000000	0.084857	0.247167	0.193027
51 total	0.000000	0.665213	0.498503	0.834670	0.000000	0.769511	0.515612	0.717678
52 i-tax	0.045737	0.121268	0.273727	0.122353	0.022451	0.020422	0.016818	0.120135
53 val add.	0.000000	0.213518	0.227772	0.042977	0.000000	0.210063	0.467568	0.162186
54 gross output	0	1	1	1	0	1	1	1

Appendix Table 3 contd.

-32-

KERALA (1984-85) INPUT USE COEFFICIENT MATRIX (NON SURVEY METHOD)

	49	50
1 paddy	0.000000	0.002704
2 wheat	0.000000	0.000809
3 other cereals	0.000000	0.000000
4 pulses	0.000000	0.000476
5 fibre crops	0.000000	0.000000
6 tea, coffee	0.000000	0.000000
7 other crops	0.000000	0.004739
8 animal husbandry	0.000000	0.028342
9 forestry & logging	0.000000	0.000000
10 fishing	0.000000	0.006062
11 coal & lignite	0.000000	0.001001
12 crude petroleum & natural gas	0.000000	0.000252
13 iron ore	0.000000	0.000000
14 other metallic minerals	0.000000	0.000000
15 non-metallic minerals	0.000000	0.000009
16 sugar	0.000000	0.000985
17 khandsari & boora	0.000000	0.000000
18 other food & beverage indu.	0.000000	0.003111
19 cotton textiles	0.000000	0.000034
20 art silk & synthetic fibre textiles	0.000000	0.000000
21 woollen textiles	0.000000	0.000000
22 other textiles	0.000026	0.003972
23 wood based industries	0.003147	0.003989
24 paper & paper based industries	0.007138	0.011282
25 leather & leather products	0.000000	0.000000
26 rubber products	0.000000	0.000036
27 plastics	0.000001	0.000118
28 petroleum products	0.013999	0.001089
29 coal tar products	0.000000	0.000013
30 fertilizers	0.000000	0.000000
31 pesticides	0.000000	0.000020
32 synthetic fibre resin	0.000000	0.000000
33 other chemicals	0.000000	0.044230
34 cement	0.000000	0.000000
35 other non-metal mineral products	0.000000	0.000422
36 iron & steel	0.000000	0.000011
37 non-ferrous metal	0.000000	0.000000
38 non-electrical machinery	0.000243	0.000716
39 electrical machinery	0.001212	0.000782
40 rail equipments	0.000000	0.000000
41 motor vehicles	0.007881	0.000626
42 other transport equipment	0.000189	0.000719
43 communication & electronic equipments	0.002819	0.000031
44 other manufacturing	0.002534	0.014283
45 rail transport service	0.016852	0.004102
46 other transport service	0.011250	0.030599
47 electricity	0.008318	0.003970
48 construction	0.024002	0.033547
49 communication	0.000000	0.008622
50 other services	0.014319	0.081534
51 total	0.113930	0.293220
52 i-tax	0.009160	0.014186
53 val add	0.876910	0.692583
54 gross output	1	1

KERALA (1984-85) TRANSACTION MATRIX (NON SERVEY METHOD)
(Rupees Lakhs)

APPENDIX TABLE 4

	1	2	3	4	5	6	7	8
1 paddy	3177.22	1.25	0.00	0.30	0.00	0.00	80.43	455.20
2 wheat	2.03	778.54	0.00	0.03	0.00	0.00	11.20	123.81
3 other cereals	0.00	1.47	0.99	0.00	0.00	0.00	2.40	126.73
4 pulses	15.14	19.07	0.00	32.59	0.00	0.00	14.01	1057.19
5 fibre crops	5.32	0.01	0.00	0.02	2.33	0.00	0.00	0.00
6 tea, coffee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 other crops	54.16	33.58	0.00	1.88	0.00	0.00	3437.06	9127.95
8 animal husbandry	2559.39	353.48	7.16	23.35	12.93	758.40	3042.09	0.00
9 forestry & logging	1.96	0.06	0.00	0.00	0.00	0.00	1.00	0.00
10 fishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 coal & lignite	0.53	0.11	0.00	0.00	0.00	0.00	0.00	0.00
12 crude petroleum & natural gas	0.00	0.00	0.00	0.00	0.00	61.53	0.00	0.00
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 non-metallic minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 sugar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 khandsari & boora	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	0.30	0.01	0.00	0.09	0.00	0.00	2.20	1855.51
19 cotton textiles	0.10	0.02	0.00	0.00	0.00	0.00	0.00	406.29
20 art silk & synthetic fibre textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	35.37	4.87	0.00	0.11	0.00	0.00	1.20	0.00
23 wood based industries	10.35	2.79	0.00	0.03	0.02	0.00	6.40	0.00
24 paper & paper based industries	1.50	0.36	0.00	0.01	0.00	0.00	0.80	0.00
25 leather & leather products	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
26 rubber products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27 plastics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28 petroleum products	973.11	166.45	1.62	6.96	3.93	0.00	1514.44	0.00
29 coal tar products	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
30 fertilizers	1754.09	475.27	1.63	5.76	9.49	474.93	4609.96	0.00
31 pesticides	53.40	6.26	0.04	0.00	11.27	586.69	322.14	0.00
32 synthetic fibre resin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 other chemicals	0.30	0.18	0.00	0.06	0.00	0.00	0.20	130.56
34 cement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 other non-metal mineral products	0.00	0.05	0.00	0.00	0.00	0.00	0.20	0.00
36 iron & steel	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
37 non-ferrous metal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38 non-electrical machinery	66.47	35.29	0.38	1.09	0.30	11.26	104.24	0.00
39 electrical machinery	2.69	0.51	0.00	0.01	0.01	0.00	1.30	0.00
40 rail equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41 motor vehicles	3.53	0.90	0.00	0.01	0.01	0.00	2.20	0.00
42 other transport equipment	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44 other manufacturing	1.13	0.23	0.00	0.00	0.00	0.00	0.20	0.00
45 rail transport service	105.47	22.54	0.09	0.35	0.95	40.23	112.25	47.64
46 other transport service	107.76	18.28	0.11	0.59	0.90	49.75	163.87	209.84
47 electricity	340.49	314.98	0.48	3.20	2.65	2.46	559.64	0.00
48 construction	742.52	125.57	2.29	6.33	2.56	53.02	824.75	267.62
49 communication	13.24	2.39	0.01	0.04	0.03	0.00	8.60	0.00
50 other services	783.97	129.73	0.88	4.64	9.38	1324.33	1565.47	1223.16
51 total	10811.62	2494.32	15.68	87.47	56.75	3362.61	16388.56	15031.52
52 i.tax	-371.96	-79.32	0.01	0.98	-1.38	-333.56	-1742.74	550.54
53 val add.	22830.44	147.00	47.30	367.56	212.63	10393.97	185439.18	11973.94
54 gross output	33270.00	2562.00	63.00	456.00	268.00	13423.00	200085.00	27556.00

	9	10	11	12	13	14	15	16
1 paddy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 wheat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 other cereals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 fibre crops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 tea, coffee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 other crops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8 animal husbandry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 forestry & logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 fishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 coal & lignite	5.30	0.00	0.00	0.00	0.00	0.00	0.07	0.00
12 crude petroleum & natural gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 non-metallic minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 sugar	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
17 khandsari & boora	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	0.00	3.41	0.00	0.00	0.00	0.00	0.00	0.00
19 cotton textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 art silk & synthetic fibre textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	4.37	227.72	0.00	0.00	0.00	0.00	0.00	0.00
23 wood based industries	30.58	4.07	0.00	0.00	0.00	0.00	0.00	0.00
24 paper & paper based industries	35.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25 leather & leather products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26 rubber products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27 plastics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28 petroleum products	19.33	193.83	0.00	0.00	0.00	0.00	31.76	0.00
29 coal tar products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30 fertilizers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32 synthetic fibre resin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 other chemicals	0.00	4.42	0.00	0.00	0.00	0.00	9.66	0.00
34 cement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 other non-metal mineral products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36 iron & steel	0.00	3.43	0.00	0.00	0.00	0.00	0.00	0.00
37 non-ferrous metal	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00
38 non-electrical machinery	7.31	0.00	0.00	0.00	0.00	0.00	20.89	0.00
39 electrical machinery	22.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40 rail equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41 motor vehicles	55.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42 other transport equipment	2.60	435.65	0.00	0.00	0.00	0.00	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44 other manufacturing	12.94	0.12	0.00	0.00	0.00	0.00	0.00	0.00
45 rail transport service	12.59	3.08	0.00	0.00	0.00	0.00	0.40	0.00
46 other transport service	90.20	9.99	0.00	0.00	0.00	0.00	0.79	0.00
47 electricity	11.38	0.00	0.00	0.00	0.00	0.00	13.39	0.00
48 construction	145.09	0.00	0.00	0.00	0.00	0.00	5.70	0.00
49 communication	24.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50 other services	122.52	70.99	0.00	0.00	0.00	0.00	7.24	0.00
51 total	602.22	957.04	0.00	0.00	0.00	0.00	24.90	0.00
52 i-tax	38.78	77.95	0.00	0.00	0.00	0.00	3.10	0.00
53 val add.	5772.00	10320.00	0.00	0.00	0.00	0.00	519.00	0.00
54 gross output	6413.00	11355.00	0.00	0.00	0.00	0.00	622.00	0.00

	17	18	19	20	21	22	23	24
1 paddy	0.00	647.10	10.61	0.00	0.00	0.00	0.23	0.24
2 wheat	0.00	1335.62	13.23	0.00	0.00	0.31	0.07	6.01
3 other cereals	0.00	217.83	0.12	0.00	0.00	0.45	0.00	0.00
4 pulses	0.00	330.19	14.93	0.00	0.00	0.00	0.00	0.00
5 fibre crops	0.00	71.18	8776.23	0.00	0.00	1352.63	23.97	0.02
6 tea, coffee	0.00	8361.51	0.00	0.00	0.00	0.00	0.00	0.00
7 other crops	0.00	44370.12	24.49	0.00	0.00	119.24	156.36	106.67
8 animal husbandry	0.00	3134.81	0.65	0.00	0.00	751.37	9.51	0.08
9 forestry & logging	0.00	122.81	8.05	0.00	0.00	8.46	1950.56	108.18
10 fishing	0.00	832.35	0.00	0.00	0.00	0.00	0.00	0.00
11 coal & lignite	0.00	82.98	59.32	0.00	0.00	3.36	13.27	43.63
12 crude petroleum & natural gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
15 non-metallic minerals	0.00	7.25	0.68	0.00	0.00	0.22	0.62	0.03
16 sugar	0.00	534.25	0.00	0.00	0.00	0.00	0.00	0.00
17 khandsari & boora	0.00	80.52	0.00	0.00	0.00	0.00	2.53	6.51
18 other food & beverage indu.	0.00	11436.21	177.63	0.00	0.00	32.10	43.54	27.48
19 cotton textiles	0.00	863.08	1433.04	0.00	0.00	573.02	14.14	31.68
20 art silk & synthetic fibre textiles	0.00	0.00	194.24	0.00	0.00	217.99	0.43	0.00
21 woollen textiles	0.00	0.00	0.38	0.00	0.00	404.94	1.12	0.00
22 other textiles	0.00	533.76	434.52	0.00	0.00	2439.69	146.96	92.35
23 wood based industries	0.00	1356.77	174.34	0.00	0.00	122.59	6199.92	121.72
24 paper & paper based industries	0.00	423.49	68.64	0.00	0.00	32.31	111.65	1277.08
25 leather & leather products	0.00	0.25	4.32	0.00	0.00	0.96	1.60	2.85
26 rubber products	0.00	0.12	1.97	0.00	0.00	3.20	47.24	0.44
27 plastics	0.00	126.13	9.17	0.00	0.00	5.55	21.71	1.81
28 petroleum products	0.00	796.46	167.05	0.00	0.00	67.50	56.98	120.61
29 coal tar products	0.00	20.41	4.38	0.00	0.00	1.57	2.97	0.95
30 fertilizers	0.00	1.34	1.15	0.00	0.00	0.00	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32 synthetic fibre resin	0.00	17.09	16.70	0.00	0.00	35.55	124.15	21.55
33 other chemicals	0.00	1217.12	1245.67	0.00	0.00	172.32	356.46	692.36
34 cement	0.00	0.00	0.00	0.00	0.00	1.23	0.00	1.01
35 other non-metal mineral products	0.00	293.55	2.97	0.00	0.00	2.76	41.19	64.47
36 iron & steel	0.00	133.01	64.61	0.00	0.00	30.58	179.53	14.68
37 non-ferrous metal	0.00	36.02	2.09	0.00	0.00	93.60	3.42	26.07
38 non-electrical machinery	0.00	514.46	684.67	0.00	0.00	315.22	462.20	195.90
39 electrical machinery	0.00	0.00	0.00	0.00	0.00	0.03	6.66	0.05
40 rail equipments	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00
41 motor vehicles	0.00	99.57	52.97	0.00	0.00	18.53	31.02	27.34
42 other transport equipment	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44 other manufacturing	0.00	1254.86	21.87	0.00	0.00	166.76	327.90	102.20
45 rail transport service	0.00	346.29	83.51	0.00	0.00	73.53	272.64	94.23
46 other transport service	0.00	2343.40	754.75	0.00	0.00	261.08	340.49	192.46
47 electricity	0.00	1110.17	1527.31	0.00	0.00	793.57	536.54	554.98
48 construction	0.00	168.17	130.31	0.00	0.00	4.01	13.27	67.97
49 communication	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50 other services	0.00	16993.83	3546.95	0.00	0.00	2690.43	4441.76	2060.92
51 total	0.00	100214.30	19713.67	0.00	0.00	10367.35	15947.57	6065.10
52 i.tax	0.00	5509.43	693.43	0.00	0.00	324.59	586.81	534.90
53 val add.	0.00	17205.02	3987.99	0.00	0.00	2248.00	6274.00	3439.00
54 gross output	0.00	122929.00	29395.00	0.00	0.00	12940.00	22809.00	10039.00

	25	26	27	28	29	30	31	32
1 paddy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 wheat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 other cereals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 fibre crops	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.00
6 tea, coffee	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
7 other crops	0.00	5165.02	0.00	0.00	0.00	0.00	0.00	0.00
8 animal husbandry	0.00	4.72	1.31	0.00	0.00	19.63	0.00	0.00
9 forestry & logging	0.00	12.70	0.16	0.23	0.00	0.32	0.28	3.68
10 fishing	0.00	0.00	0.00	0.00	0.00	1.39	24.81	0.00
11 coal & lignite	0.00	56.14	2.65	4.96	0.00	450.22	1.02	4.84
12 crude petroleum & natural gas	0.00	0.00	0.00	13780.99	0.00	728.32	0.00	0.00
13 iron ore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00
15 non-metallic minerals	0.00	99.59	0.00	0.02	0.00	697.86	53.64	9.74
16 sugar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
17 khandsari & boora	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	0.00	0.62	0.26	0.11	0.00	7.88	11.01	0.94
19 cotton textiles	0.00	165.48	56.79	0.04	0.00	0.00	0.00	2.16
20 art silk & synthetic fibre textiles	0.00	7.36	2.69	0.00	0.00	0.00	0.00	0.99
21 woollen textiles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 other textiles	0.00	1392.81	127.05	10.48	0.00	352.22	87.03	7.01
23 wood based industries	0.00	388.65	114.22	31.57	0.00	42.12	269.12	14.05
24 paper & paper based industries	0.00	88.86	83.76	3.34	0.00	4.08	99.06	44.37
25 leather & leather products	0.00	0.41	1.90	0.00	0.00	0.66	0.00	0.00
26 rubber products	0.00	13111.94	1.40	0.00	0.00	0.00	0.00	0.01
27 plastics	0.00	25.25	172.71	0.00	0.00	6.13	7.97	0.21
28 petroleum products	0.00	787.00	790.40	316.87	0.00	3835.36	41.65	126.07
29 coal tar products	0.00	1.92	0.54	0.00	0.00	30.88	0.25	0.03
30 fertilizers	0.00	0.00	0.00	0.00	0.00	2526.93	0.00	5.17
31 pesticides	0.00	0.00	0.00	0.00	0.00	0.00	1595.63	0.00
32 synthetic fibre resin	0.00	634.84	2150.95	0.02	0.00	16.42	0.00	78.51
33 other chemicals	0.00	3104.03	396.41	660.83	0.00	370.57	1034.53	164.40
34 cement	0.00	2.75	0.00	0.00	0.00	0.00	0.00	0.00
35 other non-metal mineral products	0.00	3.58	46.50	0.00	0.00	10.32	8.11	0.07
36 iron & steel	0.00	162.57	7.88	126.55	0.00	0.00	0.00	0.01
37 non-ferrous metal	0.00	52.36	5.43	9.89	0.00	0.11	18.39	0.59
38 non-electrical machinery	0.00	147.85	67.10	15.15	0.00	153.85	34.69	17.59
39 electrical machinery	0.00	277.14	8.12	0.00	0.00	0.00	0.00	0.00
40 rail equipments	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
41 motor vehicles	0.00	65.73	18.73	6.45	0.00	35.71	15.50	1.73
42 other transport equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44 other manufacturing	0.00	259.83	192.38	209.89	0.00	80.91	210.04	4.05
45 rail transport service	0.00	185.07	27.63	14.42	0.00	119.38	98.07	8.58
46 other transport service	0.00	856.00	226.68	28.87	0.00	80.72	103.16	19.18
47 electricity	0.00	1225.16	377.39	115.24	0.00	1095.43	162.23	78.51
48 construction	0.00	407.52	5.70	2.17	0.00	60.54	20.16	7.17
49 communication	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50 other services	0.00	5791.42	1570.81	391.52	0.00	1337.09	3639.04	222.56
51 total	0.00	34485.31	6447.64	15730.04	0.00	12125.18	7591.36	827.48
52 i.tax	0.00	6286.65	3540.39	2305.84	0.00	321.79	247.61	138.52
53 val add.	0.00	11068.99	2946.00	809.94	0.00	3309.99	6884.00	187.00
54 gross output	0.00	51341.00	12934.00	18845.82	0.00	15757.00	14723.00	1153.00

KERALA (1984-85) TRANSACTION MATRIX (NON SURVEY METHOD)

Appendix Table 4 contd.

	33	34	35	36	37	38	39	40
1 paddy	82.49	0.00	2.75	0.00	0.00	0.01	0.00	0.00
2 wheat	0.15	0.00	0.75	0.00	0.00	0.01	0.30	0.00
3 other cereals	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 pulses	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 fibre crops	10.02	0.00	0.23	0.17	0.00	0.02	0.00	0.00
6 tea, coffee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 other crops	1133.32	0.00	7.07	0.00	0.00	0.00	1.65	0.00
8 animal husbandry	24.46	0.00	72.12	0.00	0.34	0.53	0.00	0.00
9 forestry & logging	73.03	0.06	42.95	2.16	3.00	3.21	3.41	0.00
10 fishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 coal & lignite	22.71	85.37	59.55	82.68	11.69	2.76	3.90	0.00
12 crude petroleum & natural gas	1.32	0.00	0.54	0.00	0.00	0.00	0.00	0.00
13 iron ore	0.00	0.00	0.00	35.03	0.00	0.00	0.00	0.00
14 other metallic minerals	5.29	0.00	4.40	51.77	252.70	0.00	0.99	0.00
15 non-metallic minerals	162.80	87.48	432.05	156.32	58.12	0.45	2.13	0.00
16 sugar	24.74	0.00	0.08	0.04	0.00	0.01	0.04	0.00
17 khandbari & boora	6.31	0.00	0.11	0.00	0.00	0.00	0.00	0.00
18 other food & beverage indu.	774.54	0.00	1.63	0.00	0.05	0.07	0.92	0.00
19 cotton textiles	189.50	0.00	3.91	0.02	0.97	3.12	42.44	0.00
20 art silk & synthetic fibre textiles	0.86	0.00	0.00	0.00	0.00	0.00	0.02	0.00
21 woollen textiles	0.00	0.00	0.00	0.07	0.00	0.02	0.00	0.00
22 other textiles	182.02	122.96	38.48	35.78	11.73	5.50	28.38	0.00
23 wood based industries	344.49	9.53	130.80	151.02	43.10	63.95	186.39	0.00
24 paper & paper based industries	180.70	0.94	23.17	14.87	20.82	6.81	35.31	0.00
25 leather & leather products	0.03	0.00	0.01	0.00	0.00	0.12	0.05	0.00
26 rubber products	0.41	0.00	1.59	0.00	0.00	18.43	29.40	0.00
27 plastics	35.83	0.00	2.19	0.05	0.94	0.44	7.96	0.00
28 petroleum products	279.29	25.29	112.13	22.84	173.29	5.57	19.05	0.00
29 coal tar products	54.70	0.44	18.33	159.98	142.43	9.08	6.96	0.00
30 fertilizers	11.72	1.60	0.00	0.00	0.00	0.00	0.00	0.00
31 pesticides	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
32 synthetic fibre resin	60.60	0.00	7.79	0.04	3.03	0.83	65.99	0.00
33 other chemicals	5996.46	0.28	174.99	32.61	242.59	28.25	263.09	0.00
34 cement	0.00	2.19	177.31	0.00	0.00	0.00	0.20	0.00
35 other non-metal mineral products	258.13	0.00	275.36	56.47	1.15	3.13	103.04	0.00
36 iron & steel	35.45	8.79	141.03	1532.28	69.31	1250.85	1541.06	0.00
37 non-ferrous metal	339.43	0.00	1.18	268.86	1724.08	52.69	487.66	0.00
38 non-electrical machinery	212.54	15.04	92.11	190.85	101.22	484.05	173.95	0.00
39 electrical machinery	0.03	0.00	0.74	4.99	1.21	34.17	558.57	0.00
40 rail equipments	0.00	0.20	0.02	0.00	0.00	0.06	0.00	0.00
41 motor vehicles	32.40	9.96	20.12	49.32	22.53	21.07	14.40	0.00
42 other transport equipment	0.00	0.00	0.00	0.00	0.00	5.96	0.05	0.00
43 communication & electronic equipments	0.00	0.00	0.00	0.00	0.00	0.29	10.68	0.00
44 other manufacturing	473.84	7.60	104.21	72.87	80.29	144.26	1173.27	0.00
45 rail transport service	103.86	37.92	113.63	203.49	38.96	41.63	60.59	0.00
46 other transport service	326.43	20.03	125.69	64.63	126.24	34.23	112.08	0.00
47 electricity	929.68	105.81	165.21	391.73	893.35	90.17	179.32	0.00
48 construction	92.56	1.50	32.89	15.13	72.75	11.61	24.11	0.00
49 communication	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50 other services	3541.80	146.77	1034.04	1302.35	1627.07	635.38	1986.86	0.00
51 total	16008.24	689.59	3433.24	4909.93	5726.29	2963.43	7089.22	0.00
52 i-tax	1832.77	38.41	400.77	765.02	645.73	517.55	1055.79	0.00
53 val add.	7587.99	330.00	3520.00	1011.00	1617.00	2719.00	2726.00	0.00
54 gross output	25429.00	1058.00	7354.00	6286.00	7592.00	6200.00	10371.00	0.00

	41	42	43	44	45	46	47	48
1 paddy	0.00	0.31	0.00	0.82	0.00	40.42	0.00	0.00
2 wheat	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00
3 other cereals	0.00	0.00	0.00	0.00	0.00	6.54	0.00	0.00
4 pulses	0.00	0.00	0.00	0.12	0.00	3.96	0.00	0.00
5 fibre crops	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00
6 tea, coffee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 other crops	1.15	0.00	0.00	36.91	0.00	364.05	0.00	4219.34
8 animal husbandry	0.00	0.02	0.00	79.52	0.00	0.00	0.00	0.00
9 forestry & logging	1.27	8.24	0.33	29.02	0.04	0.00	0.13	1072.48
10 fishing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 coal & lignite	1.56	0.69	0.34	40.47	299.27	0.00	3155.32	65.38
12 crude petroleum & natural gas	0.00	0.00	0.00	0.00	0.00	0.00	311.27	0.00
13 iron ore	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00
14 other metallic minerals	0.00	0.00	0.00	2.14	0.00	0.00	0.00	0.00
15 non-metallic minerals	0.02	0.00	0.00	35.01	0.00	0.00	0.00	1475.55
16 sugar	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
17 khandbari & beera	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
18 other food & beverage indu.	0.02	0.11	0.14	5.73	0.00	73.07	0.00	0.00
19 cotton textiles	2.13	0.45	0.00	34.75	0.00	19.43	0.00	0.00
20 art silk & synthetic fibre textiles	0.00	0.13	0.00	0.12	0.00	0.00	0.00	0.00
21 woollen textiles	0.02	0.00	0.00	26.40	0.00	0.00	0.00	0.00
22 other textiles	3.50	2.26	5.52	85.55	0.00	3.83	34.31	0.00
23 wood based industries	16.08	175.11	11.11	533.41	0.00	12.28	4.74	2345.01
24 paper & paper based industries	3.89	1.93	4.22	45.47	6.76	36.99	3.17	3.06
25 leather & leather products	0.07	0.04	0.00	14.93	0.00	0.00	0.00	0.00
26 rubber products	158.16	29.83	0.31	46.99	0.00	1212.36	0.00	0.00
27 plastics	0.10	0.07	6.22	3.70	0.00	0.20	0.00	12.81
28 petroleum products	65.91	31.27	8.16	162.02	444.95	14862.95	1082.15	308.90
29 coal tar products	1.51	0.51	0.13	30.66	0.00	0.00	0.00	893.30
30 fertilizers	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.00
31 pesticides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32 synthetic fibre resin	4.98	24.28	3.59	22.65	0.00	0.00	0.00	0.00
33 other chemicals	27.65	20.80	13.00	372.24	0.00	5.02	0.00	499.03
34 cement	0.00	0.00	0.00	0.75	0.00	0.00	0.00	3707.50
35 other non-metal mineral products	0.21	0.40	8.71	42.17	0.17	0.00	0.00	7575.71
36 iron & steel	571.75	213.93	68.45	4153.36	4.40	0.00	53.51	9906.05
37 non-ferrous metal	14.77	11.20	31.54	674.10	0.00	0.00	0.00	0.00
38 non-electrical machinery	52.93	16.75	10.00	270.70	37.24	6.60	7.44	0.63
39 electrical machinery	11.18	2.61	49.20	25.18	180.27	26.75	240.56	1989.04
40 rail equipments	0.00	0.04	0.00	35.15	543.05	0.00	0.00	0.00
41 motor vehicles	762.45	7.49	2.91	153.29	0.00	1255.95	11.33	15.80
42 other transport equipment	12.95	246.32	0.00	422.90	1.96	1508.98	0.00	0.00
43 communication & electronic equipments	0.01	0.53	300.10	3.39	6.46	0.00	0.00	0.00
44 other manufacturing	118.57	263.05	74.67	3143.02	20.91	14.73	0.64	132.10
45 rail transport service	36.83	9.35	12.67	125.97	138.25	77.21	146.55	887.33
46 other transport service	20.06	16.73	18.31	205.75	302.86	745.01	140.12	876.80
47 electricity	53.72	72.00	19.94	350.67	261.58	41.87	2244.36	43.30
48 construction	0.90	3.27	2.69	42.30	1062.62	44.38	238.60	0.00
49 communication	0.00	0.00	0.00	0.00	0.09	224.69	30.52	19.41
50 other services	443.71	263.87	294.32	3158.07	266.51	1073.53	327.05	8942.18
51 total	2388.07	1383.28	947.60	14417.36	3577.49	21664.80	3028.28	45990.68
52 i-tax	646.72	346.72	145.40	1655.67	199.54	5170.09	879.12	4336.27
53 val add.	1589.00	1804.00	821.00	7972.00	3389.98	39212.04	9311.62	28259.89
54 gross output	4624.00	3534.00	1914.00	24045.00	7167.00	66047.00	18219.00	78587.00

Appendix Table 4 contd.

	49	50	51	52	53
1 paddy	0.00	1012.29	5511.67	27758.33	33270.00
2 wheat	0.00	302.86	2575.54	-13.54	2562.00
3 other cereals	0.00	0.00	356.59	-293.59	63.00
4 pulses	0.00	178.20	1665.70	-1209.70	456.00
5 fibre crops	0.00	0.00	10243.44	-9975.44	268.00
6 tea, coffee	0.00	0.00	8361.51	5061.49	13423.00
7 other crops	0.00	1774.13	70134.14	129950.86	200085.00
8 animal husbandry	0.00	10610.31	21425.89	6130.11	27556.00
9 forestry & logging	0.00	0.00	3462.76	2950.24	5413.00
10 fishing	0.00	2269.41	3127.96	8227.04	11355.00
11 coal & lignite	0.00	374.74	4940.16	-4940.16	0.00
12 crude petroleum & natural gas	0.00	94.34	15039.32	-15039.32	0.00
13 iron ore	0.00	0.00	35.17	-35.17	0.00
14 other metallic minerals	0.00	0.00	317.02	-317.02	0.00
15 non-metallic minerals	0.00	0.00	3337.11	-3715.11	622.00
16 sugar	0.00	368.75	928.22	-928.22	0.00
17 khandsari & boora	0.00	0.00	96.00	-96.00	0.00
18 other food & beverage indu.	0.00	1164.66	15625.21	107303.79	102929.00
19 cotton textiles	0.00	12.73	7365.24	25529.76	29235.00
20 art silk & synthetic fibre textiles	0.00	0.00	424.84	-424.84	0.00
21 woollen textiles	0.00	0.00	432.96	-432.96	0.00
22 other textiles	0.16	1486.99	7944.48	4995.52	12940.00
23 wood based industries	19.72	1493.35	14934.39	7874.61	22809.00
24 paper & paper based industries	44.73	4223.61	6931.42	3107.58	10039.00
25 leather & leather products	0.00	0.00	28.22	-28.22	0.00
26 rubber products	0.00	13.48	14677.16	37163.84	51241.00
27 plastics	0.01	44.18	491.31	12442.69	12934.00
28 petroleum products	37.72	407.69	23616.55	-9770.73	18845.82
29 coal tar products	0.00	4.87	1386.83	-1386.83	0.00
30 fertilizers	0.00	0.00	9880.45	5876.55	15757.00
31 pesticides	0.00	7.49	2582.94	12140.06	14723.00
32 synthetic fibre resin	0.00	0.00	3285.55	-2132.55	1153.00
33 other chemicals	0.00	16558.25	33792.32	-8363.32	25429.00
34 cement	0.00	0.00	3892.99	-2934.99	1058.00
35 other non-metal mineral products	0.00	157.98	8961.42	-1507.42	7354.00
36 iron & steel	0.00	4.12	20276.24	-12390.24	6236.00
37 non-ferrous metal	0.00	0.00	3459.81	4129.19	7589.00
38 non-electrical machinery	1.52	268.05	4803.64	1796.76	6200.00
39 electrical machinery	7.59	292.75	3744.05	7126.95	10871.00
40 rail equipments	0.00	0.00	578.61	-578.61	0.00
41 motor vehicles	49.38	234.35	3098.91	1525.09	4624.00
42 other transport equipment	1.18	269.17	2907.91	626.09	3534.00
43 communication & electronic equipments	17.66	11.61	350.74	1563.26	1914.00
44 other manufacturing	15.88	5347.03	14028.31	10016.69	24045.00
45 rail transport service	105.59	1535.65	5319.52	1847.48	7167.00
46 other transport service	70.49	11455.26	20519.78	45527.22	66047.00
47 electricity	52.12	1486.24	15771.26	2447.74	18219.00
48 construction	150.40	12558.89	17417.03	61169.97	79587.00
49 communication	0.00	3227.79	3551.77	2714.23	6266.00
50 other services	89.72	30523.64	103585.50	270781.50	374367.00
51 total	713.89	109774.89			
52 i-tax	57.40	5310.77			
53 val add.	5494.72	259280.22			
54 gross output	6266.00	374367.00			

(concluded)