

**THE PATTERN OF INTER-REGIONAL COMMODITY
FLOWS IN INDIA (1950-51 TO 1959-60) AND
A DERIVATION OF OPTIMUM FLOWS**

**A THESIS SUBMITTED TO
THE UNIVERSITY OF POONA
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY**

BY

SAIYED RAZA HASHIM

**GOKHALE INSTITUTE OF POLITICS AND ECONOMICS
POONA 4**

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PART I

INTRODUCTORY

CHAPTER I

INTRODUCTION

1. Spatial Dimension of the Economic Structure and Commodity Flows

"Geographic flows of commodities may be roughly attributed to two basic sets of facts," observes Isard,¹ "One covers the inequalities in the geographic distribution of population, income, and in its broadest sense resources. The other embraces the indivisibilities of production and consequent economies of large scale operation." Thus, basically, the regional² differences exist because of the differences of natural endowments in different regions, i.e., differences of land, climate, mineral and water resources and population. The differences are further accentuated by the location of economic activities which are governed partly by natural conditions existing in the regions and partly by historical facts of evolution (i.e., social, cultural and political factors). In the whole process of

1 Walter Isard, "Inter-regional and Regional Input-Output Analysis," Review of Economics and Statistics, Vol. XXXIII, 1951, p.318.

2 The term 'region' is used here to denote a spatial unit which forms part of a 'spatial system'. References to the concept of 'region' and 'space' are made in Chapter II. From practical considerations, a 'spatial system' may be taken as synonym to a country, different provinces or states of which may be regarded as regions.

development, each of a set of regions forming a spatial system, depends on all the others, and the mutual actions and interactions of these regions lead to the emergence of a pattern of location. The regions are interlinked with each other through various types of flows between them, i.e., the flows of population, money, ideas and commodities.

The study of the economic structure of any region from the point of view of regional planning and development, therefore, cannot be made in isolation from its relation with the other regions of the spatial system of which it is a part. Development of the whole set of regions depends to a great degree on their mutual linkages and interactions.

Emphasizing the spatial aspects of economic study, Vining writes, "It is my thesis that we should explicitly introduce a spatial dimension into our conception of economic structure of the nations." The challenge is to discover the structural features and the operational characteristics of an "economic community" rather than an industry. A community seems to be organized around its "export" industry, this being the "source of the flows which the community injects into the larger interdependent system and which act as a balance for the flows diverted from the larger system and channeled into this community." Export industries are "the connecting links between population structures and concentrations."³ Thus, of all the flows, commodity flows may be

³ Rutledge Vining, "The Regions as an Economic Entity and Certain Variations to be Observed in the Study of Systems of Regions." Papers and Proceedings of American Economic Association, May 1949, No. 3, pp. 88-104.

considered to be the most important connecting links between the regions by means of which any region can avail itself of the natural advantages of other regions and can compete these other regions in the disposal of its products in several regional markets. Money flows, to a large extent, are a counterpart of the commodity flows.

Two lines of thought have come to converge on the problem of emergence and establishment of a location and commodity flow pattern. One approach is that of international trade theory, which explains the trade between nations (and the explanation is more so applicable to the trade between regions) in terms of 'comparative advantage.' But the theory of trade is deficient in fully explaining the location and trading pattern in the sense that it does not explicitly treat the space as a phenomenon. The trade theory "denies the existence of space, yet it attempts to explain comparative advantage, a doctrine which cannot be properly interpreted without taking cost of transportation into account."⁴

It is the location theory which has attempted to treat 'space' explicitly in its formulation.⁵ A beginning in this line of thought was made by the German economists of

⁴ L. Lefebvre, Allocation in Space, North-Holland Publishing Coy., Amsterdam, 1958, p. 1.

⁵ For a detailed survey of location theories, see Walter Isard, Location and Space Economy, The Technology Press of M.I.T. & John Wiley, New York, 1956, Chap. 2, pp. 24-54, and also see Lefebvre (op.cit.). Only a passing reference to the benchmarks of thinking is intended here.

historical school⁶ who attempted to see some empirical regularities in the evolution of locational structure of economies on the basis of historical facts. An attempt to construct a general location theory was first made by Alfred Weber (1909).⁷ Weber's was essentially an evolutionary approach, i.e., an attempt to develop a general basis upon which any given historical system orients itself. He analysed and explained the choice of industrial location in terms of transport costs, wages and raw material prices. E. M. Hoover attempted to combine the Weberian analysis with the then existing theory of firms and partial equilibrium analysis.⁸ August Losch⁹ (1944) was the first to comprehend the general inter-relation of spatially separated economic units, and analyse the choice of location in terms of spatial interdependence, though, with many unrealistic assumptions such as the existence of a continuous plain uniformly endowed with raw materials and with uniformly distributed population

6 Von Thunen (1826), Wilhelm Roscher (1878), A. Schaffle (1873), Launhardt (1882, 1885).

7 Alfred Weber's Theory of Location of Industries (translation), Chicago, University of Chicago Press, 1926.

8 E. M. Hoover, Location Theory and the Shoe and Leather Industry, Cambridge, Harvard University Press, 1937; and Location of Economic Activity, New York, McGraw Hill Book Co. Ltd., 1948. Before Hoover, however, Englander (1926) and Ritschl (1927) had attempted to elaborate and develop the Weberian approach.

9 A. Losch, The Economics of Location (translation), New Haven, Yale University Press, 1954.

and a given freight rate structure. Isard has attempted to synthesize some of the earlier ideas, in particular, Weberian evolutionary approach and Losch's market area analysis in an attempt to formalize location theory as a 'general theory of location'.¹⁰ Ohlin has attempted at a synthesis of the location and trade theories.¹¹ Isard and Peck have re-examined the problem of the fusion of location theory and trade theory with special reference to empirical evidence on commodity flows over distance.¹²

One generally agreed conclusion of all the thinking on the problems of location and trade is that, "trade, relative and absolute spatial position, and the geographic patterns of resources are fundamentally interrelated. . . . Location and trade are as the two sides of the same coin. The forces determining one simultaneously determine the other."¹³

As the location and trade theories emphasized spatial interdependence, the development of input-output framework emphasized the sectoral interdependence and made it possible to comprehend the problem of economic equilibrium with all its complexities of spatial and sectoral inter-relations.

10 W. Isard, Location and Space Economy (op.cit.)

11 B. Ohlin, Inter-regional and International Trade, Cambridge, Mass., 1933.

12 W. Isard and Peck, "Location Theory and International and Inter-regional Trade," Quarterly Journal of Economics, LKVIII, (February 1954), pp. 97-115.

13 W. Isard, Location and Space Economy (op.cit.) p. 6.

Further, linear programming techniques were developed, which made it possible to attempt to construct very comprehensive models of general spatial equilibrium.¹⁴ This made it possible to describe and determine both the equilibrium of a capitalistic and competitive nature as well as the equilibriums of a non-capitalist or normative type. In these attempts, inter-regional or regional input-output and linear programming techniques were fused together. Leontief's inter-regional input-output scheme, Isard's inter-regional model, Moses' input-output model of United States and Chenery and Clark's input-output model of Italy are important works in this direction.¹⁵ Also, a number of single commodity studies

14 Examples are: Paul A. Samuelson, "Spatial Price Equilibrium and Linear Programming," American Economic Review, Vol. XLII, No.3, June 1952; Tjalling C. Koopmans and M. Beckmann, "Assignment Problems and Location of Economic Activities," Econometrica, Vol.25, No.1, January 1957; Walter Isard and D.J. Ostroff, "General Inter-regional Equilibrium," Journal of Regional Science, Vol. 2, No.1, Spring 1960; Louis Lefebvre, Allocations in Space, North-Holland, Amsterdam, 1958; W. Isard and P. Isard, "General Social, Political and Economic Equilibrium for a System of Regions," Part I and II, Papers Regional Science Association, Vols. 14 and 15, 1965; Melvin L. Greenhut, Microeconomics and the Space Economy, Chicago, Scott Foreman, 1963; H.C. Bos, Spatial Dispersion of Economic Activity, Rotterdam University Press, 1965; T. A. Goldman, "Efficient Transportation and Industrial Location," Regional Science Association Paper, 1958. Also see Isard, Methods of Regional Analysis: An Introduction to Regional Science, New York, 1960, Chap. 10 on Interregional Linear Programming.

15 References are: W. Leontief, "Interregional Theory" in Studies in the Structure of American Economy, 1953; W. Isard, "Some Empirical Results and Problems of Regional Input-Output Analysis," in Studies in the Structure of American Economy, 1953; Leon N. Moses, "The Stability of Interregional Trading Patterns and Input-Output Analysis," American Economic Review, XLV, No.5, pp.803-832 (December 1955); H. Chenery, "Regional Analysis" in the Structure and Growth of Italian Economy, 1953.

were made, applying the linear programming model to determine the location and/or flow pattern of that commodity in an economy. Important examples of this type of empirical studies are: Fox's model of U. S. Livestock feed economy,¹⁶ Henderson's programming model of U.S. coal industry,¹⁷ Ambika Ghosh's application of a programming model to test the efficiency of location and inter-regional flows of cement industry in India.¹⁸ But in a broader framework of national economy the location and flow of a single industry considered in isolation has little value, when the mutual interdependence of not only the regions, but of all the sectors of the economy has been well realized. There are two main attempts in empirical application of a multi-sectoral--multi-regional model to Indian situation. V. G. Bhatia, while working at Harvard, developed a model for allocation of investments between regions in India,¹⁹ and

16 K. A. Fox, "A Spatial Equilibrium Model of the Livestock Feed Economy in the United States," Econometrica, XXI, No. 4, (October 1953), pp. 547-566.

17 J. M. Henderson, The Efficiency of Coal Industry, Harvard University Press, Cambridge, 1958.

18 A. Ghosh, Efficiency in Location and Interregional Flows--Cement Industry During the Five Year Plans, 1950-1959, North-Holland Publishing Co., Amsterdam, 1965.

19 V. G. Bhatia, "Interregional Allocation of Investment in Development Programming," Unpublished Doctoral dissertation, Department of Economics, Harvard University, Cambridge, Mass., December 1961.

Ambika Ghosh has recently attempted a model of location and flows.²⁰ Both of these models are of small and simplified dimensions.²¹

Thus, we have had a cursory look at (or, have just enumerated) the important works which have contributed to the realization of the concept of space as an important dimension of the economic structure, and have their impact on modern economic analysis. In view of the vast literature on the subject emanating from different lines of thought and with different orientations, it has not been possible to survey them in detail in these pages. But the conclusion comes out in bold relief that the emergence and the pattern of commodity flows between a set of regions is the result of mutual inter-relations of the regions of a spatial system as well as of the mutual interdependence of different sectors of the economy. And, hence, the study of commodity flows must reveal very significant characteristics of the economic system as a whole.

2. Commodity Flows and the Problem of Regional Development--Some Views

It is a common observation that different regions of the same spatial system (or country) are not equally developed.

²⁰ A. Ghosh, "An Inter-Industrial Programming Model for Production and Transportation of Commodities for Different Regions of India," Artha Vijnana, Vol. 9, No.2, (June 1967), pp. 210-226.

²¹ These empirical models applied to Indian situation will be taken up for review in a latter chapter where we develop our own model.

Sometimes the differences are quite large. This is so in spite of the fact that inter-regional linkages through the flows especially those of commodities have tremendously improved due to the development of the means of transport and communications. It could be conceived that in a primitive economy where the means of transport and communications were undeveloped or almost non-existent, and thus small areas were isolated regions, the basic differences of natural endowments of the regions would have been the fundamental cause of differences in their levels of development. But the improvement in the means of transport enables the regions to exchange their natural advantages with each other through the inter-regional flows. Now, the question arises whether these trading relations between the regions reduce the inequalities of the levels of development between them or accentuate it. The international trade theorists would have us believe that the free movements of labour and capital (in the form of goods) between the national markets (or regions) would lead to an equalization of factor prices²² with the result that relative scarcity of capital and labour between the regions would become less marked. In other words, through the trade

22 Heckscher-Ohlin factor price equalisation theorem states that free trade in commodities will equalize factor prices even if factors are immobile internationally. See E. Heckscher, "The Effects of Foreign Trade on the Distribution of Income," in Readings in the Theory of International Trade, George Allen and Unwin Ltd., Philadelphia, 1949; and also E. Ohlin, Interregional and International Trade, Harvard University Press, Cambridge, 1933.

in commodities, the regions would exchange their relative advantages with each other, and thus, all the trading regions would benefit. Though, the trade theorists admit that in the real world free trade between regions may not lead to a full equalization of factor prices, yet they feel that market mechanism will induce a narrowing down of the income differences. However, the assumptions on which the trade theory is based are far from reality, and hence it is doubtful whether trade between regions has any such effect.

Regional scientists, having a wider range of analytical tools available to them, have been able to analyse the phenomena of inter-spatial connections with all their complexities and with lesser number of unrealistic assumptions.

"The conclusions of the regional scientists," to quote Olsen,²³ "seems to be that the establishment of a common market does not by itself lead to a narrowing down of the difference in per capita income between the member countries. The forces working for a widening of the differences may be even stronger than the forces working for an equalisation of factor prices."

Gunnar Myrdal²⁴ rejects both the approaches as being static analysis which cannot fully explain the development

23 Erling Olsen, "Regional Income Difference with a Common Market," Papers, Regional Science Association, Vol. XIV, 1965, p. 40.

24 Gunnar Myrdal, Development and Underdevelopment, A Note on the Mechanism of National and International Economic Inequality, National Bank of Egypt, Fiftieth Anniversary Commemoration Lectures, Cairo, 1956.

process (which is essentially a dynamic process), which arises when the barriers to free trade are removed. Myrdal has quite a categorical answer to the question, that is, that the free trade accentuates the differences in the levels of development between the regions. According to him, in the process of social change it is the "cumulative causation" or "supporting changes" that takes place rather than "countervailing changes". In his own words, "If left to take its natural course, the economic process will be cumulative instead of equilibrating—in the meaning that secondary changes usually have the same directions as the primary ones, and not the opposite one—and it will then most often tend to create inequalities and not equality, and to increase existing inequalities; trade is important element in the cumulative process. Within broad limits the attractive power today of a centre of commercial and industrial expansion has a main origin in the historical accident..... Thereafter the ever increasing internal and external economies fortified and sustained their continuous growth at the expense of other localities and regions where, instead, relative stagnation or regression becomes the fastened pattern." ²⁵ Specially in backward countries (or regions), the 'backsetting' effect is much stronger than the 'spread effects' which is a function of the relative level of development. To support his argument,

25 Ibid, p. 18.

Myrdal quotes two conclusions from a study:²⁶ (1) in Western Europe, regional income disparities are much wider in the poorer countries than in the richer ones, and (2) while the regional inequalities have been diminishing in the richer countries of Western Europe, the tendency has been opposite in the poorer countries.

Rosenstein-Rodan, however, takes a more optimistic view, and observes that "In the short-run, however, the path toward greater equality leads through growing regional inequality. Towns and industrial areas increase their income much faster, and the absorption and diffusion effects of this growth in the 'poles of development' do not crystallize for a long time."²⁷

Similar conclusions are arrived at by Williamson²⁸ who has examined cross section data of 24 European countries, and of the States of the United States, and also time-series data relating to a few countries. One of his conclusions among others is that the rising regional income disparities and increasing North-South²⁹ dualism is typical of early development

26 Svend Laursen, "Problem of Development and Industrial Location in Europe," in Economic Survey of Europe, 1954, Geneva, 1955.

27 P. N. Rosenstein-Rodan, Reflections on Regional Development, Center for International Studies, M.I.T., Cambridge, Mass., July 31, 1963, p. 2.

28 Jeffery G. Williamson, "Regional Inequality and the Process of National Development : A Description of the Patterns," Economic Development and Cultural Change, Vol. XIII, No. 4, Part II (July 1965).

29 'North-South' denoting advanced and backward regions, respectively.

stages, while regional convergence and a disappearance of severe North-South problems is typical of the more mature stages of national growth and development." ³⁰

Since, the existence of trade in itself does not explain the changing levels of development between the interconnected regions, it is perhaps the commodity composition of trade, or in other words, the nature of linkages, which may manifest the features of differential growth of regions. It is in the light of these thoughts and observations, among others, that the pattern of commodity flows has to be examined.

3. References to Some Commodity Flow Studies and Some Regularities Observed

The realization of the value of commodity flow studies in providing useful informations about the regional economy and an insight into the nature and significance of inter-regional linkages has led to many studies on the subject. Some studies were made even earlier,³¹ but most of them were done during the fifties.

Edward Ullman³² has used the Inter-State Commerce Commission 1 per cent sample Carload Waybill Statistics to

30 J. G. Williamson, op.cit., p. 44.

31 For example: Erwin Scheu, Deutschland wirtschaftsgeographische Harmonie, Breslau, F. Hirt, 1924; and Knute E. Carlson, Interregional and Intra-regional Traffic of the Mountain-Pacific Area in 1939, U. S. Department of Commerce, Washington D.C.

32 Edward L. Ullman, American Commodity Flow, Seattle, University of Washington Press, 1957.

develop a set of flow maps depicting the inter-state railroad and water traffic. These maps present the tonnage inflows and outflows of all commodities, major groups of commodities, and individual commodities (most of the maps pertain to the year 1950, while some are for 1949 and 1948 also). These maps reveal interesting features of the American spatial system.

Ullman suggests the factors of 'complementarity', 'intervening opportunity' and 'transferability' as the basis of explaining the physical inter-regional flows. 'Complementarity' generates inter-change between two areas only if no intervening complementary source of supply is available.³³ The factor of transferability is what Isard terms as 'transport inputs'.³⁴

33 This is a manifestation of Stouffer's Law of intervening opportunities. (Samuel A. Stouffer, "Intervening Opportunities: A Theory Relating Mobility and Distance," American Sociological Review, Vol. V (1940), pp. 845-867.)

Stouffer proposed that the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of 'intervening opportunities'. He postulates a direct relation between mobility and opportunities rather than between mobility and distance; the relationship between mobility and distance being an auxiliary relationship which expresses the cumulated opportunities as a function of distance. He found the data on residential mobility in Cleveland (Ohio) conforming to his postulation.

34 "Transport inputs correspond to the exertions of effort and other factor services required to overcome resistance encountered in movement through space where friction is present. In a space-economy we obviously wish to minimize these, ceteris paribus." (W. Isard, Location and Space Economy, op.cit., p. 79.)

The important features of the inter-state flows that emerge out of Ullman's studies are:

(i) The pattern of United States railroad in terms of trackage or physical capacity correlates quite well with the pattern of traffic flow and its density. This is quite expected. The pattern of transport development is mainly guided by the locational pattern and the possibilities of traffic that can be had. On the other hand, even if in certain cases opening up of a certain transport route was motivated by factors other than economic considerations, the very existence of transport facilities leads to development of commerce and industries along the route, and thus, to traffic flows, though with a time lag.

(ii) The most important feature of the pattern of State to State rail flows is the concentration of flows in the region of state of origin and destination, i.e., "localisation of flows". This is a very real reflection of the friction of distance, i.e., the cost of movement. Although, this gross characterization applies to the major part of tonnage flows, it is not characteristic of a significant minority of longer flows, which reflect instead complementarity and intervening opportunity.

"Localisation of flows" dispels the belief that United States is a single large market. Rather, United States market is made up of regional markets, 'perhaps not unlike some of the separate countries, of Europe if the international

boundaries were blurred.' Regional markets exist even within the industrial belt. "The best approach to a concept of the American market may be to think of a series of overlapping regions—an inter-connected, federated national economy. Increasing economies in the use of fuels and raw materials, common to many industries, appear to be creating more of a market orientation of industry than formerly."

(iii) Another important observation is about the significance of regional inter-dependence, as against the 'mercantilist notions' of self-sufficiency of a region. Imports and exports both are important for a regional economy. For example, Iowa's economy achieves "its high scale of living and its high individual income from a large scale program of specialization of production and exchange of surplus products." ³⁵

Vining's analysis of U.S. carload data also confirms in general, the role and significance of distance. ³⁶

Isard's study of similar data also reflects the importance of transport cost in trade within the United States. ³⁷ Almost

³⁵ Leo W. Sweeney, "The Iowa Economy as Portrayed by Rail Freight Traffic Movement," Iowa Business Digest, University of Iowa, Vol. 22, (December 1951), quoted by W. Isard, Methods of Regional Analysis..., op.cit., p. 127.

³⁶ Rutledge Vining, "A Description of Certain Spatial Aspects of an Economic System," Economic Development and Cultural Change, Vol. 3 (January 1955).

³⁷ Isard and Peck, "Location Theory and International and Interregional Trade," Quarterly Journal of Economics, LXVIII (February 1954), pp. 97-115. This article contains some empirical evidence of the importance of transport costs in trade within United States.

similar conclusions are arrived at by many other studies relating to inter-regional commodity flow in United States.³⁸

Beckerman has done the study of Intra-European Trade of the Western Europe,³⁹ addressing himself to the question as to what is the importance of distance in determining the pattern of Western European Trade. The data used are the f.o.b. export figures as recorded by the exporting countries for the years 1938, 1948 and 1953. The intra-European trade is arranged in the form of a trade matrix. Then, in order to examine first the distribution of each country's imports, all the countries have been put on an "equal exporter basis" (so that the effect of the size of the countries is eliminated), by expressing all the individual exports of each country as a percentage of its total exports. Similarly, in order to examine exports, import totals have been made 100. The distance between the countries has been taken as the distance between the "economic centres of gravity" of each country.

38 Some of the other studies on commodity flows in United States are: Harold L. Burma and Harry S. Schwartz, "An Analysis of Commodity Trade of Twelfth District Federal Reserve Bank, 1950" in Interregional Linkages, Western Committee on Regional Economic Analysis, Berkeley, California, 1954; Edwin H. Lewis, Minnesota's Interstate Trade, Studies in Economics and Business, No.16, University of Minnesota, Minneapolis, Minnesota, March 1953. Donald J. Patton, "The Traffic Pattern on American Inland Waterways," Economic Geography, XXXII (1956).

39 W. Beckerman, "Distance and the Pattern of Intra-European Trade," Review of Economics and Statistics, Vol. 38, 1956, pp. 31-40.

The analysis has been made on the ordinal arrangements of distance and importance of trade, using rank correlation.

Important conclusions of Beckerman's study are :

(i) There is a fairly strong correlation between distance and trade, and the correlations appears to be equal for imports and exports; (ii) Further, the basic tables show a tendency on the part of less developed countries of Europe to concentrate their trade more than the other countries. This concentration is also very closely linked to neighbouring countries.

What is interesting is the possibility of a causal connection between the degree of development and distance.

Ambika Ghosh has studied the inter-regional flow of cement in India, particularly from the point of view of assessing the efficiency of flow pattern in terms of transport cost.⁴⁰ The study is based on rail-freight data. India is divided into nine regions. States are taken as regions, more or less. In a number of cases two or more States have been aggregated together as their cement production is small.⁴¹

⁴⁰ A. Ghosh, Efficiency in Location and Interregional Flows : The Indian Cement Industry during the Five Year Plans 1950-1959, Amsterdam, North Holland Publishing Company, 1965.

⁴¹ The States of Jammu and Kashmir and Assam have been left out. Thus, the demand of the regions left out will, if taken into consideration, affect the resultant pattern of optimum flows unless these regions are self-sufficient in production. Again, Punjab forms one region with Delhi and Madhya Pradesh. Inclusion of Madhya Pradesh with Punjab breaks the contiguity of the regions, which should be a necessary consideration in flow studies.

The optimum flow pattern is determined by a linear programming model, which takes the demand and production of cement in different regions as given, and determines an optimum distribution pattern, minimising the transport cost. In another solution production costs are also taken into consideration along with the transport cost. Then, the optimum pattern is compared with the actual flows.

The significance of the 'friction of distance' emerges as the most important single conclusion from the study, and the tendency is towards more and more of 'localisation' of cement market, which is clear from the following statement: "It may be seen that the broad trend is a slight decline in mileage with fluctuation. This, in fact, indicates that with demand rising dispersal of the installations have been carried out so that in general the important consumers are paying less in transport and getting their supply from shorter distance." ⁴² Cement is a commodity which is capable of being produced in most of the regions of India, and this fact has helped in the dispersion of production and localisation of market with growing demand. The level of demand in each region becomes important because of the economies of scale. However, for some of the States like Punjab, the development activities have been so fast (or the demand of cement has risen so much) that the region has turned into a net importer while earlier it was a net exporter. Perhaps,

⁴² A. Ghosh, op.cit., p. 11.

it is comparatively more advantageous for Punjab to import cement even if it can be produced in the region.

Another important conclusion is that the flow pattern, even if not controlled by a central authority, is not far from being optimum (another manifestation of the 'friction of distance'). The savings in the cost of transportation (when the flow is optimum), as a percentage of actual cost work out to be 13 per cent for 1950, 18 per cent for 1954, 6 per cent for 1957 and 8 per cent for 1959.⁴³ Thus, the flow pattern is much near optimum in 1957 and 1959, when the distribution of cement has been controlled.⁴⁴ When both the costs are considered, i.e., those of production and transport, the actual flow pattern seems to be much nearer the optimum, as the savings as per cent of actuals, now, work out to be 6 per cent for 1950, 9 per cent for 1954 and 3 per cent for 1957.⁴⁵

4. The Present Study

The importance of the study of inter-regional commodity flows in India, which is a vast country with different natural, cultural and economic characteristics in different

43 A. Ghosh, op.cit., Table 4.5, p. 55.

44 The State Trading Corporation Ltd., an official organization, took over the control of both imports and distribution of cement from 1 July, 1956.

45 A. Ghosh, op.cit., Table 4.12, p. 63.

regions, yet unified in one spatial system through many strategic inter-connections cannot be over-emphasized. Specially since the planned effort in India has started with due emphasis on balanced regional growth and resource planning (transport planning being one important aspect of it), the need for a greater insight into the kaleidoscopic variety of connections between the regions has become much more.⁴⁶

⁴⁶ A study of commodity flows and spatial structure of Indian Economy has recently been done in University of Chicago.

This has reference to Essays on Commodity Flows and the Spatial Structure of the Indian Economy, ed. by Brian J.L. Berry, University of Chicago, Department of Geography, Research Paper No. III (1967). The original publication could not be made available for a detailed review. However, references to this study appear in "A System of Formal and Functional Regions Using General Field Theory of Spatial Behavior" by B.J.L. Berry, in Spatial Analysis, Eds., B.J.L. Berry and D. F. Marble (Pentice-Hall, Englewood Cliffs, New Jersey, 1968); and also in "Identifying Hierarchies and Regions in Flow Systems" by W. E. Reed, Indian Journal of Regional Science, Vol. 1 (No. 1, 1968).

It appears from these references that this study involves an analysis of the spatial structure of the Indian economy using data on a variety of characteristics for some 300 plus districts for 1960, and an analysis of the commodity flows between 36 trade-blocks using rail and river-borne data for 63 commodities for the year 1959-60. Major industrial urban growth poles are identified. The analysis "showed the national economy to be integrated by virtue of flows between the main metropolitan nodes," i.e., Calcutta, Bombay, Delhi and Madras, and "pointed up facets of regional specialization." (B.J.L. Berry, "A System of" op.cit., p. 426.) "Through these (metropolitan areas) pass the import-export trade associated with specialized regional agricultural and other goods which integrate their regions, and between them pass the flows of manufactured goods which unite India's regional economies into a national system." (W.E. Reed, "Identifying Hierarchies", op.cit., pp. 102-103.)

The present study is aimed, in the first place, at providing a picture of the inter-regional flows using the rail freight data for as many commodities as, such data are available. This is necessarily a spade-work and a precondition to further analysis of inter-regional connections. In order to have additional insight into the dynamic characteristics of inter-regional connections, such flows are presented for a period of 10 years. The period selected is the decade 1950-51 to 1959-60, roughly covering the first two Five Year Plans, the beginning of a planned interference with the economic functioning of the nation. In view of the variations in the form in which such data are published (which we will discuss in the next chapter), it was necessary to recompile the published data in terms of a defined set of regions, and present the commodity flows for a decade on one comparable pattern. Having done this, two main and general features have been probed into; i.e., the changes in the level of flows and changes in the structure of flows. Regression analysis has been used for studying the changes in the level of flows. For studying the changes in the structure of flows or the flow pattern, a measurement of structural change and its direction has been developed and applied. Broadly these are the two main approaches of studying the commodity flows in the following pages. Incidentally, other interesting features of the flows are also revealed.

It has been a feeling that the locational pattern in India is mainly the result of some historical non-economic factors, in the absence of which, perhaps, a different locational structure would have been obtained. A brief historical review of the emergence of the pre-plan locational structure has, therefore, been made. This leads us to think as to what would be an optimum pattern of location and commodity flows between the regions and how different our present locational and flow pattern is from that optimum. This has the implications of balanced regional growth, as well as that of utilization of the scarce resources in the most efficient way. An operational model is developed, using the linear programming technique and input-output relations of the Indian economy, to give an optimum pattern of location and flows, and then the actual flows are compared with the optimum, in respect of those commodities where such comparison was possible. Because of the inter-regional as well as inter-sectoral interdependence of economic structure, it was felt that the comparison of actual and optimum flows even in respect of a few sectors (or commodities) would throw sufficient light on the efficiency of the locational structure of the country.

5. Scheme of the Work and Conclusions

This work is divided in three parts. Part I (Chapters I, II and III) is introductory in nature. Part II (Chapters IV, V and VI) deals with the analysis of actual flows during

1950-51 and 1959-60. Part III (Chapters VII, VIII and IX) deals with the derivation of optimum flows.

Chapter II discusses the history, method of collection and the scope and coverage of the inter-regional flow of goods data analysed in this work. Further, the regional delimitation for the purposes of this study has been described.

Chapter III gives a description of the land resources, population and the pre-plan pattern of industrial location. Further, a historical review of the evolution of this location pattern has been made.

General conclusion of this review is that, though, the natural resources as well as population (or, in other words, the basic raw materials and the potential consumers' market) are widely dispersed all over the country, yet, certain historical factors - important among them being the British preference for foreign export of raw materials and import of manufactures, and consequently, the pattern of railway development and freight-rate policy, lead to the growth and concentration of industries mostly in and around the important port towns. Though, later the industrialization started spreading slowly to other areas also, yet, the forces of economy in early-starting areas have been strong enough to attract a major bulk of industrial and commercial activities, and hence, as the position stood at the beginning of the decade under study, Western Region, Eastern Region and Southern

Region#, were far ahead of other regions in industrial development.

In Chapter IV, the level of gross inter-regional flows (commoditywise) has been analysed and its trends have been studied in comparison with the trends in total goods traffic and industrial production during the decade under study. Further, the ratio between gross flows and net flows has been studied.

Findings are that the total goods traffic has, more or less, co-behaved with industrial production during the decade. A marked tendency to rise in total goods traffic begins after 1953-54 and continues till 1957-58, whereafter the pace of rise slows down. This tendency prevails even in case of different components of total rail traffic. As far as the inter-regional flows of the 50 commodities under study are concerned, only some 10 out of them have shown a rising trend over the period. The share of these 10 commodities in the total inter-regional flows of all the 50 commodities, however, is quite large. Higher inter-regional flows of foodgrains, specially wheat, take place during the years of relatively more of food shortage (and consequent increase in foreign imports).

Chapter V presents a description of the pattern of flows for all the commodities by important exporting and importing regions and also discusses the pattern of aggregate flows as they manifest the inter-regional linkages; and examines the role of distance in regional inter-relations.

The study of the pattern of regions' exports and imports reveals that there is quite a degree of specialization in export of commodities. Generally a few number of regions cover a major bulk of net exports of commodities, while larger number of regions are their net importers. Further, it is found, as expected, that the industrially developed regions, i.e., Western Region, Bombay, Calcutta, Southern Region and Madras are mainly the importers of raw materials and foodgrains (except in case of wheat, which, on account of foreign imports, moves from port towns to interior) and are the exporters of manufactured and processed goods to other regions, generally speaking.

Four groups of regions emerge as having stronger connections with each other within the group than with a region in another group. Trade of each region is highly concentrated with three or four other regions only, mainly within the group.

The exports of the regions are more diversified than imports, and the tendency is towards the diversification of both--imports and exports over the years. This may suggest a casual relationship between general level of development of all the regions and diversified inter-regional linkages.

In general, there is quite a degree of correlation between distance and the strength of trade connections, and this is true for imports and exports both.

In most of the cases, pattern of exports and imports of

a region has remained similar for 1950-51 and 1959-60. As between the pattern of imports and exports of a region for the same year, there is a similarity of a smaller degree.

In Chapter VI a method of measuring the structural changes in the commodity flow pattern and the direction of such changes has been developed and used to study the changes in the flow pattern - commoditywise, over the decade.

In case of most of the commodities, it is found that there are wider fluctuations in the pattern of flows from year to year. Except in cases of about a dozen of commodities, there is very little or no uni-directional change in the pattern of flows. Of the dozen commodities which have shown a perceptible regular (uni-directional) change in the pattern of flows, wherever Western Region is one of the important exporters, it seems to have achieved a more favourable situation as far as its share in total exports are concerned.

In Chapter VII, a review of some earlier models has been done and an operational model has been developed to determine the optimum pattern of location of industries and inter-regional commodity flows.

In Chapter VIII, 'transport input coefficients' and 'transport coefficients' have been worked out for 1959-60 and other data needed for empirical application of the model have been discussed. The empirical application of the model has been attempted with 27 sectors division of the economy and 5 regions division of India.

Chapter IX presents the results of the optimum solution. A comparison of the actual and optimum flows has been made in respect of a few such sectors (i.e., five sectors), where such a comparison was possible.

From the results of the optimum solution, we find that 'iron ore', 'cement', 'jute and coir manufactures' and 'other industries' do not enter the inter-regional trade at all.

One general conclusion which follows from the results of optimum solution and the comparison with actuals is that it is the dispersion and self-sufficiency in respect of manufacturing industries that is suggested in a larger measure, and hence, in the optimum scheme, the level of trade increases and also the pattern of trade changes in cases of basic inputs and raw materials like 'coal', 'raw cotton', 'raw jute' and 'iron and steel'.

Appendix I contains the list of the commodities whose actual flows have been studied. Appendix II contains the inter-regional flow tables of all the commodities by main exporting regions.

CHAPTER II

THE COMMODITY FLOW DATA AND THE DELINEATION OF REGIONS

1. Nature and Scope of Commodity Flow Data

The important means of goods transport in India are railways, roads, coastal shipping and river. The role of air transport is insignificant. River transport is limited only to a few States in eastern India and its importance has been declining steadily.

No systematic data are collected on inter-regional road traffic. However, according to some available estimates (which are discussed in the following pages), inter-regional road traffic formed quite a small proportion of the total inter-regional traffic during the decade under study. Coasting trade data are available in the publication 'Coasting Trade of India' published by the Department of Commercial Intelligence and Statistics. But the limitation of this publication is that it gives only the total exports and imports (for each of a number of commodities) of each maritime block, and hence, it is difficult to have an inter-regional flow picture. Moreover, total of exports of all the regions do not tally with total of imports of all the regions for the same year and commodity, due to, perhaps, the time lag in recording the same consignment at the origin and destination points. However, inter-regional flows by

coastal shipping form an insignificant proportion of inter-regional traffic by railways, particularly when the regions are so defined (as we shall see below, we have only three coastal regions: West, South and East, i.e., West Bengal) that most of the flows become intra-regional flows. A greater part of the coastal shipping takes place between ports within each of these regions.

The only data on commodity flows which are available in useful form from the point of view of this type of a study are the rail and river borne data.

Statistics relating to the trade carried by rail and river in India are being collected and published since 1884-85. Initially these statistics were compiled by the Office of the Director-General of Commercial Intelligence and Statistics, Department of Commerce and Industry, Government of India, and then from 1914-15 onwards by the Department of Statistics, Government of India. This series continued till 1922, whereafter it was discontinued 'for reasons of economy'. Later again from the year 1933, Department of Commercial Intelligence and Statistics, Government of India, started publishing "Accounts relating to the Inland (Rail and River-borne) Trade of India". Though, the new series retained in essentials the form of the older publication, the coverage was restricted only to the selected commodities which were estimated to cover 'a major portion of the total traffic carried by rail and river from province to province', and the present series

was made a monthly publication. This publication continues till date. The coverage of commodities has been more or less the same (except for minor changes such as adding or dropping or grouping together of one or two commodities). But the regions between which the trade is recorded, i.e., 'trade blocks', have been changing both in number and in boundary from time to time following the political adjustments and the reorganization of provinces and States. Further changes made in the new series were that the recording of the trade between internal blocks (or sub-blocks) of a trade block was dropped, and also the recording of the inter-provincial trade in country boats was given up on account of the insignificance of such trade and the administrative difficulties involved in recording them.

The basic documents for the statistics in this publication are the invoices relating to consignments of the selected commodities received at each railway station and steamer station from trade blocks other than the one in which it is situated. Consignments received at a station from stations within the same trade block, and consignments received at the stations enroute to another station, whether within or without the same trade block are not taken into account. Each Railway and Steamer Company consolidates the figures in respect of the stations with which it is concerned, and submits monthly returns to the Department of Commercial Intelligence and Statistics.

Figures in these 'accounts' relate only to quantities (and numbers in case of animals). The weight of goods recorded represents net weight. A certain percentage, which varies according to the class of goods, is taken to represent the weight of packing materials and is deducted from the gross actual weight recorded in the invoices.

For the decade 1950-51 to 1959-60, such flow data are available for 63 commodities. Besides these 63 commodities, statistics relating to inland trade of Raw Cotton are also published by the same department in a separate publication "Raw Cotton Trade Statistics". The nature and the method of collection of raw cotton trade data is the same as that of other commodities. The annual trade data for the commodities relate to the financial year, i.e., April to March except in the case of raw cotton where they relate to agricultural year, i.e., September to August.

For purposes of this study, some of the commodities, where they belonged to one main group and where some of the individual flows were too small to be put to a meaningful analysis, were grouped together and thus we obtained a list of 50 commodities whose inter-regional flows will be analysed in the following pages. Appendix I gives the list of the commodities and their groupings.

As far the coverage of these data is concerned, two questions arise: (1) What is the proportion which the rail and river borne traffic bear to the total inter-regional flow of commodities? and (2) What portion of the total

inter-regional flow of all commodities is covered by the commodities for which the flow data are available? The absence of inter-regional flow data by other modes of transport, particularly road, precludes the possibility of any precise estimate of the proportion which the rail and river traffic bear to the total inter-regional flow traffic. The Committee on Transport Policy and Co-ordination has, however, arrived at the estimate of distribution of total traffic between road transport and railways.¹ The estimates about road traffic are based on total number of trucks, average load carried, average annual mileage and the percentage of vehicles utilized to total on the road. According to their estimates, "the proportion of total ton-miles on road transport to the total ton-miles on road and rail has increased from about 11% in 1948-49 to about 16 to 17 per cent in 1960-61". Further, it is revealed that the share of goods transport in high priced goods is higher than in low priced goods and bulky commodities like coal, cement, foodgrains etc. Again, the importance of rail traffic increases with increasing distance of shipments.

According to the calculations of Perspective Planning Division, Planning Commission, it was estimated that of the total long distance traffic originating in the country, 92

1 Preliminary Report of the Committee on Transport Policy and Coordination, Government of India, Planning Commission, 1961, pp. 55-61 and Appendices 8 and 10.1.

per cent was handled by railways in 1960-61, the remaining 8 per cent going to other means of transport. ²

As about the share of the selected commodities in the total inter-regional flow traffic by railways, again, no precise estimate is possible. But some idea of the coverage may be had on the basis of the share of some of the selected commodities in the total railway traffic in terms of ton-miles.

For the year 1950-51, coal, grains and oilseeds alone account for 51.64 per cent of total railway traffic. No separate figures are available for other commodities. For the year 1959-60 these three main commodities (i.e., coal, grain and oilseeds) account for 59.01 per cent of total traffic. It may be noted that the share of low-freight goods, i.e., coal and grains is increasing in the railway traffic. Fourteen of the selected commodity groups accounted for 76.06 per cent of total rail-traffic in 1959-60, while some of the selected commodities are still included in 'other traffic'. The figures are presented in Table 2.1.

Hence, the study based on the rail and river-borne data alone, particularly in respect of the selected commodities is likely to reveal significant and representative features of inter-regional connections.

² "Transport Planning : Advance Action for the Fourth Plan", Planning Commission, Government of India, August 1962.

Table 2.1 : Selected Commodities Carried by Class I Railways in 1950-51 and Government Railways in 1959-60

Commodities	1950-51 (Class I Railways)		1959-60 (Government Railways)	
	Net ton-miles (in thousands)	Percen- tage of total traffic	Net ton-miles (in thousands)	Percen- tage of total traffic
1. Coal	10,811,035	40.50	23,113,239	46.09
2. Grains	2,419,506	9.06	5,842,249	11.65
3. Oilseeds	556,543	2.08	636,286	1.27
Total of three commodities	13,787,084	51.64	29,591,774	59.01
4. Cotton - Raw	-	-	255,366	0.51
5. Cotton Manufactures	-	-	275,027	0.55
6. Salt	-	-	1,005,539	2.01
7. Manganese Ore	-	-	396,300	0.79
8. Kerosene Oil	-	-	608,544	1.21
9. Sugar	-	-	600,833	1.20
10. Cement	-	-	1,385,822	2.76
11. Iron and Steel - Wrought	-	-	2,757,790	5.50
12. Wood - Unwrought	-	-	876,288	1.75
13. Jute - Raw	-	-	171,730	0.34
14. Vegetable Oils	-	-	217,767	0.43
Total of 14 commodities	-	-	38,142,780	76.06
All other commodities	12,910,050	48.36	12,006,538	23.94
Total Goods Traffic	26,697,134	100.00	50,149,318	100.00
Percentage of total Goods Traffic of Class I and Government Railways to Total goods traffic of All Indian Railways		98.85		99.12

Source : Compiled from the Report by the Railway Board on Indian Railways, Vol. II, Statistics for 1950-51 and 1959-60.

Note : Commodities for which inter-regional flow data are available and which form part of other traffic in the above table for 1959-60 are: All animals; Bones; Coffee; Tea; Tobacco; Myrobalans; Fruits dried; Glass; Wheat flour; Indian hemp and Other fibres; Hides and Skins raw; Hides and Skins Tanned and leather; Gunnybags and cloth; Lac and Shellac; Oilcakes; Ghee; Rubber raw; Khand, gur and Shakkar; Molasses; and Wool raw.

2. Delineation of Regions

Vining observes, "the spatial structure of human economy should be regarded conceptually as virtually a continuum." However, he adds, "as in other studies of phenomena having volume or spatial units, empirical observations must be made upon the contents of finite and arbitrary spatial units" ³ The division of space into a number of finite spatial units poses problems which have occupied the minds of regional scientists whose main interest lies in the study of spatial system rather than the topographical or natural characteristics of space. ⁴ For the study of

3 Rutledge Vining, "Delimitation of Economic Areas : Statistical Concepts in the Study of the Structure of an Economic System," Journal of the American Statistical Association, Vol. 48 (March 1953), pp. 44-64.

4 A few references to the concept of regions and the approaches of regional delineation may be made here. Bureau of Census (U.S.A.) in 1951 adopted Bogue's scheme for State Economic Areas, which was a functional grouping of countries based upon a consideration of a large array of social and economic indices. Subsequently, Bogue gave a scheme of 'Economic Regions' and 'Economic Provinces' of United States. (See, Donald J. Bogue, "An Outline of the Complete System of Economic Areas," American Journal of Sociology, Vol. 60, 1954, pp. 136-139.) Vining, however, expressed his dissatisfaction with Bogue's approach (R. Vining, op. cit.), and proposed that "Christaller's notion of a system of central places may be modified into the idea of a spatial density configuration of economic units." Vining's approach suggests the identification of a 'central place' and its hinterland on the basis of 'density function' of the economic flows. The 'central place' could be regarded as the point of dispersion and the point of absorption of economic flows.

One among other methods of delineating the regions is factor analysis (for discussion see, W. Isard, Methods of Regional Analysis : An Introduction to Regional Science, 1960, Appendix B, Chapter 7, pp.293-305). These approaches,

commodity flows to be more meaningful, it may well be appreciated that some sort of a 'functional' division of space based on relevant economic and social indices would be more desirable. But usually the administrative boundaries do not coincide perfectly with such divisions, and the data, in order to serve more generally a variety of purposes, are invariably collected in terms of administrative boundaries. The delimitation of regions for the purposes of this study was, accordingly, guided by the form in which the flow data were available.

Even the administrative boundaries of the States in India have been changing from time to time. During the decade 1950-60, there were two major reorganizations--one in

(Footnote 4 from last page continued)

however, require abundance of data in economic indices, particularly inflows and outflows by as small units of space as possible.

Some of the other important references on the concept of regions and space are :

W. Isard: "Regional Science, The Concept of Region, and Regional Structure," Papers, Regional Science Association, Vol. 2, 1956, pp. 13-26.

M. B. Teitz: "Regional Theory and Regional Models," Papers, Regional Science Association, Vol. 9, 1962, pp. 35-50.

W. Isard and T. A. Reiner; "Regional Science : Retrospect and Prospect," Papers, Regional Science Association, Vol. 16, 1966, pp. 1-16.

J. R. Boudeville: Problems of Regional Economic Planning, Edinburgh University Press, Edinburgh, 1966, Chapters 1 and 2.

After all is thought and said about the concept of regions, one reaches the conclusion that "little appears to be gained from the quest for an ideal set of regions; rather each task or problem has associated with it a given set of regions in a system of regions." (Isard, "Regional Science, Retrospect ", op.cit., p. 4.)

1953, i.e., creation of Andhra Pradesh and second in 1956, i.e., reorganization of most of the States on linguistic basis. Besides these, there have been minor border adjustments between the States from time to time. However, as far as the publication referred to earlier, which publishes the commodity flow data, is concerned, it has been lagging behind by several years in giving effect to the changing shape of the States in its compilation of the trade data, though, it aims at presenting the data in terms of 'trade blocks' constituted on the basis of State boundaries and port towns. And hence, the States reorganization of 1956 was not introduced in the publication till 1959-60. This has been of advantage for our purposes in the sense that it was possible to recompile the data in terms of a set of regions for the whole of the decade 1950-51 to 1959-60. For the first half of the decade, there were 20 trade blocks, while for the latter half, the number was 36. But it was possible to aggregate some of the trade blocks and have a common set of regions for the whole of the decade.

Thus, we have a set of 15 regions, 11 of which are big regions and 4 of them are metropolitan areas, i.e., Delhi, Bombay, Calcutta and Madras. These metropolitan areas were treated as separate regions because of the industrial importance and due to three of them being the port towns which handle a major portion of India's foreign exports and imports. This set of 15 regions can further be aggregated into a set of five bigger regions.

The scheme of the delimitation of regions with the names of the trade blocks constituting them in the two parts of the decade is presented in Table 2.2.

Table 2.3 shows the broad territorial composition of the regions as per 1951 and 1961 censuses of India.

The attached map shows the 15 regions and their further grouping in 5 regions.

Table 2.2 : Scheme of Delimitation of Regions

Five Regions	Fifteen Regions	'Trade blocks' constituting the regions for the years 1950-51 to 1954-55	'Trade blocks' constituting the regions for the years 1955-56 to 1959-60
1. EAST	1. Assam	Assam	1. Assam 2. Manipur 3. Tripura
	2. West Bengal	West Bengal (excluding Calcutta)	West Bengal (excluding Calcutta)
	3. Calcutta	Calcutta	Calcutta
	4. Bihar	Bihar	Bihar
	5. Orissa	Orissa	Orissa
2. NORTH	6. Uttar Pradesh	Uttar Pradesh	Uttar Pradesh
	7. Northern Region	1. Punjab 2. Jammu and Kashmir	1. Punjab 2. Himachal Pradesh 3. Patiala and East Punjab States Union (PEPSU) 4. Jammu and Kashmir
	8. Delhi	Delhi	Delhi
	9. Rajasthan	Rajasthan	1. Rajasthan 2. Ajmer

(continued)

Table 2.2 : (continued)

Five Regions	Fifteen Regions	'Trade blocks' constituting the regions for the years 1950-51 to 1954-55	'Trade Blocks' constituting the regions for the years 1955-56 to 1959-60
3. CENTRE	10. Central Region	1. Madhya Pradesh 2. Madhya Bharat, Vindhya Pradesh and Bhopal	1. Madhya Pradesh 2. Madhya Bharat 3. Vindhya Pradesh 4. Bhopal
	11. Hyderabad	Hyderabad (State)	Hyderabad (State)
4. WEST	12. Western Region	1. Bombay State (excluding Port of Bombay) 2. Goa	1. Bombay State (excluding Port of Bombay) 2. Goa 3. Saurashtra 4. Kutch 5. Saurashtra Ports
	13. Bombay	Bombay Port	Bombay Port
5. SOUTH	14. Southern Region	1. Madras State (excluding Port) 2. Other Madras Ports 3. Mysore	1. Andhra Pradesh 2. Madras State (excluding Madras Port) 3. Mysore 4. Travancore and Cochin 5. Coorg 6. Andhra Ports 7. Cochin Port 8. Other Madras Ports 9. Pondicherry and Karaikal
	15. Madras	Madras Port	Madras Port

Table 2.3 : Territorial Composition of Regions as per 1951 and 1961 Censuses *

Regions	Territories according to 1951 census of India	Territories according to 1961 census of India
1. Assam	1. Assam 2. Manipur 3. Tripura	1. Assam 2. Manipur 3. Tripura 4. NEFA 5. Nagaland
2. West Bengal	1. West Bengal (excluding Calcutta) 2. Chandernagore	West Bengal (excluding Calcutta and Purulia district)
3. Calcutta	Greater Calcutta	Greater Calcutta
4. Bihar	Bihar	1. Bihar 2. Purulia district of West Bengal
5. Orissa	Orissa	Orissa
6. Uttar Pradesh	Uttar Pradesh	Uttar Pradesh
7. Northern Region	1. Punjab 2. Himachal Pradesh 3. Bilaspur 4. PEPFU 5. Jammu and Kashmir	1. Punjab 2. Himachal Pradesh 3. Jammu and Kashmir
8. Delhi	Delhi (State)	Delhi (Pradesh)
9. Rajasthan	1. Rajasthan 2. Ajmer	Rajasthan
10. Central Region	1. Madhya Pradesh 2. Madhya Bharat 3. Bhopal State 4. Vindhya Pradesh	1. Madhya Pradesh 2. Nagpur Division of Maharashtra (8 districts : Amravati, Akole, Bhandara, Buldana, Chanda, Nagpur, Wardha and Yectmal)

(continued)

Table 2.3 : (continued)

Regions	Territories according to 1951 census of India	Territories according to 1961 census of India
11. Hyderabad	Hyderabad State	1. Aurangabad Division of Maharashtra (5 districts : Aurangabad, Bhir, Nanded, Osmanabad, Parbhani) 2. Three districts of Mysore (Gulbarga, Raichur, Bidar) 3. Nine districts of Andhra Pradesh (Hyderabad, Khamam, Mahbubnagar, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Nalgunda)
12. Western Region	1. Bombay State (excluding Greater Bombay) 2. Kutch 3. Goa, Daman and Diu, Dadra and Nagar-Haveli	1. Gujrat 2. Maharashtra <u>excluding</u> : (a) Greater Bombay (b) Nagpur Division (8 districts) (c) Aurangabad Division (5 districts) 3. 4 Districts of Mysore (Belgaum, Bijapur, Dharwar and North Kanara) 4. Goa, Daman, Diu and Dadra and Nagar Haveli
13. Bombay	Greater Bombay (Port)	Greater Bombay (Port)
14. Southern Region	1. Madras (excluding Madras City) 2. Mysore 3. Travancore Cochin 4. Coorg 5. Pondicherry	1. Andhra Pradesh <u>excluding</u> 9 districts (Hyderabad, Mahbubnagar, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Nalgunda and Khamam districts except Bhadrachalam and Nugur Taluks)

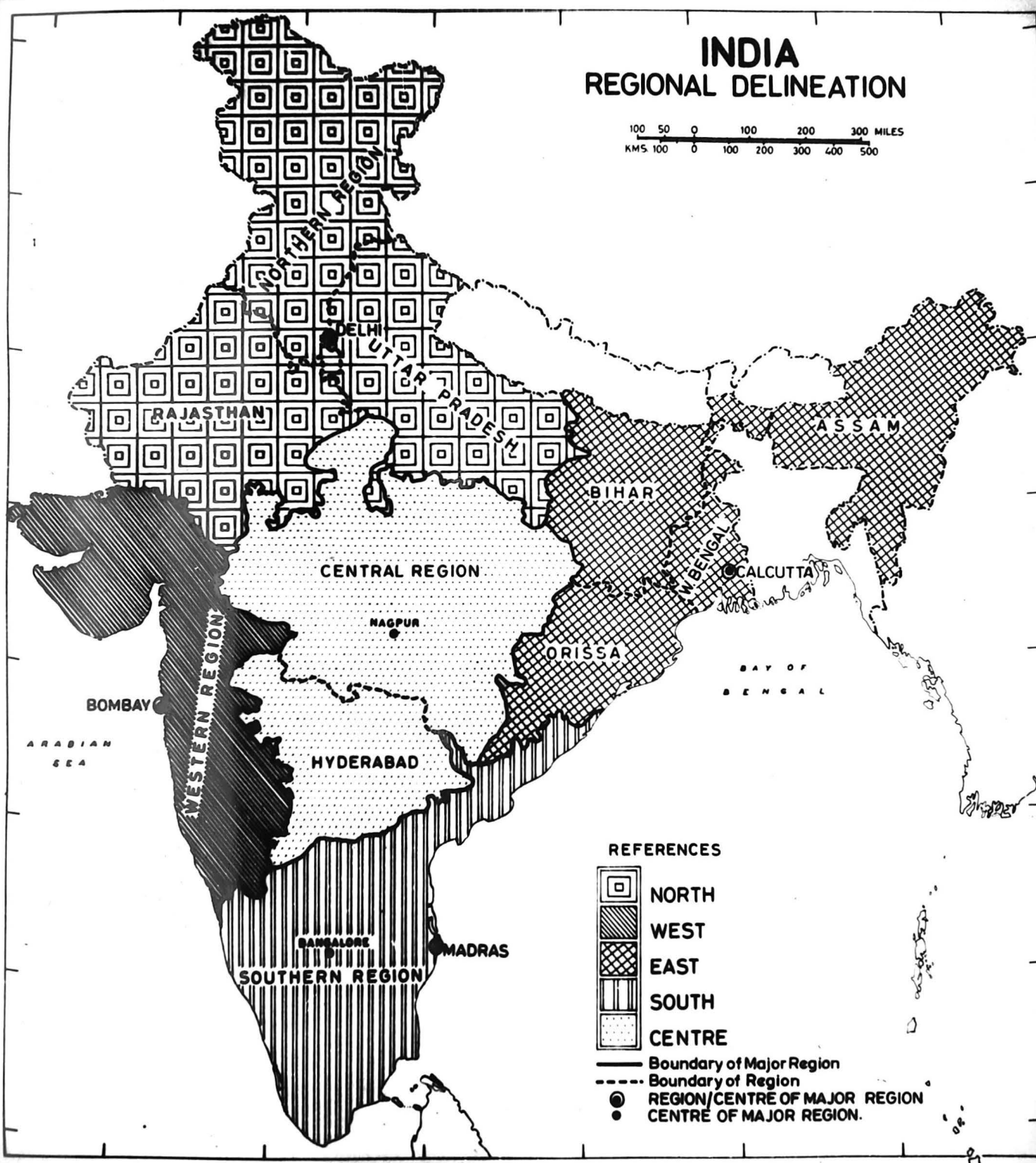
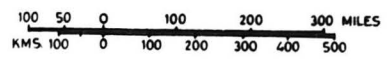
(continued)

Table 2.3 : (continued)










Regions	Territories according to 1951 census of India	Territories according to 1961 census of India
14. Southern Region (contd.)		2. <u>Mysore excluding 7 districts</u> (Gulbarga, Raichur, Bidar, Belgaum, Bijapur, Dharwar and North Kanara) 3. Madras (excluding Madras City) 4. Kerala 5. Pondicherry
15. Madras	Madras City	Madras City

* Adjustments, here, are shown only at district level.

INDIA REGIONAL DELINEATION



REFERENCES

-  NORTH
-  WEST
-  EAST
-  SOUTH
-  CENTRE
-  Boundary of Major Region
-  Boundary of Region
-  REGION/CENTRE OF MAJOR REGION
-  CENTRE OF MAJOR REGION.

CHAPTER III

LOCATIONAL STRUCTURE OF THE REGIONS

Since there is an inter-dependence between the commodity flows and the locational structure of the regions between which such flows take place, it is relevant, here, to have a background understanding of the locational features of the regions. Broadly, locational features can be studied under two headings: (a) the land resource, and (b) the location of manufacturing industries. Other economic activities are generally satellitic to these only.

1. Area and Population

Size of a region is one of the important factors in determining the quantum of its inflows and outflows. Table 3.1 gives the relative position in respect of area and population, of each region.¹ The regions differ widely in area as well as in population. What is interesting here is the urban and rural composition of the population of each region. The areas with higher proportion of urban population are, generally speaking, the areas with higher share in

¹ Population figures as well as some other data that follow in this chapter have been presented for two points of time, i.e., the beginning and the end of the decade under study. However, all the tables do not exactly correspond to the same year, since they are based on different sources.

Table 3.1 : Area and Population of India and Its Percentage Distribution Among Regions

Regions	Area 1951 Census	Population		Urban Population		Percentage of Urban Popula- tion to Total of Regions	
		1951	1961	1951	1961	1951	1961
		(Percentage of All India)					
All India (Population in thousands and Area in Square Miles)	1,226,370	360,467	438,985	62,427	78,916	17.32	17.98
1. Assam	7.964	2.85	3.30	0.737	1.398	4.48	7.61
2. West Bengal (excluding Calcutta)	2.485	5.63	6.20	2.603	2.685	8.01	7.78
3. Calcutta	0.024	1.27	1.44	7.334	8.021	100.00	100.00
4. Bihar	5.735	11.16	10.89	4.333	5.077	6.72	8.38
5. Orissa	4.904	4.06	4.00	0.952	1.406	4.06	6.32
6. Uttar Pradesh	9.248	17.54	16.80	13.817	12.013	13.64	12.85
7. Northern Region	9.135	5.59	5.74	5.731	6.014	17.76	18.82
8. Rajasthan	10.814	4.43	4.59	4.721	4.158	15.44	16.28
9. Delhi	0.047	0.48	0.61	2.217	2.990	79.37	88.75
10. Central Region	16.898	9.32	9.48	7.626	8.485	14.16	16.09
11. Hyderabad State	6.700	5.18	5.02	5.568	4.696	18.63	16.81
12. Western Region	12.317	10.65	10.81	15.886	13.788	25.84	22.92
13. Bombay	0.014	0.79	0.95	4.548	5.261	100.00	100.00
14. Southern Region	13.711	20.66	19.77	21.659	21.817	18.15	19.84
15. Madras	0.004	0.39	0.40	2.268	2.191	100.00	100.00
1. West Bengal including Calcutta	2.509	6.90	7.64	9.937	10.706	24.95	25.17
2. Bombay State including Bombay City	12.331	11.44	11.76	20.434	19.049	30.95	29.12
3. Southern Region including Madras City	13.715	21.05	20.17	23.927	24.008	19.68	21.41

Source : Compiled from Census of India 1951 and 1961.

- NOTES :**
- (1) This Table excludes the area and population of Andaman, Nicobar, Laccadive and Minicoi Islands and Sikkim.
 - (2) The area and population for 1961 have been adjusted for the regions as per Table 2.3 in Chapter II.
 - (3) Urban and Rural composition of population is not strictly comparable between 1951 and 1961, as the definitions of urban areas are not exactly the same in two census periods.

manufacturing industries and also the areas of higher level of development. ²

2. The Land Resources

'Land resource', difficult to define though, is broadly understood as consisting of the agricultural, forest, mineral and water resources, which mainly depend on the natural endowments of the regions. But if these resources are to be quantified, they are to be represented in terms of production, which is not only a function of natural endowments, but also of technology and the general level of economic development. However, the production data may be considered to be a fair indicator giving a general idea of the differences which exist between the regions in respect of these resources.

2 The Registrar General and Census Commissioner of India has, on the basis of a number of economic indicators, like agricultural infrastructure, participation rates in traditional sector, potential of human resources, distributive trade, manufacturing and infra-structure and organized industry in the modern sector, arrived at a ranking of all the districts of India into four levels of development for 1961 (Census of India 1961, Vol. I, Part I-A(1) Text, Levels of Regional Development in India. See specially pp. 9 to 14 for an explanation of the ranking device.) Areas of top level of development are mostly concentrated in these regions : Southern Region, Western Region and Vidarbha area of Central Region, Punjab, and areas around Delhi (including Western strip of U.P.), Southern part of West Bengal (mainly around Calcutta). There are some small pockets of top level in Assam, Bihar and Rajasthan. Areas of second level of development are more or less contiguous with the areas of top level. Major part of other regions like U.P., H.P. and Jammu and Kashmir, Rajasthan, Central Region, Hyderabad State, Assam and Bihar and almost whole of Orissa are ranked in the third and fourth (lowest) levels of development. This picture, generally speaking, correlates with the degree of urbanisation in different regions quite well.

Table 3.2 presents the distribution of the important agricultural crops and forest products. Agriculture is a widely spread activity throughout India. However, the most fertile and main agricultural tracts are the Gangetic plains (U.P., North Bihar and Bengal), Assam Valley and Punjab and Eastern and Western coastal strips. Forest resources are also widely spread, mainly covering the foot-hills of Himalayas from east to west, and the Deccan Plateau. Central region is the single biggest forest region.

Minerals, too, are not concentrated in any one part of India. Three distinct and important 'mineral regions' can be distinguished : (1) Eastern mineral region, (2) Southern mineral region, and (3) North-Western mineral region.

The eastern mineral region includes south of Bihar, western part of West Bengal, northern part of Orissa, eastern half of Central Region and northern strip of Hyderabad, forming the biggest contiguous block of mineral area. The most important mineral of this region is coal. Next in importance are manganese and iron ore. Besides these, limestone is found in Central Region, southern part of U. P., Bihar and Orissa; China clay is found in Bihar and Bengal; mica in Bihar; chromite on Orissa-Bengal border; dolomite in Central Region; bauxite in Bihar and Central Region; and copper ore is found in Bihar.

The southern mineral region consists of southern Region (i.e., Mysore, Madras, Parts of Kerala and south of Andhra Pradesh), and southern part of Hyderabad and Bombay States

Table 3.2A : Percentage Distribution of Agricultural Production Between Regions - 1950-51

	Foodgrains				Oilseeds			Other Commercial Crops		Fibres		Plantations			Forest Products		
	1 Rice	2 Wheat	3 Jowar	4 Barley, Bajra and Maize	5 Gram	6 Ground- nut	7 Linsed and Rape and Mustard	8 Castor and Sesame	9 Tobacco	10 Sugar- cane	11 Cotton	12 Jute	13 Coffee	14 Tea	15 Rubber	16 Timber and fire- wood	17 Gums and Resins Lac and Dyestuff and Tanning Material (Lakh Rupees)
	Tons	Tons	Tons	Tons	Tons	Tons (nuts in shell)	Tons	Tons	Tons	Tons of Raw Sugar	Bales of 392 lbs. each	Bale of 400 lbs. each	Lbs. of cured coffee	Lbs.	Lbs.	('000 cu.ft.)	
All India Production (All figures in thousand)	20,293	6,374	5,403	6,591	3,593	3,437	1,109	557	263	5,616	2,971	3,301	54,323	607,309	31,829	501,810	139.16
1. Assam	8.39	0.03	-	0.20	-	-	5.15	0.18	2.28	1.32	0.71	25.93	-	54.34	-	2.91	1.45
2. West Bengal (including Calcutta)	19.27	0.64	0.05	0.76	3.06	-	4.69	0.54	4.18	1.53	-	45.32	-	29.22	-	6.55	1.75
3. Bihar	12.59	3.84	-	6.81	4.34	-	4.78	1.26	3.80	5.50	0.10	19.93	-	0.39	-	2.28	0.07
4. Orissa	9.89	0.06	0.04	0.20	0.14	0.58	1.08	7.36	3.80	1.94	0.07	7.33	-	-	-	5.12	0.51
5. Uttar Pradesh	9.69	42.02	11.77	45.33	39.83	2.94	52.44	15.26	4.94	51.69	1.51	1.49	-	0.29	-	9.72	16.86
6. Central Region	8.03	17.96	22.92	4.28	16.98	5.00	15.61	19.21	1.14	1.83	24.67	-	-	-	-	35.68	59.98
7. Northern Region	1.71	23.09	1.55	14.80	22.93	0.79	7.04	1.08	1.52	7.81	12.52	-	-	0.32	-	9.09	11.62
8. Rajasthan	0.28	4.97	3.09	9.63	5.51	0.41	4.33	9.51	0.76	0.28	4.21	-	-	-	-	0.09	-
9. Delhi	-	0.22	0.08	0.15	0.06	-	-	-	-	0.04	-	-	-	-	-	-	-
10. Western Region (including Bombay)	5.07	6.42	26.17	9.67	3.09	26.59	1.26	11.85	26.24	10.54	34.43	-	-	-	-	16.83	2.88
11. Hyderabad	1.63	0.71	15.49	1.44	3.34	10.88	3.52	15.26	1.52	3.40	8.75	-	-	-	-	-	1.07
12. Southern Region (including Madras Port)	23.45	0.04	18.84	6.73	14.12	52.81	0.10	18.49	49.82	14.12	13.03	-	100.00	15.44	100.00	11.73	3.81

Table 3.2B : Percentage Distribution of Agricultural Production Between Regions - 1959-60

	Foodgrains					Oilseeds			Other Commercial Crops		Fibres		Plantations			Forest Products	
	1 Rice (^{'000} tons)	2 Wheat (^{'000} tons)	3 Jowar (^{'000} tons)	4 Barley, Bajra and Maize (^{'000} tons)	5 Gram (^{'000} tons)	6 Ground- nut (^{'000} tons)	7 Lin- seed and Rape and Mustard (^{'000} tons)	8 Castor and Sesame (^{'000} tons)	9 Tobacco (^{'000} tons)	10 Sugar- cane (^{'000} tons)	11 Cotton (Bales ^{'000})	12 Jute (Bales ^{'000})	13 Coffee (Cured coffee Million Kgs.)	14 Tea (Million Kgs.)	15 Rubber (Million Kgs.)	16 Timber and Fire- wood (^{'000} cubic metres)	17 Gums, Resins, Lac and Dyestuff and Tanning Material (Rs. ^{'000})
All India Production	29,802	9,890	7,992	9,860	5,476	4,390	1,486	508	286	76,243	3,835	4,548	45.5	317.2	23.8	15,463	16,801
1. Assam	6.68	0.01	-	0.06	0.02	-	2.77	0.99	2.47	1.39	0.42	25.75	-	57.16	-	2.98	Nil
2. West Bengal (including Calcutta)	14.22	0.31	0.01	0.75	1.90	-	2.50	0.39	3.89	1.70	-	47.71	-	22.29	-	5.40	-
3. Bihar	13.25	3.30	0.01	7.02	4.18	-	3.38	3.16	5.24	8.70	0.03	20.45	-	0.03	-	5.50	0.10
4. Orissa	7.28	0.04	0.05	0.10	0.09	0.34	1.08	4.54	1.06	0.98	0.05	4.13	-	-	-	5.07	1.43
5. Uttar Pradesh	8.08	33.28	7.53	31.47	28.05	3.99	57.06	16.17	4.59	42.68	1.75	1.96	-	0.25	-	12.12	33.86
6. Central Region	10.62	21.70	24.56	5.40	17.16	5.19	15.44	14.58	1.20	1.42	22.27	-	-	-	-	31.87	10.35
7. Northern Region	2.23	23.24	0.71	15.33	29.55	1.34	7.70	1.18	0.35	11.46	20.86	-	-	0.35	-	9.65	48.31
8. Rajasthan	0.39	10.34	4.00	21.87	14.34	1.23	5.54	12.62	1.41	0.79	3.86	-	-	-	-	1.85	2.82
9. Delhi	Nil	0.26	0.05	0.11	0.09	-	-	-	-	0.11	-	-	-	-	-	-	-
10. Western Region (including Bombay)	5.40	6.83	28.03	8.79	3.28	32.53	1.58	10.86	27.50	11.84	31.11	-	-	-	-	15.05	1.60
11. Hyderabad	1.70	0.68	15.79	2.25	0.64	9.48	2.95	15.97	1.50	3.50	7.90	-	-	-	-	-	-
12. Southern Region (including Madras Port)	30.15	0.01	19.26	6.85	0.70	45.90	-	19.54	50.79	15.43	11.75	-	100.00	19.92	100.00	10.51	1.53

Source : Statistical Abstracts of the Indian Union, C.S.O., Government of India, New Delhi.

(i.e., Western Region). Most important minerals of this region are iron ore and manganese (both concentrated in Mysore and bordering part of Bombay State mostly). Besides these, mica (in north of eastern coast), China clay (in south-western part), limestones (in northern and southern parts of this mineral region) and bauxite (in southern parts of Bombay State) are some other important minerals of this region.

North-Western mineral region comprises of northern part of Bombay State (Gujarat) and south-eastern half of Rajasthan. Limestone is widely spread in this region. Mica is found in Rajasthan, manganese in the area bordering Punjab, and China clay in Rajasthan in the area bordering U.P. Rajasthan also produces salt and a variety of precious and useful stones.

Besides these regions, some minerals are found in other parts also, like, for example, coal, limestone and oil in Assam, limestone in Punjab and coal in Jammu and Kashmir. Table 3.3 presents the relative positions of the production of some of the most important minerals and of salt in different regions.

3. The Pre-Plan Pattern of Location of Manufacturing Industries

Table 3.4A presents an aggregative picture of the location of 28 large scale manufacturing industries in India in 1950 and Table 3.4B presents the regional distribution of

Table 3.3 : Important Minerals : All India Production (Quantity and Value) and Percentage Distribution of Production (Quantity) Over Different Regions in 1950 and 1960

		Coal		Manganese Ore		Iron Ore		Salt
		1950	1960	1950	1960	1950	1960	1960
All-India Production	Quantity ('000 tonnes)	32,824	52,639	897	1,182	3,012	10,683	3,436
	Value ('000 rupees)	466,834	1,089,532	84,761	81,789	15,369	77,035	67,108
Assam		1.25	1.26	-	-	-	-	-
West Bengal and Calcutta		27.77	31.28	-	0.05	-	-	0.30
Bihar		54.14	47.59	4.54	1.59	46.97	26.65	-
Orissa		1.63	1.48	17.11	29.01	51.52	34.96	1.14
Uttar Pradesh		-	-	-	-	-	-	-
Central Region		11.86	13.48	61.44	34.18	0.02	13.56	-
Northern Region		-	0.05	-	-	-	0.12	0.13
Rajasthan		0.06	0.08	0.81	0.46	-	1.17	8.94
Western Region and Bombay		-	-	4.80	14.79	0.12	3.00	59.63
Hyderabad State		3.76	4.78	-	-	-	-	-
Southern Region and Madras		-	-	11.30	19.92	1.37	20.54	29.86

Single Location Minerals

- (1) **Gold** : Only in Mysore (i.e., Southern Region)(Kolar District)
 1950 = 5583 Kgs. worth Rs. 59,212 thousand
 1960 = 4995 Kgs. worth Rs. 56,674 thousand
- (2) **Copper Ore** : Only in Bihar
 1960 = 447,882 tonnes worth Rs. 23,736 thousand.

Source : Statistical Abstracts of the Indian Union, C.S.O., Government of India.

Table 3.4A : Distribution of Large Scale Manufacturing Industries in India in 1950

Regions	Total Productive Capital (Percentage)	Total No. of Persons Employed (Percentage)	Gross Factory Value of Output (Percentage)	Ex-Value Added by Manufacture (Percentage)	Per Capita Value Added by Manufacture (Rs. per head)
1. Assam	0.56	0.39	0.62	0.35	1.095
2. West Bengal *	24.65	30.10	27.02	27.06	30.971
3. Bihar	10.49	6.79	8.01	10.78	7.610
4. Orissa	0.97	0.67	0.43	0.56	1.086
5. U. P.	9.64	9.85	10.36	9.04	4.058
6. Central Region	3.04	3.19	3.04	2.11	2.413
7. Northern Region	2.85	2.33	2.43	1.92	3.190
8. Rajasthan	1.25	0.99	0.65	0.43	0.757
9. Delhi	1.46	1.48	1.47	1.51	24.598
10. Western Region†	34.60	32.93	33.39	36.89	28.677
11. Southern Region‡	10.49	11.28	12.58	9.35	3.991
Total	100.00	100.00	100.00	100.00	9.024
Total Value (in lakhs of rupees)	61,453	1,632,484 (in number)	102,802	28,392	

Source : Source for Table 3.4A and 3.4B is Fifth Census of Indian Manufactures 1950, Ministry of Commerce and Industry, Government of India.

NOTES : (1) The census covered the factories which employed 20 or more workers on any day and used power in the manufacturing process.

(2) Following States were not covered by the Census:
 (a) Jammu and Kashmir (part of Northern Region),
 (b) Madhya Bharat, Bhopal and Bilaspur (parts of Central Region), (c) Manipur and Tripura (parts of Assam region), (d) Saurashtra (part of Western Region), (e) Mysore (part of Southern Region), and
 (f) Hyderabad State.

(3) For calculating per capita value added by manufactures (of 28 industries covered by the Census) in each region, 1951 Census population has been used. The population of the areas/States not covered by the Census has been excluded from the population of the respective regions, for this purpose.

Table 3.4B : Regional Distribution of Selected Industries - 1950 (In Terms of Ex-Factory Value of Output)

	1 Wheat Flour		2 Rice Milling		3 Vegetable Oil		4 Biscuit Making and Fruit and Vegetable Processing		5 Sugar		6 Tanning		7 Cotton Textile		8 Jute Textile	
	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage
1. Assam	-	-	19,941	98	24,704	100	-	-	-	-	-	-	-	-	-	-
2. West Bengal *	101,190	100	157,589	93	182,712	95	19,729	100	-	-	677	88	117,728	90	1,394,587	99
3. Bihar	321	100	44,689	96	51,269	98	-	-	181,587	100	-	-	-	-	-	-
4. Orissa	214	100	7,586	97	3,844	100	-	-	-	-	-	-	9,601	75	-	-
5. Uttar Pradesh	2,936	100	9,911	92	205,314	81	-	-	471,150	87	16,705	91	199,643	80	34,620	100
6. Central Region	-	-	69,344	99	86,582	100	-	-	-	-	-	-	107,382	95	-	-
7. Northern Region	54,599	100	1,417	91	23,840	82	-	-	-	-	-	-	16,539	94	-	-
8. Rajasthan	-	-	-	-	10,103	94	-	-	1,569	71	-	-	37,512	77	-	-
9. Delhi	1,121	100	-	-	-	-	-	-	-	-	-	-	89,527	100	-	-
10. Western Region †	42,750	100	530	66	468,391	86	30,801	94	110,296	77	4,262	75	2,102,625	92	-	-
11. Southern Region ‡	-	-	144,920	99	304,111	98	-	-	75,544	100	55,480	96	495,452	99	39,171	100
Other Regions	4,270	-	-	-	32,239	100	23,814	-	23,561	-	2,244	100	2,314	100	20,311	-
Total	207,401	92	455,927	97	1,393,109	93	74,344	93	863,708	82	79,368	89	3,178,323	93	1,488,689	98

(continued)

Table 3.4B : (continued)

	9 Woollen Textile		10 Glass and Glassware		11 Cement		12 Chemicals		13 Iron and Steel		14 Aluminium, Copper and Brass		15 General and Electrical Engineering	
	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage	Output	Cove- rage
1. Assam	-	-	-	-	-	-	-	-	-	-	-	-	3,398	100
2. West Bengal *	-	-	14,059	93	-	-	97,683	96	173,033	100	68,729	97	232,444	94
3. Bihar	-	-	2,459	90	37,479	100	12,330	93	340,377	100	48,515	100	47,673	97
4. Orissa	-	-	-	-	-	-	-	-	-	-	-	-	1,483	100
5. Uttar Pradesh	23,974	100	7,667	58	-	-	19,152	93	17,005	92	3,634	85	13,213	91
6. Central Region	-	-	1,812	100	-	-	-	-	-	-	1,283	100	6,976	95
7. Northern Region	42,030	82	-	-	-	-	-	-	12,193	96	11,525	85	24,655	92
8. Rajasthan	-	-	-	-	-	-	-	-	-	-	3,026	64	-	-
9. Delhi	-	-	-	-	-	-	6,885	86	1,431	88	1,572	100	14,168	94
10. Western Region †	39,576	100	14,401	89	-	-	110,936	100	9,236	85	114,817	98	211,790	96
11. Southern Region ‡	-	-	1,970	100	40,811	100	21,407	100	-	-	17,014	100	31,346	95
Other Regions	7,608	100	1,623	-	59,848	100	2,439	100	5,367	-	1,763	100	1,884	62
Total	113,188	88	43,991	76	138,139	100	270,832	97	558,642	94	271,877	94	589,031	94

NOTES :- (1) See footnotes (1) and (2) of Table 3.4A.

(2) All the Output figures are in thousand rupees.

(3) 'Coverage' shows the percentage of the number of factories submitting returns to the total number of factories covered.

(4) 'Other Regions' include all those of the 11 regions where number of factory submitting returns was only 1.

(5) For Tables 3.4A and 3.4B: * includes Calcutta; † includes Bombay; ‡ includes Madras.

outputs of selected major industries. ³ Four indicators have been considered in Table 3.4A, i.e., capital employment, output and value added, and it appears that, but for little differences, all the indicators give more or less a similar picture of the distribution of manufacturing industries. The last column in this Table gives the per capita value added by manufactures in these regions. This shows a heavy concentration of industries in West Bengal and Western Region (apart from Delhi, which is a metropolitan area). Looking at the industrywise details, it is to be seen that apart from those industries in which these regions might be thought to have equal or more advantage (for example, cotton textiles in Western Region, jute textiles in West Bengal, etc.), even some of those industries which are based on agricultural products like wheat flour milling, vegetable oil and fruits and vegetable processing are heavily concentrated in these regions, specially Western Region. As far as the land resource position is concerned, most of the regions are well endowed with one or other type of resources, which would suggest a large degree of dispersion of quite a number of industries, especially those having a market orientation. The question of optimal location of industries will be examined

³ The data in these Tables should be considered with certain reservations as indicated by the footnotes to the Table. No comparable data could be obtained for the end of the decade.

in a latter chapter. A brief historical review of the factors responsible for the emergence of the pre-plan locational pattern of India, which is attempted here, is indicative of the processes which set forth the development of any region as against another, perhaps with equal potentialities, and have a cumulative effect in course of time.

4. A Historical Review of the Evolution of the Pre-Plan Pattern of Industrial Location with Particular Reference to Pattern of Railway Development and Freight-Rate Policy

The history of large scale industries in India is hardly of hundred years. Before the advent of large scale industries which were largely encouraged by and were incidental to transport revolution--i.e., the beginning of a large network of railway construction, there is considerable evidence that most of the industries, though at a low level of development, were well scattered all over the country. Cotton textiles were produced almost in all parts of the country; agricultural processing, oil extracting, husking, flouring and gur making were all scattered in the localities where the basic raw materials for these were produced; jute textile was well scattered all over the province of Bengal, and all the areas producing indigo had indigo processing works. Besides these, many other articles of consumption were produced locally. It is quite conceivable that in the absence of quick and cheap means of transport, there was not much of inter-dependence between the regions.

It is well realized, however, that the growth of interaction between the regions through flows of various types, especially those of commodities, is a necessary pre-condition to the economic development of the regions, and the development of transportation system is a pre-condition to the growth of inter-regional flows. Development of transport, no doubt, creates more regional differentiations in the sense that it makes specialization and large scale production possible according to the comparative advantages of each region, but at the same time, it enables the regions to share their natural advantages with each other. But this should happen when the development of transport is evolutionary and is guided by the considerations of potentialities of industrial development in different parts of the country.

The pattern of the railway construction and railway policy in India were not at all guided by these considerations. Industrial development was rather incidental to the development of railways. The remarks of Daniel Thorner are very revealing in this connection. ⁴

"..... the appalling fact indicated by the statistics available in 1840s and 1850s was that Brazil, which was not even a British colony took ten times as much British goods per capita as did Britain's greatest colony, India the solution that suggested itself was obvious: India had to be covered with a network of steam railways that would link the heart of the country with the main stream of World commerce, that is, in those early Victorian days, with British commerce."

⁴ Daniel Thorner, "Great Britain and the Development of India's Railways," The Journal of Economic History, 1951, pp. 389-402.

Railway construction in India began in 1853 and within the next quarter of a century had a vast network of tracks across the length and breadth of the country. The pattern of railway construction and the freight policy adopted at that time confirms that the railways looked more to the development of foreign trade of the country than to the growth of the internal trade and industry, and the effort was so deliberate in this direction that even the considerations of immediate profitability could not come in the way. The construction started from the main port towns of Bombay and Calcutta and spread towards the interior with the intentions of traversing the important agricultural tracts so as to facilitate the exports of agricultural produce.

The Great Indian Peninsula Railway was the first to open a railway in country for public traffic. The line from Bombay to Kalyan diverged, one proceeding north-east over the Thul Ghat to Bhusaval, from whence again two lines diverted--one extending to Jabalpur, where it joined a branch of the East Indian Railway from Allahabad, and one to Nagpur, the capital of Central Provinces. The second line diverging from Kalyan passed over the Bhore Ghat connecting Poona, Sholapur and Raichur, where it joined the Madras Railway. This system was approximately complete by the year 1870.⁵ Thus,

⁵ Information in this paragraph is based on History of Indian Railways - Constructed and in Progress, corrected upto March 1964, Government of India, Ministry of Railway, Railway Board, pp. 33 and 51.

Gujarat cotton tract, Khandesh and Berar cotton tracts and Karnatic cotton tracts were all connected with Bombay by 1870.

The work on the project of East Indian Railway was started from 1851, and the first section of the experimental line from Howrah to Hooghly was opened in 1854. The extension to Raniganj (coal area) was completed in 1855. By 1862, the line had been taken to Mughalsarai. Meanwhile the line between Allahabad and Aligarh was also completed. With the opening of Jamuna bridge in 1865, 1636 kilometres of continuous lines were completed, from the right bank of the Hooghly at Calcutta to the left bank of Jamuna at Delhi. In 1867 the completion of the Allahabad-Jabalpur branch connected the G.I.P. Railway with the E.I. Railway. Attari and Amritsar (in Punjab) were connected with Delhi in 1862 (Northern Railway System).⁶ Thus by 1865, Calcutta was connected with almost the whole of the rich tract of the Punjab and the Gangetic plains. Delhi, Bombay and Calcutta were connected via Jabalpur in 1870, and Bombay and Madras in 1871. But, for a long time, Bombay and the cities of North India were not directly connected, and "this helped greatly towards the position of Calcutta in the export trade of the products of North-West Provinces."⁷ Attention was not paid to connect the internal trading centres with each other.

6 Ibid.

7 D. R. Gadgil, Industrial Evolution of India in Recent Times, Oxford University Press, Third Edition, 1933, p.128.

As far as the railways' rating policy⁸ is concerned, its main feature in the early period was that it specially assisted import and export traffic as against internal movements in so far as the rates from ports for manufactured products, and to ports for raw materials were lower than the rates between inland stations. This was so in spite of the fact that in the early period there was no Government regulation of freight rates and fares except that they were initially fixed with the approval of the Government, who could order them to be reduced only in the event of the net profits of the railways exceeding 10 per cent of capital outlay. Each Railway Company followed its own policy. Moreover, since the railways were working under guarantee system, the Government was interested, though, in seeing that they did not lower down their rates to such an extent as to incur a loss on total operation, yet, it was recognized by the Government that the rates had to be eventually governed by the necessity of attracting the maximum quantity of traffic the line could

⁸ The discussion of the railway-freight-policy which follows in these pages is mainly based on the following sources:

- (i) Report of the Railway Freight Structure Enquiry Committee, 1955-57, Government of India, Ministry of Railways.
- (ii) Report of the Committee on Transport Policy and Co-ordination, Government of India, Planning Commission, New Delhi, 1966.
- (iii) Government of India, Ministry of Railways (Railway Board), Indian Railways—One Hundred Years 1853 to 1953, New Delhi, 1953.

carry and not by any standard of profits which must be achieved. And the line capacity was so created that all the traffic had to flow to and from the ports.

With the extension of different systems of railways, some of the areas of operation of different companies became overlapping. This resulted in severe competition between the railways for the traffic towards the ports and led to further reduction of rates for the port-bound traffic, which had, by this time established itself well. For example, in 1880, the completion of Rajputana-Malwa Railway on the metre gauge reduced the distance between Delhi and Bombay and led to severe inter-railway competition in the movement of grains from Delhi to Bombay as against movement to Calcutta and led to reduction of rates by the competing railways. Government action did not go beyond fixing a maxima and a minima, and within these limits the competition among the railways continued.

The pattern of railway network and the discriminatory freight policy had harmful effects on the dispersion of the processing industries which were hitherto largely scattered all over the country. Since the rates of movements of raw materials were cheap, the unprocessed raw materials would now be exported to the port towns. Thus, the low rates for wheat, oilseeds, hides and skins and jute to Calcutta, originally quoted for encouraging exports, became one of the important causes of coming up of flour, oil and jute mills

and tanneries in and around Calcutta. Similarly the low rates for cotton, wool, wheat and oilseeds helped to a great extent in the development of oil and flour mills and textile industries in and around the port of Bombay. And these towns were able to send the processed and manufactured commodities to the interior at cheap rates.⁹

Table 3.5 shows the inflows and outflows of important port towns and some other regions in respect of some commodities for the years 1905-06, 1907-08 and 1909-10. It is seen that besides Bombay, Calcutta and Madras ports, only Punjab was a net exporter of wheat flour, while U.P., Sind and Baluchistan (now, part of West Pakistan), and C.P. and Berar were all net exporters of wheat and net importers of wheat flour. Further, important net exporters of raw hides and skins were Bengal, U.P., Punjab, and other exporters were East Bengal and Assam, C. P. and Berar, Madras State, Hyderabad State and Rajasthan and Central India. Similarly, U. P. and Punjab were the biggest exporters of rape and mustard oilseeds, and the ports were the biggest importers. General pattern of movement of all the commodities suggests that Calcutta commanded the biggest hinterland--all the North-West Provinces, Bihar, Bengal and Assam. Western India (now, Pakistan) including western parts of Punjab and Rajasthan had

⁹ It may be pointed out that among other factors that lead to the industrial growth of the port towns and the towns nearby were the existence of well established financial and commercial organizations in these towns, which had mainly developed due to foreign export-import business.

Table 3.5 : Inflows and Outflows of Port Towns and Some Other Regions in Respect of Some Important Commodities

		1905-06	1907-08	1909-10
1. <u>Wheat</u> (Cwt.)				
Bombay Port	Imports	4,832,173	1,734,276	3,389,768
	Exports	17,165	41,963	21,226
Calcutta	Imports	4,997,021	3,056,963	5,964,674
	Exports	9,104	27,906	13,610
Madras Port	Imports	12,678	13,248	40,062
	Exports	7,494	8,123	8,666
2. <u>Wheat Flour</u> (Cwt.)				
Bombay Port	Imports	51,976	20,651	49,415
	Exports	279,306	269,851	262,294
Calcutta	Imports	100,343	117,253	44,236
	Exports	617,415	891,174	775,371
Madras Port	Imports	7,183	7,963	19,824
	Exports	49,499	75,190	75,666
3. <u>Hides Raw</u> (Cwt.)				
Calcutta	Imports	966,029	604,064	736,204
	Exports	12,332	10,477	3,920
Bombay Port	Imports	37,798	38,389	37,948
	Exports	9,276	7,354	10,094
Madras Port	Imports	50,357	35,659	31,133
	Exports	5,960	11,800	15,584
Madras Presidency (excluding Madras Port)	Imports	12,370	5,029	6,749
	Exports	24,594	15,892	25,467

(continued)

Table 3.5 : (continued)

		1905-06	1907-08	1909-10
4. Tanned and Dressed Hides (Cwt.)				
Madras Presidency (excluding Madras Port)	Imports	12,370	5,029	6,479
	Exports	24,594	15,892	25,467
Madras Port	Imports	30,784	19,112	31,297
	Exports	9,417	4,055	6,117
Calcutta	Imports	5,896	2,472	6,616
	Exports	4,225	1,670	539
Bombay Port	Imports	99	234	2,751
	Exports	1,951	1,067	5,749
5. Skins Raw (Cwt.)				
Calcutta	Imports	292,245	131,331	190,645
	Exports	6,295	6,126	13,505
Bombay Port	Imports	112,705	94,288	198,855
	Exports	20,928	23,847	19,856
Madras Port	Imports	256,510	207,070	228,715
	Exports	34,643	38,916	41,673
Madras Presidency (excluding Madras Port)	Imports	141,321	136,591	145,904
	Exports	169,041	123,726	156,215
6. Skins-Tanned and Dressed (Cwt.)				
Madras Presidency (excluding Madras Port)	Imports	9,544	9,532	5,774
	Exports	84,228	68,286	67,977
Calcutta	Imports	4,661	189	131
	Exports	429	1,467	52
Bombay Port	Imports	69	206	1,868
	Exports	3,981	2,168	2,412
Madras Port	Imports	144,693	106,476	85,902
	Exports	8,104	6,315	3,762

(continued)

Table 3.5 : (continued)

		1905-06	1907-08	1909-10
7. <u>Oil Coconut</u> (Cwt.)				
Calcutta	Imports	6,436	932	983
	Exports	101,411	109,407	109,760
Bombay Port	Imports	204	1,132	184
	Exports	72,632	75,398	57,257
Madras Port	Imports	2,690	3,025	9,579
	Exports	15,487	21,798	32,904
8. <u>Oil - Rape & Mustard</u> (Cwt.)				
Calcutta	Imports	25,119	12,185	18,171
	Exports	540,383	668,241	693,471
Punjab	Imports	2,070	4,104	3,123
	Exports	50,858	6,105	5,918
U.P. of Agra and Oudh	Imports	27,670	5,900	5,760
	Exports	26,817	41,480	34,876
9. <u>Oilseed - Rape & Mustard</u> (Cwt.)				
Calcutta	Imports	2,229,508	2,315,078	3,417,671
	Exports	291,855	204,577	172,856

Source : 'Accounts of the Trade Carried by Rail and River in India', compiled in the Office of the Director-General of Commercial Intelligence, Calcutta, 1910.

more connections with Karachi. Bombay's hinterland comprised of central part of India--parts of Punjab, Rajasthan and Central India, Central Provinces, Hyderabad State, besides Bombay Presidency. Madras Presidency and Mysore were connected with Madras Port. Of course, hinterlands for different ports were overlapping and hinterlands differed to some extent according to the commodities also, but this was the general pattern.

The foreign trade oriented policy, thus, resulted in the industrial growth of a few centres near the ports, and a general industrial deterioration of the interior. Corrective steps were taken, later, in the direction of abolishing the discriminatory practices of railways and providing protection to Indian industries against foreign competition. But, by this time the important port towns like Bombay, Calcutta and Madras, and their peripheral areas had already established themselves as industrial and commercial centres, and a complex of industrial and financial set ups had already developed in these regions, which helped them in attracting more of new industries. Nonetheless, there were some tendencies, now, towards the spreading of industries towards the interior.

Cotton and Jute Textile were the two industries with earliest start. Starting during fifties of the last century, there were 56 cotton textile mills with 43,000 persons employed by 1879. Of these mills nearly three-fourths were

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situated in Bombay Presidency and more than half the total on Bombay island itself. By 1880-95, Bombay industry had practically succeeded in killing the home hand ginning industry and had captured the entire Indian market for coarse yarns, but, there was very little change in localization of the industry. The industry was chiefly centred in the Bombay Presidency and, within the presidency, in the two cities of Bombay and Ahmedabad.¹⁰ There was quite a large growth of mills in India, but outside Bombay and Ahmedabad they were all scattered over the face of the country and as yet there was no big cotton industry centre outside these two cities. Of the 144 mills in India in 1894-95, 100 were in Bombay Presidency; out of these, again, sixty-seven were in Bombay city and island. The most remarkable expansion in the post-First War decade was in Ahmedabad, but other centres such as Madras, Sholapur, Nagpur and Kanpur also experienced the expansion of cotton textile mills, and mills were built in isolated localities all over the country. In 1927-28 the total Indian production was shared as follows: between the various centres: Bombay Island 49 per cent; Ahmedabad 22 per cent; other mills in the Bombay Presidency and adjoining areas 21 per cent; elsewhere 8 per cent. ¹¹

¹⁰ Ahmedabad, however, is a town in the main cotton-growing tract. Besides, its vicinity to port-towns, specially Bombay, and other favourable factors like existence of entrepreneurship etc., helped the growth of this town as an industrial centre, specially for cotton textile.

¹¹ The information and data contained in this and the next two paragraphs are mainly based on: D.R. Gadgil, The Industrial Evolution of India, op.cit., pp. 55, 56, 59, 75, 76, 80, and 243.

In 1882 there were in India, twenty jute mills employing 20,000 people. Of these mills eighteen were in Bengal and seventeen in the immediate vicinity of Calcutta. This industry was even more localized than the cotton industry^a round Bombay. Further expansion of jute industry took the form of the extension or enlargement of the existing concerns, all centred round Calcutta.

Leather tanning industry had sprung up in Madras, and by 1880 Madras was exporting a large number of tanned and half-tanned hides and skins to foreign countries.

The tea and coffee plantations, of course being absolutely dependent on climatic and soil conditions, were confined to the parts of Assam, Bengal, and South (Mysore, Coorg, Nilgiri and Malabar districts of the Madras Presidency) respectively. They were also two of the earliest industries in India.

Table 3.6 shows regionwise percentage distribution of workers in some of the important industries at different periods upto 1945.

Generally speaking, as the following tables suggest, there has been a tendency of dispersion of industries, during the period 1925-1945, and there is every reason to believe that this tendency has continued afterwards. However, the forces of economy in the early starting areas have been strong enough to attract still a considerable portion of industrialization towards themselves, and hence, as the

position stood at the beginning of the decade under study (see Table 3.4A, cited earlier), Westernⁿ, Eastern and Southern regions are far ahead of the other regions in industrialization.

Table 3.6 : Regionwise Percentage Distribution of Workers in Important Industries (1911-1945)

	1911	1921	1931	1941
(a) <u>Percentage Distribution of Workers in Cotton Textile Industry</u>				
Western Region	69.65	71.39	63.34	57.89
Rajputana	0.95	0.42	0.72	1.24
Central Region	6.14	6.69	9.31	9.96
Bihar and Orissa	-	-	-	0.26
Hyderabad	1.16	0.91	1.13	1.72
Bengal	4.33	3.61	3.75	3.64
Punjab	1.16	1.25	1.97	1.16
Delhi	-	-	-	1.38
Uttar Pradesh	5.20	5.41	6.71	6.49
Southern Region	10.70	9.92	12.05	15.50
	1925	1935	1945	
(b) <u>Jute Mill Industry</u>				
1. Bengal	98.2	93.6	92.5	
2. Madras	1.0	2.4	2.3	
3. Uttar Pradesh	-	1.2	2.6	
4. Bihar and Orissa	-	1.7	1.6	
5. Rest of India	0.8	1.1	1.0	

(continued)

Table 3.6 : (continued)

	1925	1935	1945
(c) <u>Iron and Steel Industry</u>			
1. Bihar and Orissa	83.6	67.0	71.3
2. Bengal	15.7	27.1	20.2
3. Uttar Pradesh	-	0.3	4.3
4. Mysore (Southern Region)	0.7	5.6	3.2
(d) <u>Sugar Industry</u>			
1. Bengal	0.7	4.6	4.0
2. Bombay (Western Region)	5.0	2.7	6.0
3. Madras (Southern Region)	24.9	4.6	6.0
4. Uttar Pradesh	33.7	58.7	49.5
5. Bihar and Orissa	34.6	23.0	19.8
6. Punjab	1.1	3.1	1.0
7. Rest of India	-	3.3	14.8
(e) <u>Paper Industry</u>			
1. Bengal	77.6	72.5	40.9
2. Uttar Pradesh	14.6	14.0	9.1
3. Bombay	6.0	12.2	9.1
4. Madras	-	-	4.5
5. Madras State	1.8	1.2	4.5
6. Punjab	-	-	4.5
7. Bihar and Orissa	-	-	13.6

(continued)

Table 3.6 : (continued)

	1925	1935	1945
(f) <u>Cement Industry</u>			
1. Central Provinces	35.8	33.6	13.5
2. Punjab	15.2	9.2	5.4
3. Bihar and Orissa	9.7	10.4	10.8
4. Madras	-	3.6	5.4
5. Rajputana	28.0	20.4	8.1
6. Hyderabad	-	10.4	10.8
7. Baroda	-	5.0	2.7
8. Bombay State	11.3	7.8	5.4
9. Bengal	-	-	13.5
10. Central India States	-	-	13.5

Source : These tables are taken from M. M. Mehta, Structure of Indian Industries (Popular Book Depot, Bombay, 1955). The original tables have been given in the book in terms of the then existing Provinces and States, which have been suitably aggregated and presented here, as far as possible, in terms of regions as defined in Chapter II. However, Bengal and Punjab in these tables refer to undivided Provinces of Bengal and Punjab.

PART II

ANALYSIS OF ACTUAL FLOWS

CHAPTER IV

TRENDS IN THE LEVEL OF INTER-REGIONAL FLOWS

1. Introduction

Level of inter-regional flows, i.e., the total volume of movement of goods between a set of regions, is the total of exports of all the regions, which is equivalent to the total of imports of all the regions.¹ Since we are considering the total exports (or imports), and not the net balance of export or import of a commodity for a region, let us term it as gross inter-regional flows. Needless to add that the level of inter-regional flows is a magnitude very much related to the manner of delineation of the set of regions between which such flows take place, and hence, is comparable only for the same set of regions. The movements of all types, in reality, take place between points in the space, and a 'region' is a culmination of a large number of such points. The movements between all the points falling within a region become intra-regional movements, and hence do not figure in inter-regional flows. Now, if the regions are so re-delineated that some of the points of origin or destination included earlier in a region, go out and fall in the neighbouring region, some of the

1 Level of flows is considered in physical units.

flows which earlier were intra-regional, will become inter-regional. Obviously, therefore, the manner of delineation and the size of the regions are important factors in determining the level of inter-regional flows. Bigger the size of regions, more points of origin and destination of flows will fall within each of the regions and smaller will be the volume of inter-regional flows. For one defined set of regions, however, the volume of inter-regional flows, when compared between the commodities and over the period, may reveal interesting features of the spatial system.

Between the commodities in the same period and for the same commodity over different periods, the volume of inter-regional flows may differ, broadly, due to:

(a) The volume of the demand and supply, that is, a commodity by its very nature may be consumed in bulk, and hence, also produced and moved in bulk. An example is coal. Further, the volume of demand of a product (and so also its supply) may change over years due to several reasons, such as change in population, standard of living, industrial activities, etc., and hence, the inter-regional flow of the same commodity may fluctuate over the period.

(b) The location of supply and demand of the commodity, that is, a product, for example, with highly concentrated localization of production and widely spread market or vice versa, will have larger volume of flows than one with dispersed production as well as dispersed market, or with

localized production and localized market, even if the level of demand of each region were to be the same. Over the period, the changing pattern of demand and supply will result in a change in the level of flows.

Given the volume of demand in each region and the location of supply of a certain commodity, the pattern of trading relationships between the regions will depend on the pattern and the cost of transportation, and the price of the commodity in different regions. A shift in the trading relationships between the regions may affect the volume of inter-regional flows in terms of "Quantity X distance" (say, tonne-kilometres), but the quantity alone should not be affected whether a region A gets its needed supplies from region B or region C. However, the level of flows even in terms of quantity alone will be affected if the change in trading relationship is such that the substitution takes place between a locality within the region and another outside it.

In the following pages are presented and discussed the gross inter-regional flows of all the 50 commodities under study for the decade, 1950-51 to 1959-60. Such flows are computed for a set of 15 regions, as defined in Chapter II. As a general background to the trends in inter-regional flows, trends in total railway traffic and its important components over the decade, and indices of some general economic indicators are also presented. Further,

the relationship between the net inter-regional flows and the gross inter-regional flows has been studied.

2. Trends in the Level of Gross Inter-Regional Flows

Table 4.1 presents the commoditywise gross inter-regional flows for the 10 years and also the figures of total rail traffic and its components over the same period. Table 4.2 presents constant A and parameters B and C of the quadratic functions fitted to the 10 years' observations that are presented in Table 4.1. The equation is of the form

$$X = A + Bt + Ct^2$$

where X is the level of inter-regional flow, and t is the time period. ²

An idea of the shape of the curve in each case may be had just by looking at the sign of B and C coefficients. In cases, where B is negative and C is positive, the curve falls, reaches a minima and then rises. Where B is positive and C is negative, there is a rise first and then a fall. Where both the coefficients are positive, the curve is rising continuously, and where both the coefficients are negative, the curve is falling continuously.

We may examine the trends in inter-regional flows along with the trends in total rail traffic and the indices of some general economic indicators during the decade, as shown in Tables 4.3 and 4.4.

² In case of certain commodities where the scatter diagram showed no trend on visual inspection, the regression analysis was not done.

Table 4.1A : Total (Gross) Inter-Regional Flows

Commodity	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
1. Animals - Cattle (00)	3,350	3,187	2,071	2,702	2,464	2,907	2,544	2,927	2,063	2,438
2. Animals - Sheep and Goats (00)	10,180	11,747	9,414	9,685	9,706	13,603	12,077	10,749	10,194	10,943
3. Animals - Others (00)	1,830	1,242	1,665	1,276	986	865	1,138	1,569	2,720	3,283
4. Bones (000)	2,790	4,069	2,084	2,244	2,264	2,531	2,112	2,102	2,571	2,860
5. Tanned Hides and Skins and Leather (00)	3,547	2,992	2,667	2,810	2,724	3,190	3,383	3,719	3,952	2,960
6. Raw Hides and Skins (000)	2,000	1,587	1,572	1,759	1,692	2,009	1,996	1,795	1,868	1,897
7. Sugar (000)	13,890	15,796	18,074	19,218	23,349	20,637	23,470	28,583	19,020	21,203
8. Molasses (000)	2,326	1,905	1,771	1,409	1,168	1,830	1,349	1,800	2,746	1,529
9. Gur, Jaggery and Shakkar (000)	1,406	1,389	1,356	1,089	1,012	1,205	1,205	1,241	1,203	1,520
10. Cotton piece goods (000)	6,430	6,572	6,781	6,556	6,415	8,302	6,607	7,172	7,716	7,498
11. Cotton Twist and Yarn (000)	1,453	1,314	1,370	1,474	1,381	1,468	1,315	1,465	1,265	1,349
12. Gram and Pulses (0,000)	2,851	3,350	3,206	3,002	3,217	4,447	4,259	5,034	4,713	5,834
13. Rice <u>in</u> Husk (000)	2,487	1,945	4,156	5,832	7,257	6,096	6,530	3,352	1,341	8,983
14. Rice <u>Not</u> in Husk (000)	19,239	17,634	21,616	21,416	26,315	30,382	32,447	31,276	30,973	42,570
15. Wheat (0,000)	2,657	4,937	2,781	2,548	1,339	2,078	2,830	4,670	6,333	4,596
16. Wheat Flour (000)	3,809	4,421	3,230	3,394	2,692	3,644	4,029	3,707	2,322	3,537
17. Jowar (000)	5,578	10,972	10,054	7,917	6,880	6,736	4,763	7,680	17,086	8,379
18. Maize (000)	157	917	323	1,883	2,763	3,287	2,672	2,854	4,072	4,382
19. Other grains (000)	9,921	9,548	5,896	6,110	7,924	10,870	11,570	11,403	11,371	12,935
20. Oilseed - Til and Linseed (000)	4,319	3,097	3,621	2,867	2,675	3,691	2,898	2,980	2,965	3,768
21. Oilseed - Cotton (000)	3,295	5,603	7,211	6,048	6,477	6,761	7,380	8,490	7,073	5,714
22. Oilseed - Groundnut (000)	4,969	4,780	4,882	2,916	4,918	5,079	5,435	5,681	6,417	4,990
23. Oilseed - Rape and Mustard (000)	6,444	7,138	5,452	4,524	4,044	5,108	4,419	2,967	5,244	5,982
24. Oilseed - Castor (000)	2,520	807	778	625	741	758	1,073	1,274	613	1,048
25. Ghee (00)	1,129	1,088	890	866	728	1,194	820	1,049	1,382	1,205

NOTES : (1) Inter-regional flows are in numbers for animals and in maunds for other commodities. The units are indicated by the number of zeros within brackets with each commodity (viz., 00 for hundreds, 000 for thousands and so on).

(2) Total rail traffic and its different components (part B of the Table) are in million net ton-miles.

(3) The source for rail-traffic figures is Railway Board Administration Report, Part II, Statistics, Ministry of Railways, Government of India.

(continued)

Table 4.1A : (continued)

Commodity	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
26. Oil - Coconut (00)	6,560	6,787	7,139	5,944	6,589	8,081	6,986	8,358	7,504	7,751
27. Oil - Groundnut (000)	5,742	4,636	4,938	3,036	4,553	5,348	4,330	5,293	5,065	5,771
28. Oil - Castor (000)	534	566	631	385	678	876	845	677	448	747
29. Oil - Others (000)	2,261	2,574	2,456	2,385	1,939	3,695	2,603	2,221	2,115	1,883
30. Hemp - Indian and Other Fibres (000)	1,032	1,230	834	601	615	625	453	416	415	502
31. Raw Wool (000)	547	310	546	429	491	643	530	608	485	498
32. Raw Cotton (000)	10,526	11,466	11,937	13,493	14,010	12,828	12,520	11,142	12,056	8,771
33. Raw Jute (0,000)	1,080	1,252	1,063	638	663	946	912	1,048	1,468	1,616
34. Coal and Coke (00,000)	4,887	5,211	5,093	4,872	5,188	5,548	5,473	6,242	6,914	6,758
35. Manganese Ore (0,000)	1,912	2,234	3,178	3,803	2,563	2,249	2,275	4,222	1,903	2,339
36. Kerosene Oil (0,000)	1,670	1,836	1,728	1,835	1,906	2,256	2,323	2,441	2,250	2,694
37. Cement (0,000)	3,363	3,531	3,522	4,125	4,071	4,189	3,927	5,339	5,371	7,263
38. Glass (0,000)	1,257	1,355	1,170	1,379	1,488	1,509	1,769	2,117	2,247	2,098
39. Iron and Steel (0,000)	4,727	6,375	4,399	4,192	4,578	4,948	6,423	6,633	6,912	7,308
40. Salt (0,000)	3,139	3,099	2,694	2,564	2,261	2,590	2,569	2,953	2,727	3,289
41. Gunny bags and Cloth (000)	3,376	3,542	4,373	3,414	3,157	4,557	3,909	4,543	4,061	4,674
42. Myrobalans (000)	1,156	1,206	889	804	748	902	904	706	654	781
43. Rubber Raw (00)	225	131	288	275	210	172	97	268	386	382
44. Coffee (00)	1,101	989	1,019	1,003	1,094	865	580	921	741	949
45. Tea (000)	6,746	6,351	5,033	4,625	4,209	6,709	5,346	4,546	4,224	6,323
46. Tobacco Raw (000)	2,313	2,405	1,927	2,162	1,706	2,040	1,697	2,495	1,878	2,514
47. Fruits Dried (000)	5,543	4,644	4,701	4,571	4,584	4,618	3,984	1,730	3,368	2,905
48. Wood and Timber (0,000)	2,278	2,138	1,782	1,784	2,011	1,986	2,298	2,663	1,732	3,129
49. Lac and Shellac (00)	5,956	6,715	5,565	4,806	3,586	2,800	2,901	3,875	2,715	4,921
50. Oilcakes (000)	8,217	7,113	8,703	9,641	8,655	12,985	12,098	11,786	13,846	19,205

Table 4.1B : Total Railways (Goods) Traffic

Type of Traffic	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
1. Coal	8,896	6,869	7,442	7,105	7,592	7,894	8,425	9,336	11,930	12,025
2. Grains	2,420	2,966	2,751	2,787	2,919	3,404	3,715	4,449	5,462	5,842
3. Oilseeds	557	567	588	477	532	591	579	671	688	636
4. Other Revenue Traffic	12,910	13,952	13,794	14,251	15,940	18,946	21,312	23,469	21,452	23,726
5. Total Revenue Traffic (1+2+3+4)	24,783	24,354	24,575	24,620	26,983	30,835	34,031	37,925	39,532	42,229
6. Railway Coal and Stores	3,828	4,622	4,331	5,091	5,117	5,598	6,156	6,934	7,233	7,920
7. Total Goods Traffic (5+6)	28,611	28,976	28,906	29,711	32,100	36,433	40,187	44,859	46,765	50,149

Table 4.2A : Total Inter-Regional Flows : Regression Coefficients

Commodity	Regression Coefficients				Standard Error of C	Percentage Variance Explained
	A	B	Standard Error of B	C		
1. Animals--Cattle	3310.2	-197.01	203.35	11.39	18.01	29.10
2. Animals--Others	2637.3	-727.61	155.47	78.49	13.77	87.19
3. Bones	3788.0	-507.72	267.36	40.70	23.68	36.10
4. Tanned Hides, Skins and Leather	3257.4	-125.71	217.50	16.32	19.27	21.67
5. Raw Hides and Skins	1782.7	-16.38	84.60	3.24	7.49	14.87
6. Sugar	9418.6	3851.45	1330.00	-266.95	117.83	67.52
7. Molasses	2521.5	-362.12	223.55	32.56	19.81	27.90
8. Gur, Jaggery and Shakkar	1639.0	-184.92	48.63	16.64	4.31	68.10
9. Cotton piece goods	6270.6	137.92	282.74	-0.63	25.10	37.91
10. Gram and Pulses	2936.8	-8.64	187.54	28.62	16.61	88.90
11. Rice <u>In</u> Husk	1208.4	1252.24	1251.61	-85.66	110.89	20.62
12. Rice <u>Not</u> in Husk	16659.7	1239.81	1451.87	101.51	128.63	88.35
13. Wheat	4602.2	-968.37	621.63	109.11	55.07	48.88
14. Maize	-510.0	618.10	277.28	-14.51	24.57	88.67
15. Oilseed--Til and Linseed	4494.6	-518.61	215.68	42.75	19.11	46.18
16. Oilseed--Cotton	2519.8	1489.46	427.61	-111.86	37.88	69.59
17. Oilseed--Rape and Mustard	8390.6	-1320.65	417.36	104.03	36.98	62.10
18. Ghee	1261.2	-154.03	81.73	16.13	7.24	48.52
19. Oil--Groundnut	5926.3	-630.57	345.96	62.68	30.65	40.47
20. Hemp--Indian and Other Fibres	1365.8	-208.87	58.79	11.83	5.21	85.39
21. Raw Wool	398.2	38.85	48.05	-2.68	4.26	14.17
22. Raw Cotton	8729.3	1782.19	358.66	-172.89	31.78	81.97
23. Raw Jute	1524.6	-306.15	79.09	31.89	7.01	79.44
24. Coal and Coke	5130.2	-144.69	124.51	33.36	11.03	91.20
25. Kerosene Oil	1599.6	61.64	67.70	4.03	5.93	87.78
26. Cement	3016.7	183.77	366.24	11.50	32.45	70.13
27. Glass	1198.9	10.67	71.19	9.91	6.31	89.34
28. Iron and Steel	5625.7	-467.73	372.15	67.44	32.97	68.15
29. Salt	3589.8	-404.75	83.48	37.01	7.40	78.16
30. Gunny bags and cloth	3472.7	41.91	243.82	6.69	21.62	39.44

(continued)

Table 4.2A : (continued)

Commodity	Regression Coefficients					Percentage Variance Explained
	A	B	Standard Error of B	C	Standard Error of C	
31. Myrobalans	1300.2	-130.96	54.77	7.66	4.85	70.77
32. Coffee	1198.7	- 82.42	70.80	4.69	6.27	38.24
33. Tobacco Raw	2662.5	-273.32	136.90	24.79	12.13	37.38
34. Fruits dried	5524.0	-207.19	355.06	- 8.30	31.45	66.89
35. Oilcakes	8302.2	-374.97	753.39	129.48	66.75	85.82
36. Wood and Timber	2447.4	-247.54	182.42	28.42	16.16	44.56
37. Lac and Shellac	8294.3	-1400.81	404.63	98.55	35.85	73.84

Table 4.2B : Total Rail Traffic (Goods): Regression Coefficients

Type of Traffic	Regression Coefficients					Percentage Variance Explained
	A	B	Standard Error of B	C	Standard Error of C	
1. Coal	9325.1	-1106.89	286.98	143.23	25.43	92.38
2. Grains	2873.0	- 237.44	111.04	54.66	9.83	97.22
3. Oilseeds	573.1	- 17.04	22.98	2.84	2.04	57.60
4. Other Revenue Traffic	11115.6	1050.93	706.37	27.00	62.58	91.21
5. Total Revenue Traffic	23926.8	- 310.46	651.21	227.72	57.69	97.18
6. Railway Coal and Stores	3817.5	171.29	108.91	23.98	9.65	97.88
7. Total of all goods traffic	27744.3	- 139.16	666.16	251.71	59.02	97.91

Table 4.3 : Indices of Total Rail-Freight Traffic

	(1950-51 = 100)	
	Total Traffic	Increase as percentage of previous year's traffic
1951-52	101.3	1.276
1952-53	101.0	- 0.211
1953-54	103.8	2.785
1954-55	112.2	8.041
1955-56	127.3	13.498
1956-57	140.5	10.304
1957-58	156.8	11.626
1958-59	163.5	4.249
1959-60	175.3	7.236

Table 4.4 : Indices of Some General Economic Indicators during the Decade

	Base year	1955-56	1960-61
1) National Income at 1948-49 prices	1950-51	118.4	144.1
2) Industrial Production	1951	125.0	177.0
3) Mineral Production	1951	116.6	157.7
4) Agricultural Production	Crop year ending June 1950 (with 1950-51 = 100)	116.8 (122.2)	139.7 (146.1)

Source : Final Report of the Transport Policy and Co-Ordination Committee, Government of India, 1961, p. 13.

It is seen that the total goods traffic has, more or less, co-behaved with industrial production during the decade. A marked tendency to rise begins after 1953-54 and continues till 1957-58, after which the pace of rise slows down. This is quite in conformity with the expectation that at least two to three years must have lapsed since the beginning of steering of economic activity in the country (i.e., the First Five Year Plan, starting in 1951) before the impact was felt on transportation system. This tendency prevails even in case of different components of the total rail traffic (i.e., oilseeds, coal, grains, other revenue traffic and total revenue traffic). In case of coal and grains, however, the period of faster rise extends only upto 1958-59, while railway-coal and stores show a continuous rise upto the end of the decade.

Against this background of expanding economic activity and increasing total railway goods traffic, it is interesting to note that, so far as the inter-regional flows of these 50 commodities are concerned only some 10 commodities have shown a rise over the period and that too, mainly after 1953-54. However, the share of these 10 commodities in the total inter-regional flow of all the commodities is very large. The following table (Table 4.5) gives the total inter-regional flows of 47 commodities (3 categories of animals are excluded, as their flows are in terms of numbers), its index, and the percentage share of each one of these 10 commodities with the indices of their individual flows (within brackets).

Table 4.5 : Total Inter-Regional Flows and the Percentage Share of Selected Commodities in Total Flows with Their Indices

	1950-51	1954-55	1955-56	1959-60
Total Inter-regional Flows (in thousand maunds)	880,918	916,575	1004,630	1273,995
Index	100.00	104.05	114.04	144.62
	%	%	%	%
1) Gram and Pulses	2.93 (100.0)	3.51 (112.8)	4.43 (156.0)	4.58 (204.6)
2) Rice <u>not</u> in Husk	2.18 (100.0)	2.87 (136.8)	3.02 (157.9)	3.34 (221.3)
3) Maize	0.02 (100.0)	0.30 (1759.9)	0.33 (2093.6)	0.34 (2791.1)
4) Sugar	1.58 (100.0)	2.55 (168.1)	2.05 (148.6)	1.66 (152.6)
5) Oilcakes	0.93 (100.0)	0.94 (105.3)	1.29 (158.0)	1.51 (233.7)
6) Gunny bags and Cloth	0.38 (100.0)	0.34 (93.5)	0.45 (135.0)	0.37 (138.4)
7) Kerosene oil	1.90 (100.0)	2.08 (114.1)	2.25 (135.1)	2.11 (161.3)
8) Glass	1.43 (100.0)	1.62 (118.4)	1.50 (120.0)	1.65 (166.9)
9) Cement	3.82 (100.0)	4.44 (121.1)	4.17 (124.6)	5.70 (216.0)
10) Coal and Coke	55.48 (100.0)	56.60 (106.2)	55.22 (113.5)	53.05 (138.3)
Total share of 10 commodities	70.65	75.25	74.71	74.31

Gram and pulses and rice show a persistent rise from 1954-55, and maize from 1953-54. Till 1952-53, the inter-regional flow of maize has been of a very little magnitude, and by the middle of the decade it reaches to a level of nearly 17 to 21 times that in 1950-51. The inter-regional flow of sugar reaches its height in 1957-58 and then declines. The flows of gunny bags and cloth do not show a very sharp tendency to rise, though, the overall trend is that of rising. However, the lowest flows of gunny bags and cloth was in the years 1954-55, and thereafter it follows an annual cycle of rise and fall. Kerosene oil and glass show a slow but persistent rise after 1952-53. Flows of cement start rising slowly after 1952-53, they fall in 1956-57 and from 1957-58 onwards there is a sharp rise. Coal starts rising after 1953-54. Thus, a common feature of the total railway goods traffic as well as the important inter-regional flows, as seen above, is that a marked tendency to rise begins only after 1952-53 or 1953-54. Further, these commodities (except coal) show a rising importance in inter-regional trade as against most of the other commodities under study.

The following table (Table 4.6) shows the share of some of other important commodities and of total of foodgrains (including gram and pulses, rice, and maize, which are already shown in the earlier table) in the total inter-regional flows of 47 commodities (with the indices of their inter-regional flows within the brackets).

Table 4.6 : Share of Some Other Commodities in Total Flows with Their Indices

	1950-51 %	1954-55 %	1955-56 %	1959-60 %
1. Oilseeds (all the 5 categories)	2.45 (100.0)	2.06 (87.5)	2.13 (99.3)	1.69 (99.8)
2. Oils (all the 4 categories of vegetable oil)	1.04 (100.0)	0.85 (85.2)	1.07 (116.7)	0.72 (99.8)
3. Raw Cotton	1.19 (100.0)	1.53 (133.1)	1.28 (121.9)	0.69 (83.3)
4. Raw Jute	1.23 (100.0)	0.72 (61.4)	0.94 (87.6)	1.27 (149.6)
5. Manganese Ore	2.17 (100.0)	2.80 (134.0)	2.24 (117.6)	1.84 (122.3)
6. Iron and Steel	5.37 (100.0)	4.99 (96.8)	4.93 (104.7)	5.74 (154.6)
7. Salt	3.56 (100.0)	2.47 (72.0)	2.58 (82.5)	2.58 (104.8)
8. Wood and Timber	2.59 (100.0)	2.19 (88.3)	1.98 (87.2)	2.46 (137.4)
9. Wheat	3.02 (100.0)	1.46 (50.4)	2.07 (78.2)	3.61 (173.0)
Total of above 9 commodities	22.62	19.07	19.22	20.60
All foodgrains (all the 8 categories of grains)	10.93 (100.0)	10.84 (103.2)	12.57 (131.2)	14.53 (192.3)

During 1955-56 to 1959-60, the share of foodgrains in the total inter-regional movement has notably increased. In case of wheat particularly, the share in total movement becomes very small in 1954-55 and 1955-56. Major movements of wheat are from port-towns to the interior (specially to the wheat producing areas which are also the major wheat consuming areas). In the years of good crop (which the middle of the decade is known to be), wheat consuming areas become more or less self-sufficient, and the direction of wheat flows is reversed, i.e., from wheat producing areas to other regions. But the movement out of wheat producing areas in the years of good crops is not as large as the movement into these areas during the years of food shortage. Throughout the latter part of the decade (i.e., 1955-56 onwards) there generally has been a food shortage and large imports of wheat from foreign countries, and this period coincides with the higher inter-regional movement of foodgrains.

Besides wheat, a few other commodities also show a decline in the gross flows initially and then start rising from the middle of the decade, making a convex (U-shaped) curve. Such commodities are other animals, gur and jaggery etc., ghee, groundnut oil, iron and steel, salt, raw tobacco, and wood and timber. On the other hand, cotton piece goods, cotton oilseed, raw wool and raw cotton make a flat concave curve of flows with no overall rise or fall.

The flows of raw hides and skins, cotton twist and yarn, wheat flour and coconut oil also remain more or less constant over the years.

The following commodities show a fall in the gross flows over the decade.

Bones, til and linseed, rape and mustard, hemp and other fibres, myrobalans, coffee and lac and shellac. The fall in the inter-regional flow of oilseeds is indicative of increasing dispersion of oil mills, which were earlier concentrated in big towns--specially Calcutta and Bombay. Exports of oilseeds from U.P., Bihar and Punjab to Calcutta, from Central Region, Hyderabad and Western Region to Bombay and from Southern Region to Madras Port has generally declined. (See inter-regional flow tables in Appendix II.) Others are the commodities whose gross flows have been comparatively smaller, and their importance too, seems to be declining with industrial growth and technological change. In case of coffee, however, the situation is slightly different. The major exporting region for coffee is Southern Region, and the major importing region is Madras Port (mainly for foreign exports). With the development of other ports in the Southern Region--ports which have better proximity to coffee growing area, coffee is directly exported to foreign countries through these ports rather than through Madras Port, and hence, the export from Southern Region to Madras has declined over the years. (See flow tables in Appendix II.)

There are wide year to year fluctuations in the movement of sheep and goats, rice in husk, jowar, other grains, castor oilseed, castor oil, other oils, molasses, manganese ore, raw rubber, tea, tanned hides and skins and leather and dry fruits, and there is no overall trend of rise and fall.

3. Net Inter-Regional Flows

Net inter-regional flows may be defined as the total of net exports or imports of all the regions--these net exports or imports being obtained after deducting the total imports of a region from its total exports for the same commodity (in this operation, the positive values will be net exports and negative values will be net imports).

A region may be an exporter as well as an importer of the same commodity. This situation may occur, firstly, because a 'commodity' may be an aggregation of different commodities or similar commodities which may vary in details of specifications. For the purposes of collection of inland trade data, for example, cotton textile is one commodity, while, in fact, there are innumerable varieties of cotton textiles, and even the exporting regions have to import from other regions, and hence, the cross-flows. Secondly, the cross flows occur because the delineation of regions is more or less arbitrary from the point of view of trade of any individual commodity.³ It may be more feasible for a

³ For studying inter-regional flows, an ideal type of regional delineation would be one based on 'central place' and 'market area' theory wherein all the parts of a region

locality in a region to import the commodity from a locality in another neighbouring region, even though, other localities of the same region might be exporting that commodity to other regions. Thirdly, cross flows may occur merely due to the imperfections of the trading system.

Table 4.7 presents the percentage of total net inter-regional flows of each commodity to its gross inter-regional flows for all the 10 years. Table 4.8 presents the average ratio of net flows to gross flows (averaged over 10 years' period) and also the standard deviation and coefficient of variation. The commodities in the table are arranged in descending order of their average.

The commodities with a high average (i.e., least amount of cross flows) are, as a rule, those which are unitary commodities more or less or, where different varieties etc., do not matter much in the trade, and where trade is mostly in one direction, for example, sheep and goats (which is mostly imported in port-towns), myrobalans etc. While commodities with least averages are those which are highly aggregative commodities and flow from all sides, like, textiles, twist and yarn, iron and steel and leather etc.

(Footnote 3 from last page continued)

would have connections to central place, and only the central place would be connected with a central place in another region. But, apart from empirical difficulties of finding out such a scheme of regional delineation, conceptually each commodity may have a different set of regions, and hence, the difficulties of comparisons etc. And further, the central place scheme is too streamlined to be factually completely true.

Table 4.7 : Percentage of Total Net Inter-regional Flows to Total (Gross) Inter-regional Flows

Commodity	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
1. Animals--Cattle	59.64	58.68	48.30	49.27	43.11	40.45	40.69	56.61	60.83	63.65
2. Animals--Sheep and Goats	96.22	94.90	92.55	94.63	96.70	97.54	98.20	97.08	97.18	97.40
3. Animals--Others	65.97	65.30	75.59	82.38	74.71	63.98	73.15	77.06	82.95	88.04
4. Bones	81.52	76.66	73.16	76.58	70.08	68.36	67.58	69.48	76.98	72.85
5. Tanned Hides and Skins and Leather	42.25	40.24	33.64	34.37	31.32	32.81	36.82	42.21	37.89	51.83
6. Raw Hides and Skins	68.51	66.94	71.28	71.47	66.47	64.32	58.10	56.53	65.87	63.54
7. Sugar	84.46	86.60	70.41	77.01	71.22	67.92	80.27	84.22	73.65	80.66
8. Molasses	69.56	67.87	74.34	62.70	60.27	70.32	73.58	69.40	72.95	71.59
9. Gur, Jaggery and Shakkar	82.36	85.22	68.16	76.49	78.67	81.83	75.25	79.52	81.38	88.27
10. Cotton Piece Goods	51.50	69.87	60.76	54.47	50.78	56.18	51.26	52.41	65.65	65.72
11. Cotton Twist and Yarn	46.69	64.28	39.58	38.14	40.26	39.39	38.02	41.50	46.66	48.47
12. Gram and Pulses	73.01	71.69	65.69	67.33	73.53	68.36	65.50	69.66	66.17	63.84
13. Rice <u>IN</u> Husk	85.94	84.19	77.24	91.26	59.18	35.82	57.41	63.53	63.78	89.98
14. Rice <u>NOT</u> in Husk	50.87	42.99	49.19	60.24	49.02	46.66	46.67	51.69	44.14	59.09
15. Wheat	83.11	86.64	72.77	65.26	63.19	62.77	52.38	72.04	62.34	71.52
16. Wheat Flour	96.15	98.34	94.75	82.37	86.10	83.25	74.16	82.95	83.57	87.02
17. Jowar	83.57	84.88	83.81	82.67	84.79	68.97	75.10	73.64	79.82	69.40
18. Maize	45.29	85.25	68.83	82.93	85.98	90.73	68.17	85.19	71.72	69.44
19. Other Grains	66.17	58.25	51.29	53.99	57.84	61.61	60.35	62.46	52.89	59.78
20. Oilseed--Til and Linseed	82.00	69.36	80.48	63.84	74.88	71.79	70.12	70.41	65.66	72.74
21. Oilseed--Cotton	68.76	77.50	76.84	80.45	78.01	73.50	70.71	72.89	78.40	61.35
22. Oilseed--Groundnut	84.03	74.10	78.64	77.25	86.05	80.56	73.63	73.42	80.92	77.77
23. Oilseed--Rape and Mustard	87.49	86.15	87.06	81.44	78.92	80.50	76.76	66.84	80.78	88.96

(continued)

Table 4.7 : (continued)

Commodity	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
24. Oilseed--Castor	92.83	79.87	72.79	77.20	90.73	86.63	86.21	68.81	86.28	85.55
25. Ghee	79.56	77.49	69.08	77.23	78.47	68.45	70.94	76.29	70.21	70.23
26. Oil--Coconut	86.12	89.98	91.07	90.69	92.12	91.23	91.12	86.61	83.90	84.65
27. Oil--Groundnut	80.26	71.81	69.07	62.23	78.92	75.86	76.96	82.24	81.39	83.09
28. Oil--Castor	80.48	76.73	70.97	72.25	84.59	88.16	89.26	81.26	83.03	82.83
29. Oil--Others	50.00	56.64	51.94	44.79	46.09	57.23	40.64	51.41	54.99	61.00
30. Hemp--Indian, and Other Fibres	75.63	77.99	75.46	72.87	69.64	78.30	62.10	75.87	71.62	76.03
31. Raw Wool	51.32	58.24	50.64	62.01	53.61	59.23	59.45	62.35	51.40	55.33
32. Raw Cotton	42.06	47.79	55.08	58.72	59.34	55.11	62.42	56.50	65.85	47.31
33. Raw Jute	75.51	80.54	79.59	77.85	77.98	75.24	84.00	84.11	85.67	78.28
34. Coal and Coke	74.53	73.06	73.67	75.90	77.58	78.94	78.46	77.80	77.54	76.35
35. Manganese Ore	83.09	82.05	90.30	86.79	88.94	86.66	78.79	86.68	92.61	75.56
36. Kerosene Oil	89.57	89.05	87.13	85.31	87.94	85.14	78.14	76.90	76.89	78.93
37. Cement	79.55	80.15	81.13	83.28	79.81	75.97	73.89	78.11	74.79	77.86
38. Glass	40.28	37.33	39.88	47.31	50.40	51.45	53.91	62.23	65.86	62.08
39. Iron and Steel	44.34	60.04	46.43	39.92	50.86	47.62	49.80	46.99	46.39	41.05
40. Salt	94.21	94.57	92.64	94.10	94.29	94.74	94.44	95.51	94.37	95.50
41. Gunny Bags and Cloth	40.48	36.85	52.76	52.22	49.53	60.63	56.29	61.69	69.16	70.59
42. Myrobalans	92.73	92.60	92.02	92.21	94.51	96.30	95.50	95.71	96.73	95.09
43. Rubber Raw	91.68	68.92	88.38	91.55	96.87	98.88	94.47	95.46	90.34	96.81
44. Coffee	63.64	82.47	76.27	73.38	59.48	78.07	78.07	80.94	74.14	77.45
45. Tea	79.99	78.58	67.19	60.88	61.33	77.99	72.96	74.39	62.78	78.19
46. Tobacco Raw	60.39	63.88	60.64	62.41	61.07	64.39	65.87	75.24	70.35	75.38
47. Fruits Dried	71.62	67.51	75.28	76.30	76.28	78.73	79.50	60.65	77.72	83.56
48. Wood and Timber	53.89	50.78	47.52	45.10	46.51	42.78	45.59	42.81	44.03	48.86
49. Lac and Shellac	66.45	66.49	82.53	74.44	71.89	71.90	78.83	91.80	91.62	91.24
50. Oilcakes	61.59	63.38	66.86	63.56	57.38	50.74	55.59	53.89	50.14	47.22

Table 4.8 : Percentage of Net Flows to Gross Flows : Average of Ten Years (Ranked in Descending Order of Average)

Commodity	Average	S. D.	Coefficient of variation
1. Sheep and Goats	96.240	1.633	1.697
2. Salt	94.437	0.762	0.807
3. Myrobalans	94.340	1.700	1.802
4. Rubber--Raw	91.336	8.103	8.872
5. Coconut Oil	88.749	2.925	3.296
6. Wheat Flour	86.866	7.081	8.152
7. Manganese Ore	85.147	5.001	5.873
8. Kerosene Oil	83.500	4.933	5.908
9. Oilseed--Castor	82.690	7.383	8.929
10. Oilseed--Rape and Mustard	81.490	6.242	7.659
11. Oil--Castor	80.956	5.792	7.155
12. Raw Jute	79.877	3.461	4.333
13. Gur, Jaggery and Shakkar, etc.	79.715	5.317	6.670
14. Lac and Shellac	78.719	9.593	12.187
15. Jowar	78.665	6.015	7.646
16. Oilseed--Groundnut	78.637	4.104	5.219
17. Cement	78.454	2.779	3.543
18. Sugar	77.642	6.248	8.047
19. Coal and Coke	76.383	1.941	2.542
20. Oil--Groundnut	76.183	6.330	8.309
21. Maize	75.353	12.835	17.034
22. Other Animals	74.913	7.699	10.277
23. Fruits Dried	74.715	6.252	8.367
24. Coffee	74.391	6.979	9.382
25. Oilseed--Cotton	73.841	5.448	7.379
26. Ghee	73.795	4.138	5.608
27. Hemp, Indian and Other Fibres	73.551	4.608	6.265
28. Bones	73.325	4.306	5.873

(continued)

Table 4.8 : (continued)

Commodity	Average	S.D.	Coefficient of variation
29. Oilseed--Til and Linseed	72.127	5.481	7.599
30. Tea	71.428	7.282	10.195
31. Rice <u>IN</u> Husk	70.833	16.960	23.944
32. Molasses	69.258	4.365	6.302
33. Wheat	69.202	9.730	14.060
34. Gram and Pulses	68.478	3.202	4.677
35. Tobacco	65.962	5.447	8.258
36. Hides and Skins--Raw	65.303	4.704	7.204
37. Bajra and Other Grains	58.463	4.438	7.592
38. Cotton Piece Goods	57.860	6.732	11.635
39. Oilcakes	57.035	6.290	11.029
40. Raw Wool	56.358	4.248	7.537
41. Gunny Bags and Cloth	55.020	10.509	19.102
42. Raw Cotton	55.018	6.973	12.674
43. Cattle	52.123	8.362	16.043
44. Oils--Others	51.473	5.969	11.597
45. Glass	51.073	9.579	18.757
46. Rice <u>NOT</u> in Husk	50.056	5.462	10.913
47. Iron and Steel	47.344	5.341	11.281
48. Wood and Timber	46.787	3.392	7.249
49. Cotton Twist and Yarn	44.299	7.464	16.849
50. Tanned Hides and Skins and Leather	38.338	5.797	15.121

Again, it is interesting to note that most of those commodities which have higher averages, also show a greater stability of this average over the years. Sheep and goats, salt, myrobalans, coconut oil, raw jute, cement and coal are some of such commodities. In such cases any projective estimate of the inter-regional flows is, therefore, likely to be more reliable. While assessing the inter-regional trade by some model whereby only the net flows are determined, these ratios of net to gross trade will be quite helpful in arriving at the total trade for different commodities.

CHAPTER V

THE PATTERN OF COMMODITY FLOWS AND INTER-REGIONAL LINKAGES

It is intended, in this chapter, to study the pattern of commodity flows so as to answer, broadly, the following questions: (i) What is the importance and share of each region in the export and import of each commodity?, (ii) What is the pattern of inter-relations between various importing and exporting regions? and (iii) What is the role of distance in regional inter-relations?

1. The Pattern of Exports and Imports

Since, most of the regions are exporters as well as importers of the same commodity, the picture of the importance of each region in the export and import of each commodity does not clearly emerge from the gross flows. However, it is possible to have a clear picture if we look at the net flows. With this in view, net exports and net imports of each region for each commodity are found out and the percentage of each region's net exports or net imports to total inter-regional flows (i.e., total of all net exports = total of all net imports) are calculated. Thus, a region remains either a net exporter or a net importer. Table 5.1 presents the commoditywise main exporting and importing regions on this basis, and their percentage share in total net inter-regional flows for 1950-51 and 1959-60.

Table 5.1 : Commoditywise Main Exporting and Importing Regions and Their Percentage Share in Total Net Exports and Net Imports, i.e., Total Net Inter-Regional Flows

Commodity	Main Exporting Regions	1950-51 %	1959-60 %	Main Importing Regions	1950-51 %	1959-60 %
1. CATTLE	W.B.	11.15	8.22	Bihar	-	35.94
	Bihar	1.68	-	Calcutta	29.80	8.19
	Orissa	-	4.18	U. P.	32.86	21.25
	N. R.	69.08	71.73	C. R.	-	6.11
	Rajasthan	13.75	13.89	W. R.	2.20	21.90
	S. R.	3.82	1.96	Bombay	21.70	3.96
				Hyderabad	11.66	0.50
			Madras	1.04	1.07	
		99.48	99.98		99.26	98.92
2. SHEEP AND GOATS	W. B.	4.70	0.80	Calcutta	35.69	27.46
	Bihar	17.09	5.41	Delhi	6.99	-
	U. P.	15.34	22.74	W. R.	56.96	71.14
	C. R.	2.88	3.78	Bombay	0.28	0.76
	Rajasthan	56.71	66.96			
		96.72	99.69		99.92	99.36
3. OTHER ANIMALS	W. B.	16.21	57.78	Calcutta	32.33	99.01
	Bihar	-	30.08	Madras	58.51	-
	U. P.	22.45	8.46	Delhi	6.86	-
	S. R.	57.97	-			
		96.63	96.32		97.70	99.01
4. BONES	Bihar	20.38	13.15	W. B.	68.26	22.62
	U. P.	32.04	31.83	Calcutta	13.03	20.40
	C. R.	13.55	12.58	W. R.	3.10	-
	N. R.	21.28	13.58	Bombay	5.38	23.89
	Rajasthan	4.06	15.98	S. R.	9.25	28.00
	W. R.	-	4.87	Madras	0.91	3.94
	Hyderabad	6.06	7.70			
			97.37	99.69		99.93
5. TANNED HIDES AND SKINS AND LEATHER	W. B.	6.50	19.52	Bihar	3.42	-
	Bihar	-	8.41	C. R.	9.03	13.11
	Orissa	4.82	1.73	Rajasthan	4.47	11.22
	Calcutta	7.92	16.64	Delhi	4.06	3.17
	U. P.	33.01	34.34	W. R.	16.41	41.13
	N. R.	-	6.43	Bombay	6.43	-
	Bombay	-	7.99	Hyderabad	-	10.39
	Hyderabad	10.53	-	S. R.	-	20.96
	S. R.	37.19	-	Madras	54.08	-
	Madras	-	4.88			
		99.97	99.94		97.90	99.97
6. HIDES AND SKINS - RAW	Assam	2.23	7.59	Calcutta	42.09	30.00
	W. B.	7.26	6.01	Bombay	8.68	9.42
	Bihar	30.87	35.61	S. R.	31.38	3.12
	Orissa	7.04	6.33	Madras	17.83	57.18
	U. P.	22.73	16.87			
	C. R.	8.24	7.98			
	N. R.	0.74	1.63			
	Rajasthan	2.19	-			
	Delhi	2.35	8.10			
	W. R.	9.23	9.82			
	Hyderabad	7.07	0.01			
			99.95	99.95		99.98

(continued)

NOTES : (1) Abbreviations used for regions in tables in this Chapter are :-

Abbreviations	Used for	Abbreviations	Used for
W. B.	West Bengal	Bombay	Bombay Port
U. P.	Uttar Pradesh	Hyderabad	Hyderabad Region
C. R.	Central Region	S. R.	Southern Region
N. R.	Northern Region	Madras	Madras Port
W. R.	Western Region		

(2) Very minor exporters and importers have been excluded, and hence, the coverage of total net inter-regional flows ranges from 96 to 100 per cent in this Table.

Table 5.1 : (continued)

Commodity	Main Exporting Regions	1950-51	1959-60	Main Importing Regions	1950-51	1959-60	
		%	%		%	%	
7. SUGAR	Bihar	30.10	22.85	Assam	2.74	4.53	
	U. P.	69.89	76.44	W. B.	3.58	6.09	
				Orissa	1.90	1.76	
				Calcutta	17.75	17.64	
				C. R.	11.49	20.94	
				N. R.	21.89	13.47	
				Rajasthan	8.43	10.21	
				Delhi	4.51	-	
				W. R.	6.97	9.64	
				Bombay	8.81	9.42	
				S. R.	10.00	1.45	
				Madras	1.68	4.79	
			99.99	99.29		99.75	99.94
8. MOLASSES	Bihar	23.53	25.85	Assam	13.69	10.25	
	U. P.	23.45	47.76	W. B.	21.28	34.09	
	C. R.	6.76	12.45	Orissa	4.59	5.46	
	W. R.	36.45	7.42	Calcutta	41.25	19.53	
	S. R.	9.78	5.82	N. R.	11.28	10.23	
				Rajasthan	2.12	11.22	
				Delhi	2.61	2.32	
				Madras	2.75	6.60	
			99.97	99.30		99.57	99.70
	9. GUR, JAGGERY AND SHAKKAR	U. P.	87.71	74.66	Assam	3.62	2.70
N. R.		-	3.18	W. B.	6.69	4.74	
Delhi		2.95	11.53	Calcutta	9.23	6.71	
S. R.		9.01	9.96	C. R.	20.91	20.86	
				N. R.	2.14	-	
				Rajasthan	19.43	23.65	
				W. R.	25.50	35.87	
				Bombay	6.31	2.88	
			Hyderabad	5.00	1.62		
		99.67	99.33		98.83	99.03	
10. COTTON PIECE GOODS	C. R.	17.56	11.34	Assam	3.34	5.95	
	W. R.	82.43	59.01	W. B.	1.14	0.38	
	Bombay	-	29.16	Bihar	22.92	20.84	
				Orissa	2.36	-	
				Calcutta	8.72	8.30	
				U. P.	14.19	28.84	
				N. R.	10.51	7.57	
				Rajasthan	3.65	8.89	
				Delhi	0.88	13.08	
				Bombay	21.73	-	
				S. R.	8.29	4.14	
				Madras	1.80	1.97	
			99.99	99.51		99.53	99.96
11. COTTON TWIST AND YARN	U. P.	1.12	-	Assam	4.46	10.47	
	C. R.	1.91	-	W. B.	3.85	4.57	
	Rajasthan	6.88	3.36	Bihar	12.72	16.96	
	Delhi	1.79	0.23	Orissa	7.94	4.87	
	W. R.	19.86	21.86	Calcutta	-	8.31	
	Bombay	-	6.35	U.P.	-	39.21	
	S. R.	67.91	64.77	C. R.	-	13.28	
	Madras	-	3.18	N. R.	7.03	-	
				Bombay	22.76	-	
				Hyderabad	9.35	2.29	
				Madras	31.82	-	
		99.47	99.75		99.93	99.96	
12. GRAM AND PULSES	Orissa	2.95	0.57	Assam	2.65	3.71	
	U. P.	38.15	10.88	W. B.	5.16	2.15	
	C. R.	42.30	18.34	Bihar	13.63	1.58	
	N. R.	10.10	43.50	Calcutta	21.35	15.37	
	Rajasthan	3.61	23.61	W. R.	2.59	10.60	
	Delhi	-	2.84	Bombay	26.21	10.96	
	Hyderabad	2.87	0.22	S. R.	23.00	46.46	
				Madras	4.20	9.12	
			99.98	99.96		98.79	99.95

(continued)

Table 5.1 : (continued)

Commodity	Main Exporting Regions	1950-51	1959-60	Main Importing Regions	1950-51	1959-60
		%	%		%	%
13. RICE IN HUSK	W. B.	95.03	-	Assam	0.27	4.51
	Orissa	1.55	38.03	W. B.	-	25.29
	C. R.	-	10.36	Calcutta	95.71	19.50
	W. R.	-	7.86	S. R.	-	48.92
	Hyderabad	-	42.23	Madras	3.71	1.62
	S. R.	2.46	-			
		99.04	98.48		99.69	99.84
14. RICE NOT IN HUSK	W. B.	31.20	-	Assam	1.69	3.36
	Orissa	14.31	15.86	W. B.	-	6.13
	U. P.	22.38	-	Bihar	16.76	0.07
	C. R.	22.18	63.86	Calcutta	19.35	40.03
	N. R.	10.08	10.03	Delhi	2.36	3.08
	Hyderabad	-	10.15	W. R.	10.75	26.47
				Bombay	6.26	18.40
				Hyderabad	2.00	-
			S. R.	20.86	1.25	
			Madras	19.39	0.55	
		99.97	99.90		99.42	99.34
15(a) WHEAT	Calcutta	16.77	-	W. B.	1.03	0.18
	N. R.	13.08	-	Bihar	14.11	9.17
	Bombay	50.18	80.63	Calcutta	-	8.54
	S. R.	-	4.42	U. P.	18.15	24.53
	Madras	19.95	14.75	C. R.	0.77	9.18
				N. R.	-	8.49
				Rajasthan	5.79	3.09
				Delhi	16.58	18.10
				W. R.	19.98	15.63
				Hyderabad	7.68	2.68
				S. R.	15.23	-
			99.98	99.80		99.32
15(b) WHEAT (During the Middle of the Decade)		<u>1954-55</u>	<u>1955-56</u>		<u>1954-55</u>	<u>1955-56</u>
	U. P.	35.50	30.45	Assam	0.56	1.76
	C. R.	12.32	32.42	W. B.	9.97	3.79
	N. R.	24.80	26.60	Bihar	9.18	12.51
	Rajasthan	17.29	10.52	Orissa	2.57	1.04
	Hyderabad	7.86	-	Calcutta	23.25	15.35
	S. R.	1.69	-	Delhi	27.28	13.66
	Madras	0.51	-	W. R.	7.94	23.68
				Bombay	19.20	25.60
				S. R.	-	2.12
				Madras	-	0.34
			99.97	99.99		99.95
16. WHEAT FLOUR		<u>1950-51</u>	<u>1959-60</u>		<u>1950-51</u>	<u>1959-60</u>
	Calcutta	53.13	46.86	Assam	15.85	8.11
	N. R.	23.99	1.19	W. B.	34.64	32.52
	Bombay	15.20	26.62	Bihar	9.12	8.24
	Madras	7.66	23.26	Orissa	0.23	4.22
				Rajasthan	4.44	6.92
				Delhi	19.66	-
				W. R.	4.85	6.56
				Hyderabad	0.13	5.23
				S. R.	8.03	26.75
		99.98	97.93		96.95	98.53
17. JOWAR	Calcutta	9.71	-	Bihar	13.90	1.33
	U. P.	0.22	24.89	Rajasthan	9.36	-
	C. R.	11.01	35.83	W. R.	35.87	62.80
	Rajasthan	-	13.39	Bombay	-	10.44
	Bombay	47.70	-	Hyderabad	15.10	-
	Hyderabad	-	21.86	S. R.	25.73	22.10
	Madras	28.87	-			
		97.51	95.97		99.96	96.67
18. MAIZE	Assam	15.84	7.81	Bihar	30.01	44.08
	Calcutta	5.13	-	Calcutta	-	2.13
	U. P.	8.16	20.00	N. R.	7.19	7.17
	C. R.	21.40	4.69	Rajasthan	30.63	-
	Rajasthan	-	30.59	Delhi	-	3.62
	Bombay	20.42	36.32	W. R.	7.26	39.62
	Madras	24.41	-	Hyderabad	-	3.35
				S. R.	24.40	-
			95.36	99.41		99.49

(continued)

Table 5.1 : (continued)

Commodity	Main Exporting Regions	1950-51	1959-60	Main Importing Regions	1950-51	1959-60
		%	%		%	%
19. BAJRA AND OTHER GRAINS	W. B.	5.59	1.25	Assam	10.74	0.16
	Orissa	1.37	4.30	Bihar	15.96	8.03
	Calcutta	3.30	0.69	W. R.	35.46	68.12
	U. P.	19.80	20.46	Bombay	-	19.50
	C. R.	0.16	17.61	S. R.	35.55	3.11
	N. R.	15.95	30.14	Madras	-	1.06
	Rajasthan	-	18.63			
	Bombay	34.25	-			
	Hyderabad	-	6.06			
		99.94	99.14		97.71	99.98
20. OILSEED--COTTON	Assam	1.11	1.17	U. P.	14.46	3.58
	C. R.	41.68	12.13	W. R.	10.84	22.38
	W. R.	12.02	64.66	Rajasthan	25.63	44.34
	Hyderabad	41.66	20.46	Delhi	4.34	1.52
	S. R.	2.41	-	Bombay	44.46	18.30
				Madras	0.19	8.53
		98.88	98.42		99.92	98.65
21. OILSEED--GROUNDNUT	U. P.	8.33	3.47	Assam	1.09	0.92
	Rajasthan	1.36	4.40	W. B.	1.21	0.84
	W. R.	62.04	78.44	Bihar	2.04	1.41
	Hyderabad	4.71	6.56	Calcutta	11.44	9.87
	S. R.	21.38	6.48	C. R.	2.40	7.10
				N. R.	-	3.05
				Bombay	60.43	72.54
			Madras	20.84	3.72	
		97.82	99.35		99.45	99.45
22. OILSEED--RAPE AND MUSTARD	Bihar	-	2.69	W. B.	23.28	17.28
	Orissa	0.11	0.86	Bihar	13.08	-
	U. P.	54.59	33.82	Calcutta	59.78	75.74
	C. R.	9.87	10.42	Delhi	-	2.21
	Rajasthan	10.88	27.30	Bombay	2.14	2.30
	N. R.	21.26	16.89	S. R.	0.41	1.31
	W. R.	2.93	7.97			
		99.64	99.95		98.69	98.84
23. OILSEED--CASTOR	Bihar	14.79	51.60	W. B.	0.80	0.38
	Orissa	1.02	0.18	Calcutta	19.70	24.39
	U. P.	10.17	10.50	Bombay	71.15	74.18
	C. R.	1.94	0.96	S. R.	-	0.79
	Rajasthan	0.40	4.78	Madras	8.11	0.22
	W. R.	8.88	16.68			
	Hyderabad	49.18	14.45			
	S. R.	13.48	-			
		99.86	99.15		99.76	99.96
24. OILSEED--TIL AND LINSEED	Assam	0.35	2.01	W. B.	3.39	0.75
	Bihar	19.95	30.40	Calcutta	32.32	46.16
	Orissa	2.64	2.06	N. R.	1.48	3.93
	U. P.	14.95	13.02	Delhi	1.02	2.35
	C. R.	34.39	26.05	Bombay	46.99	17.21
	Rajasthan	3.53	9.31	S. R.	6.70	19.19
	W. R.	5.96	1.92	Madras	8.06	10.37
	Hyderabad	18.20	15.19			
			99.97	99.96		99.96
25. GHSE	Bihar	-	27.02	W. B.	2.89	2.90
	U. P.	25.64	-	Bihar	9.83	-
	C. R.	4.34	-	Orissa	6.41	1.25
	N. R.	7.70	-	Calcutta	56.41	41.76
	W. R.	4.79	4.43	U. P.	-	23.00
	S. R.	57.39	67.91	C. R.	-	9.85
				N. R.	-	2.16
				Rajasthan	2.01	12.29
				Delhi	9.47	4.00
				Bombay	8.93	1.46
			Madras	3.40	0.15	
		99.86	99.36		99.44	98.82
26. COCONUT OIL	Calcutta	24.11	-	Assam	7.55	10.22
	Bombay	11.34	22.14	W. B.	6.73	3.39
	S. R.	64.54	77-85	Bihar	15.06	13.48
				Orissa	6.05	4.04
				Calcutta	-	2.94
				U. P.	6.47	5.56
				C. R.	13.12	10.97
				N. R.	0.75	0.27
				Rajasthan	1.46	1.76
				Delhi	4.41	0.68
				W. R.	27.25	25.46
				Hyderabad	7.01	10.36
				Madras	4.08	10.81
		99.99	99.99		99.94	99.94

(Continued)

Table 5.1 : (continued)

Commodity	Main Exporting Regions	1950-51 %	1959-60 %	Main Importing Regions	1950-51 %	1959-60 %
27. GROUNDNUT OIL	N. R.	0.14	2.27	Assam	0.87	2.38
	W. R.	13.85	66.59	W. B.	4.76	7.46
	Hyderabad	27.69	11.08	Bihar	5.23	6.13
	S. R.	58.29	20.03	Orissa	2.38	2.44
				Calcutta	6.35	11.40
				U. P.	14.75	22.05
				C. R.	1.32	4.99
				Rajasthan	0.86	5.29
				Delhi	8.35	25.42
				Bombay	30.06	12.03
			Madras	25.02	0.36	
		99.97	99.97		99.95	99.95
28. CASTOR OIL	Bihar	0.31	1.09	Assam	0.64	0.97
	U. P.	8.98	3.38	W. B.	1.46	0.06
	C. R.	0.17	2.17	Orissa	4.48	1.66
	W. R.	58.06	58.63	Calcutta	5.90	1.17
	Hyderabad	31.96	34.69	N. R.	0.96	0.64
				Delhi	2.58	0.87
				Bombay	79.03	90.39
				S. R.	1.75	2.39
			Madras	3.15	1.25	
		99.48	99.96		99.95	99.40
29. OTHER OILS	U.P.	56.44	63.38	Assam	19.23	12.29
	C. R.	21.43	29.97	W. B.	14.25	12.15
	Rajasthan	7.73	2.21	Bihar	29.55	29.30
	W. R.	8.25	-	Orissa	3.89	5.51
	Hyderabad	4.12	1.16	Calcutta	3.62	14.56
	S. R.	-	3.25	Delhi	7.27	8.47
	Madras	1.40	-	W. R.	-	1.18
				Bombay	21.20	15.17
		99.37	99.97		99.01	98.63
30. HEMP INDIAN AND OTHER FIBRES	Bihar	5.09	5.18	W. B.	23.07	18.15
	Orissa	24.72	11.52	Calcutta	70.61	65.34
	U. P.	52.85	57.14	N. R.	0.63	2.96
	C. R.	8.64	16.82	Rajasthan	0.19	4.56
	W. R.	5.98	-	Hyderabad	-	1.75
	Bombay	1.19	9.28	S. R.	4.45	6.58
			98.47	99.94		98.95
31. RAW WOOL	Assam	-	1.97	Bihar	1.09	-
	W. B.	22.65	2.42	Calcutta	4.80	-
	Bihar	-	2.10	U. P.	13.60	14.55
	Orissa	-	3.79	N. R.	26.83	12.09
	Calcutta	-	7.55	W. R.	7.53	4.70
	C. R.	3.44	2.05	Bombay	45.84	66.93
	Rajasthan	49.08	42.62	Madras	0.27	1.71
	Delhi	0.10	12.44			
	Hyderabad	13.44	6.11			
	S. R.	11.25	18.91			
		99.96	99.96		99.96	99.98
32. RAW COTTON	Assam	0.56	0.67	W. B.	1.09	1.40
	C. R.	40.96	25.38	Orissa	2.02	1.80
	N. R.	30.96	34.26	Calcutta	3.67	7.85
	Rajasthan	3.46	6.22	U. P.	36.05	24.81
	W. R.	0.11	21.08	Delhi	8.98	2.01
	Hyderabad	23.91	12.36	Bombay	29.54	32.69
				S. R.	15.95	26.21
				Madras	2.01	2.61
		99.96	99.97		99.31	99.38
33. RAW JUTE	Assam	44.03	20.93	W. B.	-	19.81
	W. B.	3.00	-	Calcutta	97.73	76.21
	Bihar	36.71	75.26	U. P.	1.54	3.36
	Orissa	6.62	3.79	C. R.	0.65	0.49
	S. R.	9.50	-			
		99.86	99.98		99.92	99.87
34. COAL AND COKE	W. B.	27.38	32.54	Orissa	0.18	3.37
	Bihar	57.36	56.35	Calcutta	30.42	21.83
	C. R.	10.12	7.03	U. P.	22.70	22.28
	Hyderabad	4.43	4.07	N. R.	9.53	9.34
	Madras	0.69	-	Rajasthan	2.09	5.71
				Delhi	4.15	3.51
				W. R.	16.68	20.48
				Bombay	1.65	2.04
				S. R.	11.94	9.84
				Madras	-	1.43
		99.98	99.99		99.34	99.83

(continued)

Table 5.1 : (continued)

Commodity	Main Exporting Regions	1950-51 %	1959-60 %	Main Importing Regions	1950-51 %	1959-60 %
35. MANGANESE ORE	Bihar	4.21	28.65	W. B.	2.60	5.74
	Orissa	-	1.32	Calcutta	1.65	24.20
	C. R.	95.78	48.88	W. R.	4.20	-
	W. R.	-	20.98	Bombay	16.13	36.14
				S. R.	75.38	9.89
			Madras	-	23.99	
		99.99	99.83		99.96	99.96
36. KEROSENE OIL	Assam	1.93	0.66	Bihar	12.41	17.38
	W. B.	29.53	29.86	Orissa	3.00	4.33
	Calcutta	1.05	8.27	U. P.	19.50	27.03
	W. R.	-	11.36	C. R.	11.53	18.33
	Bombay	44.53	36.11	N. R.	6.74	5.76
	Madras	22.94	13.71	Rajasthan	3.04	6.41
				Delhi	1.39	4.67
				W. R.	13.34	-
				Hyderabad	6.74	9.60
				S. R.	22.24	6.44
		99.98	99.97		99.93	99.95
37. CEMENT	Bihar	34.97	32.57	Assam	4.89	1.04
	Orissa	-	1.29	W. B.	19.45	21.15
	C. R.	25.45	0.95	Orissa	4.45	-
	N. R.	7.58	-	Calcutta	2.15	10.84
	Rajasthan	17.39	35.91	U. P.	26.45	26.59
	Hyderabad	8.68	21.42	N. R.	-	4.42
	S. R.	5.90	7.84	Delhi	10.05	9.98
				W. R.	24.40	12.06
				Bombay	2.25	6.70
				Madras	5.87	7.18
		99.97	99.98		99.96	99.96
38. GLASS	W. B.	2.40	24.33	Assam	2.76	0.61
	Bihar	-	21.09	Bihar	7.22	-
	Orissa	5.80	9.67	C. R.	3.50	6.23
	Calcutta	18.25	12.88	N. R.	12.50	19.06
	U. P.	71.96	30.10	Rajasthan	4.47	6.01
	W. R.	-	1.89	Delhi	16.37	12.77
	Bombay	1.57	-	W. R.	0.85	-
				Bombay	-	8.81
				Hyderabad	4.57	2.06
				S. R.	44.79	30.36
			Madras	2.93	14.05	
		99.98	99.96		99.96	99.96
39. IRON AND STEEL	W. B.	17.34	48.35	Assam	4.30	4.88
	Bihar	68.62	36.77	Orissa	2.38	8.52
	Calcutta	9.80	11.40	U. P.	18.39	8.84
	W. R.	-	3.24	C. R.	6.79	10.73
	Bombay	3.28	-	N. R.	15.09	13.55
	Madras	0.93	0.22	Rajasthan	3.86	6.55
				Delhi	7.21	7.49
				W. R.	10.24	-
				Bombay	-	19.01
				Hyderabad	3.88	2.99
			S. R.	27.82	17.39	
		99.97	99.98		99.96	99.95
40. SALT	Calcutta	30.11	10.69	Assam	8.89	3.04
	Rajasthan	31.71	15.27	W. B.	7.92	4.39
	W. R.	32.18	61.28	Bihar	23.57	19.53
	Bombay	1.62	1.32	Orissa	3.67	3.99
	S. R.	3.13	11.07	U. P.	26.19	33.20
	Madras	1.21	0.35	C. R.	14.11	14.62
				N. R.	6.84	9.24
				Delhi	0.60	2.89
				Hyderabad	8.16	9.06
			99.96	99.98		99.95
41. GUNNY BAGS AND CLOTH	W. B.	18.58	35.32	Assam	5.60	1.68
	Bihar	26.75	19.74	Orissa	2.31	2.90
	Calcutta	38.50	40.23	U. P.	7.80	11.78
	Bombay	8.06	2.74	C. R.	18.21	15.40
	Madras	7.46	1.94	N. R.	18.84	17.19
				Rajasthan	16.16	15.89
				Delhi	-	15.34
				W. R.	13.99	8.03
				Hyderabad	11.16	7.74
				S. R.	5.88	4.00
		99.35	99.97		99.95	99.95

(continued)

Table 5.1 : (continued)

Commodity	Main Exporting Regions	1950-51 %	1959-60 %	Main Importing Regions	1950-51 %	1959-60 %
42. DYES AND TANS -- MYROBALANS	Bihar	2.57	1.02	W. B.	5.91	7.22
	Orissa	6.77	2.37	Calcutta	6.21	1.92
	C. R.	63.67	85.99	U. P.	19.32	15.76
	W. R.	26.97	10.59	N. R.	2.37	2.40
				Bombay	26.01	0.86
			Hyderabad	0.47	4.25	
			S. R.	37.46	64.88	
			Madras	1.12	2.27	
		99.98	99.97		98.87	99.56
43. RUBBER RAW	Calcutta	10.26	12.21	Orissa	62.89	-
	W. R.	-	22.00	W. B.	15.06	3.59
	Bombay	6.63	1.91	Bihar	0.26	5.00
	S. R.	83.07	63.87	U. P.	1.24	3.99
				C. R.	5.94	0.17
				N. R.	0.77	36.70
				Rajasthan	0.03	20.18
				Delhi	0.30	11.98
				Madras	13.32	18.32
			99.96	99.99		99.81
44. COFFEE	C. R.	1.20	-	Orissa	1.11	0.41
	Rajasthan	2.43	-	Calcutta	4.74	6.11
	Bombay	5.57	19.38	U. P.	1.18	1.10
	S. R.	90.75	80.44	C. R.	-	3.69
				N. R.	0.09	1.62
				Delhi	1.62	1.43
				W. R.	5.52	11.53
				Hyderabad	6.20	-
			Madras	78.95	72.26	
		99.95	99.82		99.41	98.15
45. TEA	Assam	64.34	70.55	Calcutta	82.24	68.03
	W. B.	34.46	26.41	U. P.	0.86	0.91
	S. R.	0.75	3.03	C. R.	0.96	3.37
				W. R.	2.85	4.77
				Rajasthan	0.30	2.67
				Delhi	0.52	0.34
				W. R.	9.07	11.10
				Bombay	1.64	2.81
				Hyderabad	0.76	3.70
				Madras	-	1.88
		99.55	99.99		99.20	99.58
46. TOBACCO RAW	Bihar	20.52	30.68	Assam	4.98	2.85
	W. R.	36.86	42.87	W. B.	5.24	0.09
	S. R.	42.60	26.44	Orissa	4.37	2.00
				Calcutta	5.36	14.49
				U. P.	21.38	16.48
				C. R.	13.65	20.01
				N. R.	6.75	1.85
				Rajasthan	5.76	3.57
				Delhi	2.00	20.90
				Bombay	19.92	15.94
				Hyderabad	7.63	0.78
				Madras	2.90	0.97
			99.98	99.99		99.94
47. FRUITS DRIED	W. B.	2.06	-	W. B.	-	1.58
	Orissa	1.42	-	Bihar	4.20	3.40
	N. R.	-	1.12	Orissa	-	2.16
	Bombay	30.49	21.06	Calcutta	0.79	1.24
	S. R.	66.01	77.80	U. P.	10.32	5.72
				C. R.	24.02	24.54
				Rajasthan	4.95	10.40
				Delhi	2.58	0.35
				W. R.	24.68	40.29
				Hyderabad	12.10	7.98
			Madras	16.28	2.24	
		99.98	99.98		99.92	99.90

(continued)

Table 5.1 : (continued)

Commodity	Main Exporting Regions	1950-51	1959-60	Main Importing Regions	1950-51	1959-60
		%	%		%	%
48. OILCAKES	Assam	11.59	6.22	W. B.	21.11	12.72
	Bihar	-	9.77	Bihar	2.16	-
	U.P.	11.02	26.98	Calcutta	3.50	7.71
	C.R.	18.17	36.54	N. R.	8.42	12.02
	Rajasthan	2.90	-	Delhi	5.70	3.39
	W. R.	-	5.76	W. R.	36.65	-
	Bombay	27.45	-	Bombay	-	35.40
	Hyderabad	26.41	14.70	S. R.	22.12	14.78
	Madras	2.43	-	Madras	-	13.69
		99.97	99.97		99.66	99.71
49. WOOD AND TIMBER	Assam	3.36	6.37	W. B.	10.74	8.18
	Bihar	7.26	21.36	Calcutta	20.94	25.30
	Orissa	24.57	24.01	U. P.	-	4.63
	U. P.	9.23	-	N. R.	9.23	0.53
	C. R.	50.86	34.81	Rajasthan	7.95	13.79
	Hyderabad	4.68	8.38	Delhi	12.10	8.28
	S. R.	-	5.04	W. R.	7.10	20.92
				Bombay	14.46	9.42
				S. R.	14.35	-
		99.96	99.97	Madras	3.09	8.90
					99.96	99.95
50. LAC AND SHELLAC	Assam	8.90	0.64	Bihar	-	13.04
	W. B.	0.36	1.24	Calcutta	88.62	42.69
	Bihar	15.63	-	U. P.	7.34	-
	Orissa	1.72	0.53	Rajasthan	0.70	42.82
	U. P.	-	39.21	Bombay	2.03	-
	C. R.	70.57	57.38	S. R.	0.97	0.74
	W. R.	2.50	0.56			
			99.68	99.56		99.66

It may be observed from Table 5.1 that there is quite a degree of specialization in supply of commodities (i.e., exports) by the regions. Generally a fewer number of regions cover a major bulk of net exports of commodities, while larger number of regions are their net importers. Usually three to six regions cover a major bulk of net exports. Only the following 15 commodities have more than six net exporters of each:

Bones (73.32), Tanned hides and skins and leather (38.34), Raw hides and skins (65.30), Cotton twist and yarn (44.30), Gram and pulses (68.48), Jowar (78.67), Maize (75.35), Bajra and other grains (58.46), Rape and mustard seed (82.69), Til and linseed (72.12), Other oils (51.43), Raw wool (56.36), Cement (78.45) and Oilcakes (57.03).¹

Most of these are animal and agricultural products of general nature which are produced in most of the regions. The five manufactured and processed commodities, i.e., leather, yarn, cement, oilcakes and oil, are such whose industries are widely dispersed. In cases of leather, yarn, and other oils the percentages of net to gross flows are very low, and show a large amount of cross flows between many regions. This, again, is an indication of wide dispersion of these industries.

¹ The figures in the brackets with each commodity show the average percentage of their net inter-regional flows to gross inter-regional flows.

The rest of the 50 commodities under study have six or less number of net exporters, of which the following have three or less net exporters:

Sugar (77.64), Cotton piece goods (57.86), Coconut oil (88.74), Tea (71.43) and Tobacco (65.96).

Sugar, coconut oil and tea have really very specialized regions of production, but cotton textile is again a widely dispersed activity, different varieties being produced in different regions, and hence, many regions are exporters as well as importers. This is indicated by the low percentage of net to gross flows, given in the brackets.

On the demand side, there are more than six net importers in cases of most of the commodities. Only the following 14 commodities have six or less importing regions, and no commodity has less than four net importers:

Sheep and goats, Other animals, Hides and skins--raw, Rice in husk, Jowar, Bajra, and other grains, Cotton oilseed, Rape and mustard seed, Castor seed, Hemp and other fibres, Raw jute, Manganese ore and Lac and shellac.

The industrially developed regions, i.e., Western Region, Bombay, Calcutta, Southern Region and Madras are mainly the importers of raw materials and foodgrains (except in case of wheat which, on account of foreign imports, moves from port towns to interior) and are the exporters of manufactured and processed goods to interior regions, generally speaking.

For selected important exporters of each commodity,

flow tables are prepared and presented in the Appendix II. These Tables show the gross flows from the main exporting region to all the other regions for all the ten years. Table 5.1 showing the percentage share of each region in net exports and imports and Appendix tables showing the gross flows from main exporting regions are, in a way, self-explanatory, and reveal the picture of inter-regional trade very clearly.

2. Inter-Regional Linkages

In this section a study of the pattern of inter-regional connections in India for 1950-51 and 1959-60 has been made.² The analysis is based on aggregate flows of all the 50 commodities under study, so that some general conclusions about the inter-regional linkages could be arrived at. However, the conclusions should be taken with some reservations, as these 50 commodities, though, cover a major bulk, but, do not cover the complete inter-regional trade. In order to aggregate the commodity flows, which originally are in terms of quantity, the wholesale prices of these commodities for the year 1959-60 were used, and hence, these aggregate flows are in values. However, it

2 The concepts and analytical methodology used in this and the following section is mainly based on Beckerman's paper. See, W. Beckerman, "Distance And The Pattern of Intra-European Trade," Review of Economics and Statistics, Vol. XXXVIII, 1956, pp. 31-40. A reference to this study has already been made in Chapter I. Particular references will be made wherever necessary.

may be stated that the prices were only intended to be used as weights, and the same prices were used for 1950-51 also. Therefore, these aggregate flows are not to be taken to represent the position of trade balance between the regions. The aggregate flows are presented in Tables 5.2 and 5.3. The rows in these Tables show the exports and the columns show the imports of the regions.

Tables 5.4 and 5.5 present the percentage distribution of imports, i.e., each element of a column of aggregate flow tables as percentage of the total of that column. Similarly, Tables 5.6 and 5.7 present the percentage distribution of exports, i.e., each element of a row of the aggregate flow tables as a percentage of the total of that row. These Tables show, for each region the importance of other regions in the imports and exports of that region.

Some of the features of inter-regional linkages are immediately apparent from these tables. For example, it is seen that there is very high degree of inter-dependence between Calcutta and Assam, between Western Region and Bombay, and between Southern Region and Madras. A high degree of mutual inter-dependence means that both regions of each one of these pairs account for highest percentage of exports and imports of each other, and this is true for 1950-51 as well as for 1959-60. In case of the latter two pairs, it is not surprising to find so, as, both, Bombay and Madras, are surrounded by the Western and Southern

Table 5.2 : Aggregate Inter-Regional Commodity Flows 1950-51 (In Lakhs of Rupees)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total (Exports)
1	-	136	32	2	7027	22	0	24	2	5	1	11	0	3	0	7265
2	143	-	1014	150	6724	822	169	354	54	204	120	130	217	334	165	10600
3	307	2175	-	269	4063	1880	254	743	165	321	382	763	99	1018	398	12837
4	0	250	176	-	163	16	89	47	0	31	14	19	2	470	84	1361
5	1132	1907	1911	294	-	1393	400	378	23	251	485	192	12	344	188	8910
6	199	699	1511	46	2301	-	1128	1959	982	479	955	1383	60	782	189	12673
7	2	227	545	129	804	1305	-	327	339	294	1275	3263	40	2165	113	10828
8	3	148	297	5	654	979	84	-	278	755	289	978	11	85	42	4608
9	4	104	143	18	86	441	114	219	-	168	589	599	7	36	22	2550
10	0	17	46	1	80	231	52	181	169	-	59	286	10	40	16	1188
11	64	82	1029	81	663	1786	1214	508	836	649	-	8643	468	1235	311	17569
12	52	40	962	72	596	1686	1750	759	438	728	6527	-	684	760	313	15367
13	0	53	36	34	141	247	179	28	23	126	737	2065	-	1017	269	4955
14	0	683	375	429	937	837	1096	189	99	353	2301	1348	1137	-	5516	15300
15	0	6	10	17	23	22	28	21	14	22	51	60	261	4016	-	4551
Total 1906 (Imports)	6527	8087	1547	24262	11667	6557	5737	3422	4386	13785	19740	3008	12305	7626	130562	

1 = Assam
2 = W.B.
3 = Bihar
4 = Orissa
5 = Calcutta

6 = U.P.
7 = C.R.
8 = N.R.
9 = Rajasthan
10 = Delhi

11 = W.R.
12 = Bombay
13 = Hyderabad
14 = S.R.
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Table 5.3 : Aggregate Inter-Regional Commodity Flows 1959-60 (In Lakhs of Rupees)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total (Exports)
1	-	300	38	2	6326	31	0	147	23	12	52	2	0	3	0	6936
2	159	-	1421	284	5961	1239	564	708	510	481	472	733	134	723	301	13690
3	373	3914	-	805	5998	1784	761	1302	406	1258	678	1623	128	803	488	20321
4	12	532	221	-	1244	83	104	47	1	32	34	6	58	407	96	2877
5	1608	2926	1903	719	-	1787	705	410	144	350	744	369	341	553	628	13187
6	325	685	1380	167	1975	-	1951	1748	1550	467	2800	813	152	882	339	15234
7	16	426	508	111	2462	2457	-	349	496	367	2938	2721	258	1460	230	14799
8	32	115	253	31	582	1515	382	-	435	502	773	1069	183	1275	224	7371
9	23	93	108	4	337	937	319	470	-	501	960	815	33	546	133	5319
10	5	15	96	7	19	387	124	320	287	-	368	400	28	101	117	2274
11	467	202	1085	111	1271	3772	2706	972	1789	2793	-	26538	683	1706	500	44595
12	0	21	1496	28	787	3705	1688	922	841	1948	5516	-	423	413	478	18266
13	0	186	32	16	380	165	215	55	11	33	799	1018	-	2494	318	5722
14	29	582	752	493	1441	736	1632	135	230	75	2633	968	973	-	1966	12645
15	0	19	49	41	199	72	44	18	15	20	125	110	220	2584	-	3516
Total (Imports)	3049	10016	9342	2819	29022	18670	11195	7603	6738	8839	18892	37185	3614	13950	5818	186752

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Table 5.4 : Percentage Distribution of Imports 1950-51 (Equal Importer Basis)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	-	2.08	0.40	0.13	28.96	0.19	0	0.42	0.06	0.12	0.01	0.06	0	0.03	0
2	7.50	-	12.53	9.70	27.71	7.04	2.58	6.17	1.58	4.65	0.87	0.66	7.20	2.71	2.16
3	16.11	33.32	-	17.39	16.75	16.11	3.87	12.95	4.82	7.32	2.77	3.86	3.29	8.27	5.22
4	0	3.83	2.18	-	0.67	0.14	1.36	0.82	0	0.71	0.10	0.10	0.07	3.82	1.10
5	59.39	29.22	23.60	19.00	-	11.94	6.10	6.58	0.67	5.72	3.52	0.97	0.40	2.80	2.47
6	10.44	10.71	18.66	2.97	9.48	-	17.20	34.15	28.70	10.92	6.93	7.01	1.99	6.35	2.48
7	0.10	3.48	6.74	8.34	3.31	11.18	-	5.70	9.91	6.70	9.25	16.53	1.33	17.59	1.48
8	0.16	2.27	3.67	0.32	2.70	8.39	1.28	-	8.13	17.21	2.10	4.95	0.40	0.69	0.55
9	0.21	1.59	1.77	1.17	0.36	3.78	1.74	3.82	-	3.83	4.27	3.03	0.24	0.30	0.29
10	0	0.26	0.57	0.07	0.33	1.98	0.80	3.15	4.94	-	0.43	1.45	0.33	0.33	0.21
11	3.36	1.26	12.72	5.23	2.73	15.31	18.51	8.86	24.43	14.80	-	43.78	15.54	10.04	4.08
12	2.73	0.62	11.89	4.65	2.46	14.45	26.69	13.23	12.79	16.60	47.34	-	22.74	6.17	4.10
13	0	0.81	0.45	2.20	0.58	2.12	2.73	0.49	0.67	2.87	5.35	10.46	-	8.26	3.53
14	0	10.46	4.64	27.73	3.86	7.18	16.72	3.29	2.89	8.05	16.69	6.83	37.80	-	72.33
15	0	0.09	0.13	1.10	0.10	0.19	0.42	0.37	0.41	0.50	0.37	0.31	8.67	32.64	-
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

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Table 5.5 : Percentage Distribution of Imports 1959-60 (Equal Importer Basis)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	-	3.00	0.41	0.07	21.80	0.17	0	1.93	0.34	0.14	0.28	0.01	0	0.02	0
2	5.21	-	15.20	10.07	20.54	6.64	5.04	9.31	7.57	5.44	2.50	1.97	3.71	5.18	5.17
3	12.23	39.08	-	28.56	20.67	9.55	6.80	17.12	6.02	14.23	3.59	4.36	3.54	5.76	8.39
4	0.40	5.31	2.37	-	4.29	0.45	0.93	0.62	0.02	0.36	0.18	0.02	1.60	2.92	1.65
5	52.74	29.20	20.37	25.51	-	9.57	6.30	5.39	2.14	3.96	3.94	0.99	9.44	3.97	10.79
6	10.66	6.84	14.76	5.92	6.80	-	17.43	22.99	23.00	5.28	14.82	2.19	4.21	6.32	5.83
7	0.53	4.25	5.44	3.94	8.48	13.16	-	4.59	7.36	4.15	15.55	7.32	7.14	10.46	3.95
8	1.05	1.15	2.71	1.10	2.00	8.11	3.41	-	6.45	5.68	4.09	2.87	5.07	9.14	3.85
9	0.75	0.93	1.16	0.14	1.30	5.02	2.85	6.18	-	5.68	5.08	2.19	0.91	3.92	2.29
10	0.16	0.15	1.03	0.25	0.07	2.08	1.11	4.21	4.26	-	1.95	1.07	0.77	0.73	2.01
11	15.32	2.02	11.61	3.94	4.38	20.20	24.17	12.79	26.55	31.59	-	71.37	18.90	12.23	8.59
12	0	0.21	16.01	0.99	2.71	19.84	15.07	12.12	12.48	22.03	29.19	-	11.70	2.96	8.22
13	0	1.86	0.35	0.57	1.31	0.89	1.92	0.73	0.17	0.38	4.23	2.74	-	17.87	5.47
14	0.95	5.81	8.05	17.49	4.96	3.94	14.57	1.78	3.41	0.85	13.94	2.60	26.92	-	33.79
15	0	0.19	0.53	1.45	0.69	0.38	0.40	0.24	0.23	0.23	0.66	0.30	6.09	18.52	-
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

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Table 5.6 : Percentage Distribution of Exports 1950-51 (Equal Exporter Basis)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
1	-	1.88	0.45	0.03	96.64	0.32	0	0.34	0.03	0.08	0.02	0.16	0	0.05	0	100
2	1.35	-	9.57	1.42	63.41	7.75	1.60	3.34	0.51	1.93	1.13	1.23	2.05	3.15	1.56	100
3	2.39	16.93	-	2.10	31.64	14.65	1.98	5.79	1.29	2.50	2.98	5.95	0.77	7.93	3.10	100
4	0	18.37	12.93	-	11.98	1.18	6.53	3.45	0	2.28	1.03	1.40	0.15	34.53	6.17	100
5	12.70	21.40	21.45	3.30	-	15.63	4.49	4.24	0.26	2.82	5.44	2.16	0.14	3.86	2.11	100
6	1.57	5.52	11.92	0.36	18.15	-	8.90	15.46	7.75	3.78	7.54	10.91	0.48	6.17	1.49	100
7	0.02	2.10	5.04	1.19	7.43	12.05	-	3.02	3.13	2.72	11.78	30.12	0.37	19.98	1.05	100
8	0.07	3.21	6.44	0.11	14.19	21.25	1.82	-	6.03	16.39	6.27	21.22	0.24	1.85	0.91	100
9	0.16	4.08	5.61	0.71	3.37	17.29	4.47	8.58	-	6.59	23.10	23.49	0.28	1.41	0.86	100
10	0	1.43	3.87	0.09	6.73	19.44	4.37	15.24	14.24	-	4.96	24.08	0.84	3.37	1.34	100
11	0.37	0.47	5.86	0.46	3.77	10.16	6.91	2.89	4.76	3.70	-	49.18	2.67	7.03	1.77	100
12	0.34	0.26	6.26	0.47	3.88	10.97	11.38	4.94	2.85	4.74	42.47	-	4.45	4.95	2.04	100
13	0	1.07	0.73	0.69	2.84	4.98	3.61	0.57	0.47	2.54	14.87	41.68	-	20.53	5.42	100
14	0	4.46	2.45	2.81	6.12	5.47	7.16	1.24	0.65	2.31	15.04	8.81	7.43	-	36.05	100
15	0	0.13	0.22	0.38	0.51	0.48	0.62	0.46	0.31	0.48	1.12	1.32	5.73	88.24	-	100

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Table 5.7 : Percentage Distribution of Exports 1959-60 (Equal Exporter Basis)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
1	-	4.32	0.55	0.03	91.20	0.45	0	2.12	0.33	0.17	0.75	0.03	0	0.05	0	100
2	1.16	-	10.38	2.08	43.54	9.05	4.12	5.17	3.73	3.51	3.45	5.35	0.98	5.28	2.20	100
3	1.84	19.26	-	3.96	29.52	8.78	3.74	6.41	2.00	6.19	3.33	7.99	0.63	3.95	2.40	100
4	0.42	18.49	7.68	-	43.24	2.88	3.62	1.63	0.04	1.11	1.18	0.21	2.02	14.15	3.33	100
5	12.19	22.18	14.43	5.45	-	13.55	5.35	3.11	1.10	2.66	5.64	2.80	2.59	4.19	4.76	100
6	2.14	4.50	9.06	1.10	12.96	-	12.80	11.47	10.17	3.06	18.38	5.34	1.00	5.79	2.23	100
7	0.11	2.88	3.43	0.75	16.63	16.60	-	2.36	3.35	2.48	19.85	18.39	1.75	9.86	1.56	100
8	0.44	1.56	3.43	0.44	7.89	20.55	5.18	-	5.90	6.81	10.49	14.50	2.48	17.29	3.04	100
9	0.44	1.75	2.03	0.08	7.08	17.62	5.99	8.83	-	9.41	18.05	15.33	0.62	10.27	2.50	100
10	0.22	0.66	4.22	0.31	0.84	17.02	5.45	14.07	12.62	-	16.18	17.58	1.23	4.45	5.15	100
11	1.05	0.45	2.43	0.25	2.85	8.46	6.07	2.18	4.01	6.26	-	59.51	1.53	3.83	1.12	100
12	0	0.11	8.19	0.15	4.31	20.28	9.24	5.05	4.61	10.66	30.20	-	2.32	2.26	2.62	100
13	0	3.25	0.56	0.28	6.64	2.88	3.76	0.96	0.20	0.58	13.96	17.79	-	43.59	5.55	100
14	0.23	4.60	5.95	3.90	11.39	5.82	12.91	1.07	1.82	0.60	20.82	7.65	7.69	-	15.55	100
15	0	0.54	1.39	1.16	5.66	2.05	1.24	0.53	0.43	0.57	3.55	3.13	6.26	73.49	-	100

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Regions respectively, and hence, the strongest connections with the immediate surrounding regions. But in case of Calcutta and Assam, it is interesting to note that it is Assam, and not the immediate surrounding region of West Bengal, which accounts for the highest percentage of Calcutta's imports, and it is Calcutta which accounts for highest percentage of Assam's imports both in 1950-51 and 1959-60. Highest percentage of Assam's exports, again, goes to Calcutta, but highest percentage of Calcutta's exports goes to West Bengal. Other important connections revealed by these tables are between U.P. and Northern Region, and between West Bengal and Bihar.

So far we have looked at the absolute flows and talked of inter-regional connections on the basis of share of a region in the total exports and imports of another region. Absolute flows between the regions are a function of the size of the regions also. For example, the exports of Bihar to Orissa are likely to be smaller than that to U.P. or West Bengal, simply because the total imports of Orissa are smaller than the total imports of U.P. or West Bengal. Therefore, in order to study the relative strength of inter-regional connections, specially with reference to factors, like 'distance' (as we do in the following section, i.e., section 3 of this chapter), it is necessary to eliminate the effect of differences in the size of the trade

of various regions.³ This may be done by adjusting every region to an "equal importer" or "equal exporter" basis. This is achieved simply by looking, now, differently at the Tables 5.4 to 5.7, showing distribution of imports and exports. Let us, for example, consider Table 5.4. Instead of reading, say, the first column of this Table to know the distribution of imports of Assam, if we read the first row of this Table to know the distribution of exports of Assam, it will simply indicate that if all the importing regions were importing 100 units each, Assam would, then, export 28.96 units to Calcutta, 2.08 units to West Bengal, and so on. Similarly, we read, now, Tables 5.6 and 5.7 (percentage distribution of exports) by columns, which will show the distribution of imports of each region, if all the exporting regions were exporting 100 units each.

Looking at the tables in this way, again, our earlier conclusions of strongest inter-connections between each of the two of the three pairs of regions are confirmed. Moreover, broadly speaking, four groups of regions emerge, having stronger connections with each other within the group than with a region in another group. These groups may be described as below :

³ This has been pointed out by Beckerman, who has devised the method of adjusting every region to an "equal importer" and "equal exporter" basis in order to eliminate the size effect. (*Ibid*, p.31.) The same method of analysis has been adopted here.

- (1) Calcutta, Assam, West Bengal, Bihar, and Orissa, with leading role of Calcutta;
- (2) Northern Region, U.P., Delhi, and Rajasthan, with leading role of Northern Region;
- (3) Bombay, Western Region, and Central Region, with leading role of Bombay;
- (4) Southern Region, Hyderabad, and Madras, with leading role of Southern Region.

The position of Orissa in the first group, that of Rajasthan in the second, of Central Region in the third, and that of Hyderabad in the fourth is more fluid, as is expected also, each one of these being the regions having proximity with two leading regions. Thus, Rajasthan has strong connections with Western Region also, Orissa and Central Region with Southern Region, and Hyderabad with Western Region also. This picture of inter-regional connections may be very helpful in dividing India into four or five big regions for purposes of economic studies or planning. It may be noted that our five-region division of India (Chapter II) is quite in conformity with these conclusions.

Another feature that emerges from the Tables 5.4 to 5.7 is high concentration of trade of each region with three or four other regions, mainly within a group. Consider, for example, column for Bombay in Table 5.4. If the imports of Bombay were equally distributed among the 14

other regions exporting to Bombay, each one of them would account for about 7.14 per cent of Bombay's imports. But Western Region accounts for 43.78 per cent, Central Region for 16.53 per cent, Hyderabad for 10.46 per cent (all the three regions together accounting for 70.77 per cent of Bombay's imports), and there are five regions accounting for less than 1 per cent of its imports each, and other four accounting for 1 to 5 per cent of its imports. Similar situation prevails for other regions too, and for imports and exports both, and for both the points of time. Taking all the regions together, following (Table 5.8) is the frequency distribution of the percentage figures of imports and exports.

Table 5.8 : Frequency Distribution of the Percentage Figures of Imports and Exports

Percentage	Imports				Exports			
	1950-51		1959-60		1950-51		1959-60	
0 - 1	66	66	54	54	57	57	45	45
1 - 2	15)		18)		27)		21)	
2 - 3	21)	63	18)	63	20)	77	26)	79
3 - 4	18)		15)		17)		21)	
4 - 5	9)		12)		13)		11)	
5 - 6	5)		20)		10)		18)	
6 - 7	9)	28	10)	40	11)	32	7)	35
7 - 8	6)		4)		8)		6)	
8 - 9	8)		6)		3)		4)	
9 - 10	4)		5)		1)		5)	
10 - 11	6)	17	4)	16	3)	10	5)	17
11 - 12	3)		2)		3)		2)	
12 - 13	4)		5)		3)		5)	
13 +	36	36	37	37	34	34	34	34

Frequency is highest between 0-1 per cent, and very low near and on the upper side of the average, i.e., 7 per cent and above. The group of 13 + per cent usually includes figures which sometimes go even above 90 per cent (for example, exports of Assam to Calcutta, Tables 5.6 and 5.7), and hence account for much larger portion of total imports or exports. Usually, high percentages of imports and exports occur between the regions with ^{in each of} the groups described above. Further, from Table 5.8 it appears that concentration in the percentage groups 0-1 and 13+ is more for imports than for exports, both in 1950-51 and 1959-60. This is quite in conformity with the conclusions from Table 5.1, it may be recalled, that, in general, the number of net exporters of the commodities is less than the number of net importers. As a result the imports of the most of the regions get concentrated to a few supplying sources only. Again, concentration in extreme groups is more in 1950-51 than in 1959-60 for both, imports and exports. In other words, on the whole, the exports of the regions are more diversified than imports, and the tendency is towards diversification of both, imports and exports over the years. This may suggest a causal relationship between general level of development of all the regions (or spread of development to many regions) and diversified inter-regional linkages.

The following table (Table 5.9) presents the region-

Table 5.9 : Regionwise Frequency Distribution of the Percentage Figures of Imports and Exports

Regions	0-1 per cent		1-5 per cent				5-9 per cent				9-13 per cent				13+ per cent					
	Import		Export		Import		Export		Import		Export		Import		Export		Import		Export	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Assam	8	8	12	11	2	1	1	2	1	2	0	0	1	2	0	0	2	1	1	1
W. B.	4	4	1	1	6	5	10	7	0	3	1	3	2	0	1	2	2	2	1	1
Bihar	4	3	1	1	4	4	7	7	1	2	3	4	3	1	0	0	2	4	3	2
Orissa	3	5	3	3	5	4	5	7	2	1	2	1	1	1	1	0	3	3	3	3
Calcutta	5	2	2	0	5	7	7	7	0	2	1	3	1	0	1	1	3	3	3	3
U. P.	3	4	2	0	3	2	3	6	3	3	5	2	2	2	2	5	3	3	2	1
C. R.	3	3	2	2	6	4	6	7	1	3	2	0	0	0	2	1	4	4	2	4
N. R.	4	3	4	2	3	4	3	4	4	2	3	4	1	3	0	1	2	2	4	3
Rajasthan	5	4	4	3	4	3	4	3	1	4	3	3	2	1	0	2	2	2	3	3
Delhi	3	5	3	4	3	2	6	3	4	4	1	2	1	0	0	1	3	3	4	4
W. R.	5	3	3	2	4	6	6	8	2	1	3	3	1	0	1	0	2	4	1	1
Bombay	5	4	3	3	4	8	7	5	2	1	1	2	1	0	2	2	2	1	1	2
Hyderabad	6	3	5	6	3	4	5	3	2	3	1	2	0	2	0	0	3	2	3	3
S. R.	4	2	2	2	3	4	5	4	4	3	5	4	1	3	0	2	2	2	2	2
Madras	4	1	10	5	8	5	2	6	1	6	1	2	0	1	0	0	1	1	1	1
Total	66	54	57	45	63	63	77	79	28	40	32	35	17	16	10	17	36	37	34	34

NOTE : 1 = 1950-51.

2 = 1959-60.

wise frequency distribution of percentage figures in five percentage groups.

Assam stands out, conspicuously, as a region with highest concentration of trade. This is, perhaps, not so much because of Assam's less developed economy alone, but due to its isolated situation from most of the regions also; for, with more or less the same level of development, Orissa has more diversified trade connections. For other regions, there does not seem to be much difference in the nature of trade connections. The reasons may be that the regions having disadvantage of level of development (and a diversified economy), have the advantage of being in proximity to many other regions. Such regions are Central Region, Hyderabad, Orissa, Rajasthan and U.P. The regions having disadvantage in distance (in the sense of proximity to many other regions), such as Southern Region and Madras, Bombay and Calcutta, have the advantage of having a developed and highly diversified economy.

It is interesting to note that Beckerman arrives at similar conclusions about the intra-European trade between 16 countries. His conclusions are: "(1) There is a striking degree of concentration of each country's trade on a small range of other countries, (2) The degree of concentration has declined somewhat between 1938 and 1953, and (3) Both these conclusions apply equally to imports and exports."⁴ However, from the frequency distribution

4 Beckerman, op.cit., p. 32.

of percentage distribution of intra-European trade for 1938, it is revealed that the concentration in extreme percentage groups is less for intra-European trade for 1938 than for inter-regional trade of India for 1950-51, or even for 1959-60.

3. Distance and the Pattern of Flows

There are many factors that determine the pattern of regional inter-relations, as we have discussed in Chapter I. It is revealed from the earlier studies of commodity flows that 'distance' is the most important single factor which affects the trade relationships between any pair of regions. However, other factors like 'complementarity' and the general level of development of a region also affect the degree and the type of inter-relations, sometimes even obliterating the role of distance. In this section the role of distance in the pattern of inter-regional trade will be examined. The analysis will be based on Tables 5.4 to 5.7, showing percentage distribution of exports, and imports. However, since the object is to study the importance of the relative distance with respect to the relative importance of trade connections of a given region, it is necessary to ignore the effect of size of a region, and hence, distribution of exports and imports will be considered on "equal importer" and "equal exporter" basis respectively, as explained earlier.

Measuring the distances between the regions is highly problematical, each region being a vast area in space. In real situation, the flows take place between several points in different regions, and the effective distances are the distances between the points thus connected. Further, each type of flow, say, the flow of each commodity, is likely to have a different set of inter-connected points. Though, the number of such points in each region will not be very large--such points being only those which have high transport advantages and are commercial or industrial centres, yet, the identification of such points and their hinterland becomes difficult in the absence of data on point to point flows. Moreover, the hinterland of all such points in a region may not coincide with the regional boundaries--our regional delineation being based on the availability of data, which in order to serve more generally a variety of purposes, are invariably collected in terms of administrative boundaries.⁵ Thus, keeping in view, what Beckerman terms as, the concept of 'centre of economic gravity',⁶ a centre has to be selected in each region, and the distances between the regions are, in fact, the distances between these centres. The concept of 'centre of economic gravity' is a working approximation to

5 The problems of regional delineation have already been discussed in Chapter II.

6 Beckerman, op.cit., p. 32.

the notion of 'central place' which could be regarded as the point of dispersion and the point of absorption of economic flows.

Thus, in order to have a best approximation of a centre of economic gravity for each region, main railway-routes have been considered for calculating the distances; and the centres between which the distances are measured, are selected on the basis of their importance as (a) approximately a geographical centre, (b) an industrial and marketing centre, and (c) a railway junction. However, since all these factors are to be given weight in selecting a centre, there is quite a degree of arbitrariness and personal judgement involved.⁷

7 Except in case of West Bengal, Central Region and Western Region, one important city has been selected in each region to represent the "centre of economic gravity". These centres are given below against the name of the regions which they represent:-

Assam: Gauhati; Bihar: Gaya; Orissa: Cuttack; U.P.: Lucknow; Northern Region: Ludhiana; Rajasthan: Ajmer, Hyderabad Region: Hyderabad; Southern Region: Bangalore.

Calcutta, Bombay, Delhi, and Madras are represented by their main railway-stations.

In cases of West Bengal and Western Region the distances from all the regions are calculated as distances from those regions to Calcutta and Bombay respectively minus 150 kilometres.

In case of Central Region, however, no one centre could be satisfactorily selected. Central Region is crossed by three main railway routes: from north to south, from north-east to south-west and from east to west. Itarasi is almost a central point on north-south route, Jabbalpur on north-east/south-west route and Durg on East-west route. Hence, the most appropriate one of these three centres was selected to calculate distance from a region connected by a particular route.

The concept of economic distance, in fact, relates to the cost of transportation rather than actual kilometrage. However, the distances calculated here are in terms of railway-kilometrage, and, it is assumed that the actual distances in kilometres also represent the cost of transportation. Though, the transport costs are usually telescopic in nature (i.e., per kilometre average cost decreasing with longer hauls), yet the results here are not likely to be affected much, as, the analysis that follows, is based on ordinal relations (i.e., rankings) of distance and trade. Table 5.10 shows the distances between the regions.

Table 5.11 presents, for each of the 15 regions, the rankings of other regions in respect of distance and share in exports (based on "equal importer basis" table) and share in imports (based on "equal exporter basis" table). Ranking in distance is in ascending order, i.e., the nearest region is ranked first and the farthest region is ranked last, while the rankings in shares in exports and imports are in descending order, i.e., the largest share is ranked first and the smallest share is ranked last.

These tables reveal interesting features of regional inter-relations. Let us, for example, take the table for Assam. Calcutta is obviously farther from Assam than is the region of West Bengal. But both in exports and imports, Calcutta ranks first, and for both the years, 1950-51 and

Table 5.10 : Distance Between the Regions (Kilometres)

	Assam	W.B.	Bihar	Ori- ssa	Cal- cutta	U.P.	C.R.	N.R.	Raja- sthan	Delhi	W.R.	Bom- bay	Hyde- rabad	S.R.	Madras
Assam	-	679	1190	1238	829	1430	1648	2244	2289	1919	2548	2698	2419	2844	2488
W.B.	679	-	300	259	150	647	716	1546	1494	1291	1668	1818	1440	1865	1509
Bihar	1190	300	-	736	458	339	725	1238	1186	983	1566	1716	1917	2342	1986
Orissa	1238	259	736	-	409	1075	1043	1974	1922	1719	1995	2145	1181	1606	1250
Calcutta	829	150	458	409	-	797	866	1696	1644	1441	1818	1968	1590	2015	1659
U. P.	1430	647	339	1075	797	-	675	899	859	483	1270	1420	1558	2422	2066
C. R.	1648	716	725	1043	866	675	-	1109	768	797	841	991	883	1530	1391
N. R.	2244	1546	1238	1974	1696	899	1109	-	690	312	1552	1702	1991	2756	2500
Rajasthan	2289	1494	1186	1922	1644	859	768	690	-	378	832	982	1419	2066	2070
Delhi	1919	1291	983	1719	1441	483	797	312	378	-	1240	1390	1679	2444	2188
W. R.	2548	1668	1566	1995	1818	1270	841	1552	832	1240	-	150	651	1048	1110
Bombay	2698	1818	1716	2145	1968	1420	991	1702	982	1390	150	-	801	1198	1260
Hyderabad	2419	1440	1917	1181	1590	1558	883	1991	1419	1679	651	801	-	647	790
S. R.	2844	1865	2342	1606	2015	2422	1530	2756	2066	2444	1048	1198	647	-	356
Madras	2488	1509	1986	1250	1659	2066	1391	2500	2070	2188	1110	1260	790	356	-

Table 5.11 : Ranking of Regions in Distance and in Exports and Imports

Regions		Rank in distance	Rank in Exports		Rank in Imports	
From	To		1950-51	1959-60	1950-51	1959-60
1. ASSAM	: W. B.	1	2	2	4	4
	Calcutta	2	1	1	1	1
	Bihar	3	4	4	2	3
	Orissa	4	6	9	12	8
	U. P.	5	5	7	3	2
	C. R.	6	13	13	9	11
	Delhi	7	7	8	12	10
	N. R.	8	3	3	8	6.5
	Rajasthan	9	8.5	5	7	6.5
	Hyderabad	10	13	13	12	13
	Madras	11	13	13	12	13
	W. R.	12	11	6	5.5	5
	Bombay	13	8.5	11	5.5	13
	S. R.	14	10	10	12	9
2. WEST BENGAL:	Calcutta	1	1	1	1	1
	Orissa	2	3	3	2	3
	Bihar	3	2	2	3	2
	U. P.	4	6	6	4	5
	Assam	5	4	8	9	6
	C. R.	6	10	11	8	8
	Delhi	7	8	7	10	11
	Hyderabad	8	5	12	11	7
	Rajasthan	9	12	5	6	9
	Madras	10	9	10	14	12
	N. R.	11	7	4	7	10
	W. R.	12	13	13	12	13
	Bombay	13	14	14	13	14
	S. R.	14	11	9	5	4
3. BIHAR	: W. B.	1	1	1	4	2
	U. P.	2	4	7	3	3
	Calcutta	3	3	3	1	1
	C. R.	4	11.5	9	9	8.5
	Orissa	5	2	2	2	5
	Delhi	6	8	5	10	7
	Rajasthan	7	10	10	8	11
	Assam	8	5	6	13	14
	N. R.	9	6	4	5	8.5
	W. R.	10	14	13	7	10
	Bombay	11	11.5	12	6	4
	Hyderabad	12	13	14	12	13
	Madras	13	9	8	14	12
	S. R.	14	7	11	11	6

(continued)

Table 5.11 : (continued)

Regions From	To	Rank in Distance	Rank in Exports		Rank in Imports	
			1950-51	1959-60	1950-51	1959-60
4. ORISSA	W. B.	1	1	1	4	4
	Calcutta	2	8	2	1	1
	Bihar	3	3	4	3	2
	C. R.	4	4	7	5	7
	U. P.	5	9	9	11	6
	Hyderabad	6	12	6	7	10
	Assam	7	13.5	10	14	14
	Madras	8	5	5	10	5
	S. R.	9	2	3	2	3
	Delhi	10	7	11	13	9
	Rajasthan	11	13.5	13.5	6	13
	N. R.	12	6	8	12	8
	W. R.	13	10.5	12	9	11
	Bombay	14	10.5	13.5	8	12
5. CALCUTTA	W. B.	1	2	2	2	2
	Orissa	2	4	3	6	3
	Bihar	3	3	4	3	4
	U. P.	4	5	6	4	6
	Assam	5	1	1	1	1
	C. R.	6	7	8	7	5
	Delhi	7	8	11	8	14
	Hyderabad	8	14	7	13	10
	Rajasthan	9	13	13	12	9
	Madras	10	11	5	14	11
	N. R.	11	6	9	5	8
	W. R.	12	9	12	11	13
	Bombay	13	12	14	10	12
	S. R.	14	10	10	9	7
6. U. P.	Bihar	1	3	5	5	8
	Delhi	2	5	12	2	4
	W. B.	3	6	7	9	7
	C. R.	4	4	3	6	5
	Calcutta	5	8	8	4	6
	Rajasthan	6	2	1.5	3	3
	N. R.	7	1	1.5	1	1
	Orissa	8	12	10	12	11.5
	W. R.	9	10	4	8	9
	Bombay	10	9	14	7	2
	Assam	11	7	6	14	14
	Hyderabad	12	14	13	11	11.5
	Madras	13	13	11	13	13
	S. R.	14	11	9	10	10

(continued)

Table 5.11 : (continued)

Regions From	To	Rank in Distance	Rank in Exports		Rank in Imports	
			1950-51	1959-60	1950-51	1959-60
7. CENTRAL REGION	U. P.	1	3	2	2	2
	W. B.	2	10	10	12	9
	Bihar	3	7	8	10	11
	Rajasthan	4	4	5	7	5
	Delhi	5	8	11	8	6
	W. R.	6	5	1	4	4
	Calcutta	7	11	4	6	7
	Hyderabad	8	13	7	9	10
	Bombay	9	2	6	1	3
	Orissa	10	6	13	5	12
	N. R.	11	9	9	11	8
	Madras	12	12	12	13	13
	S. R.	13	1	3	3	1
	Assam	14	14	14	14	14
8. NORTHERN REGION	Delhi	1	1	4	2	1
	Rajasthan	2	3	3	3	3
	U. P.	3	2	2	1	2
	C. R.	4	9	8	9	8
	Bihar	5	5	10	4	4
	W. B.	6	7	12	8	5
	W. R.	7	8	6	10	9
	Calcutta	8	6	11	6	7
	Bombay	9	4	9	5	6
	Orissa	10	13	13	7	11
	Hyderabad	11	12	5	12	13
	Assam	12	14	14	14	10
	Madras	13	11	7	13	14
	S. R.	14	10	1	11	12
9. RAJASTHAN	Delhi	1	2	2	1	1
	N. R.	2	3	1	3	3
	C. R.	3	7	6	5	7
	W. R.	4	1	3	4	5
	U. P.	5	4	4	2	2
	Bombay	6	5	8	6	4
	Bihar	7	6	10	7	8
	Hyderabad	8	13	12	10	13
	W. B.	9	8	11	9	6
	Calcutta	10	10	9	12	10
	Orissa	11	9	14	14	14
	S. R.	12	11	5	8	9
	Madras	13	12	7	11	11
	Assam	14	14	13	13	12

(continued)

Table 5.11 : (continued)

From	Regions To	Rank in Distance	Rank in Exports		Rank in Imports	
			1950-51	1959-60	1950-51	1959-60
10. DELHI	N. R.	1	2	2	1	3
	Rajasthan	2	1	1	2	2
	U. P.	3	3	3	4	7
	C. R.	4	5	6	7	9
	Bihar	5	6	8	9	5
	W. R.	6	7	5	5	4
	W. B.	7	11	13	12	6
	Bombay	8	4	7	3	1
	Calcutta	9	9	14	6	8
	Hyderabad	10	9	9	8	12
	Orissa	11	13	11	11	10
	Assam	12	14	12	14	14
	Madras	13	12	4	13	13
S. R.	14	9	10	10	11	
11. WESTERN REGION	Bombay	1	1	1	1	1
	Hyderabad	2	4	6	4	7
	Rajasthan	3	2	3	2	5
	C. R.	4	3	4	5	3
	S. R.	5	8	9	3	2
	Madras	6	11	11	12	10
	Delhi	7	6	2	9	6
	U. P.	8	5	5	6	4
	N. R.	9	9	8	7	8
	Bihar	10	7	10	10	12
	W. B.	11	14	14	11	11
	Calcutta	12	13	12	8	9
	Orissa	13	10	13	13	13
Assam	14	12	7	14	14	
12. BOMBAY PORT	W. R.	1	1	1	1	1
	Hyderabad	2	3	8	2	3
	Rajasthan	3	7	6	5	5
	C. R.	4	2	5	3	2
	S. R.	5	9	10	8	8
	Madras	6	11	9	12	11
	Delhi	7	4	2	4	4
	U. P.	8	5	3	7	10
	N. R.	9	6	7	6	6
	Bihar	10	8	4	9	7
	W. B.	11	14	13	13	9
	Calcutta	12	13	11	10	12
	Orissa	13	10	12	11	13
Assam	14	12	14	14	14	

(continued)

Table 5.11 : (continued)

From	Regions To	Rank in Distance	Rank in Exports		Rank in Imports	
			1950-51	1959-60	1950-51	1959-60
13. HYDERABAD: REGION	S. R.	1	2	1	1	1
	W. R.	2	3	3	4	8
	Madras	3	4	2	2	2
	Bombay	4	1	4	3	5
	C. R.	5	6	5	9	7
	Orissa	6	7	10	12	6
	Rajasthan	7	10	13	10	13
	W. B.	8	9	6	5	11
	U. P.	9	8	8	8	10
	Calcutta	10	11	7	13	3
	Delhi	11	5	11	6	9
	Bihar	12	13	12	7	12
	N. R.	13	12	9	11	4
	Assam	14	14	14	14	14
14. SOUTHERN REGION	Madras	1	1	1	1	1
	Hyderabad	2	2	2	3	2
	W. R.	3	5	5	6	12
	Bombay	4	9	11	8	13
	C. R.	5	4	4	4	6
	Orissa	6	3	3	2	4
	W. B.	7	6	7	11	8
	Calcutta	8	11	8	9	10
	Rajasthan	9	13	10	13	5
	Bihar	10	10	6	5	11
	U. P.	11	8	9	7	7
	Delhi	12	7	14	10	9
	N. R.	13	12	12	12	3
	Assam	14	14	13	14	14
15. MADRAS PORT	S. R.	1	1	1	1	1
	Hyderabad	2	2	2	3	2
	W. R.	3	7.5	5	7	13
	Orissa	4	3	3	2	5
	Bombay	5	9	9	6	7
	C. R.	6	5	7	11	12
	W. B.	7	13	13	8	11
	Calcutta	8	12	4	5	4
	Bihar	9	11	6	4	9
	U. P.	10	10	9	9	10
	Rajasthan	11	6	11.5	13	8
	Delhi	12	4	11.5	10	3
	Assam	13	14	14	14	14
	N. R.	14	7.5	10	12	6

1959-60. Further, Assam supplies a greater percentage of Punjab's total imports than those of Bihar's, Orissa's or U.P.'s, though Punjab is much farther in distance than either of these. Between 1950-51 and 1959-60, there is a shift in the importance of Assam's supplies from Orissa to Western Region. On the import side, Assam takes greater percentages of Bihar's and U.P.'s total exports than that of West Bengal's which stands fourth in rank. Western Region which ranks 12th in distance, ranks 5th in imports. These features remain more or less similar for 1950-51 and 1959-60.

The trade-links of Assam with other regions are excellent example of the existence of the conditions of 'complementarity' as one of the important conditions of inter-regional linkages, and due to the same condition, the pattern of inter-relations may differ for exports and imports.

Assam's main exports are the commodities of agriculture and plantation, and it imports almost every other thing mainly industrial. Hence, the strongest connections are with Calcutta, which is a highly industrialized region, and a port through which Assam's tea is exported to foreign countries. Besides this, Assam's strongest connections with Calcutta mainly in imports may also be attributed to the existence of better trading institutions and better transportation facilities at Calcutta, which serves as a

trading junction between Assam and the rest of the regions of India. It might be easier to book the goods directly from Calcutta to Assam rather than from any mid-point on Calcutta-Assam railway route. Similarly, trading institutions are also important in inter-regional connections. Thus, it is seen, for example, that Calcutta is a heavy importer of cotton piece goods and cotton twist and yarn from Western Region, Bombay, U.P., Central Region and Southern Region; of glass from U.P. and Bihar; and of iron and steel from West Bengal and Bihar; but it exports all these commodities to Assam, and Assam does not import these commodities in the same large quantities from the source-regions as it imports from Calcutta. Assam's main exports to Calcutta are raw jute (for jute textile mills), and tea (mainly for foreign exports), and others are cilseeds, raw hides and skins, maize and a little of raw cotton and wool. Northern Region is another important buyer of Assam's tea. Kerosene oil from Assam goes to West Bengal and Bihar. For its imports Assam has to depend on Calcutta for most of the manufactured and processed products main among which are: all types of oils, glass, iron and steel, gunny bags, wheat and wheat flour and salt. Besides, sugar, molasses and gur are imported from U.P. and Bihar, rice from West Bengal, gram and pulses, bajra and other grains from U.P., cotton textile goods from Western Region and Bombay and cement, iron and steel and coal from Bengal and Bihar.

Now looking at the table for Calcutta we find that though the relative distance of Assam from Calcutta is more than of Calcutta from Assam,⁸ still Calcutta has the strongest connections with Assam. The connections of Calcutta with regions other than Assam, say upto 8th rank of distance, are more or less in order of distance, and the pattern is more or less the same for exports and imports, and for both the years, 1950-51 and 1959-60.

In order to test the relationship between the distance and the importance of trade, Spearman rank correlation coefficients can be used. "This coefficient," in the words of Beckerman, "measures, roughly speaking, the strength of the relationship between the ranking of countries (or regions) with respect to their relative distance from a given country and the ranking of the same countries with respect to their relative importance in the trade of a given country."⁹

The following Table (Table 5.12) gives the rank correlation coefficients between distance and trading relations.

Out of the 60 correlation coefficients, 42 are significant at 1 per cent level, and another 5 coefficients at 5 per cent level. Nine coefficients are not significant

8 Relative distances are not necessarily symmetrical.

9 Op.cit., p. 36.

Table 5.12 : Rank Correlation Coefficients Between Rank in Distance and Ranks in Exports and Imports

	Distance and Exports		Distance and Imports	
	1950-51	1959-60	1950-51	1959-60
1. Assam	0.711	0.578	0.507	0.704
2. West Bengal	0.846	0.675	0.648	0.710
3. Bihar	0.599	0.679	0.670	0.573
4. Orissa	0.433	0.770	0.481	0.648
5. Calcutta	0.719	0.767	0.657	0.697
6. U. P.	0.714	0.357	0.662	0.522
7. C. R.	0.235	0.376	0.200	0.301
8. N. R.	0.798	0.226	0.807	0.895
9. Rajasthan	0.864	0.688	0.886	0.798
10. Delhi	0.841	0.613	0.758	0.741
11. Western Region	0.820	0.670	0.837	0.811
12. Bombay	0.745	0.613	0.820	0.829
13. Hyderabad	0.859	0.815	0.692	0.512
14. S. R.	0.780	0.802	0.732	0.310
15. Madras	0.502	0.777	0.789	0.279

Note : Significance levels for the correlation coefficients are as follows: 1%, 0.641; 5%, 0.514; 10%, 0.441.

even at 10 per cent level, of which 4 belong to Central Region. In fact, because of its very position of being in centre, for Central Region the ranking of other regions in relative distance becomes much more arbitrary than for any

other region. We could, as well, neglect the case of Central Region for this purpose. In general, there is quite a degree of correlation between distance and the strength of trade connections, and this is true for imports and exports both. Beckerman arrives at similar conclusions about intra-European trade. ¹⁰

It also appears from Table 5.11, that in most of the cases, the pattern of exports and imports has remained similar for 1950-51 and 1959-60. As between the pattern of exports and imports for the same year, there is a similarity of a smaller degree. Rank correlation coefficients between the pattern of imports and exports for 1950-51 and 1959-60, and between exports and imports of the same year are presented in Table 5.13.

Twenty-seven coefficients are significant at 5 per cent level in the first two columns, and 23 coefficients are significant at the same level in the next two columns. Further, it is interesting to note that even for Central Region, the patterns of trade over different years, and between exports and imports are strongly correlated.

10 Beckerman, op. cit., p. 36.

Table 5.13 : Rank Correlation Coefficients Between Exports and Imports for the Same Years and Between Imports of 1950-51 and 1959-60 and Between Exports of 1950-51 and 1959-60

	Exports 1950-51/ 1959-60	Imports 1950-51/ 1959-60	Export- Import 1950-51	Export- Import 1959-60
1. Assam	0.874	0.789	0.654	0.869
2. West Bengal	0.714	0.881	0.618	0.701
3. Bihar	0.893	0.808	0.529	0.485
4. Orissa	0.722	0.679	0.457	0.863
5. Calcutta	0.736	0.776	0.943	0.793
6. U. P.	0.713	0.893	0.758	0.284
7. Central Region	0.600	0.811	0.833	0.829
8. N. R.	0.428	0.890	0.890	0.166
9. Rajasthan	0.710	0.925	0.846	0.793
10. Delhi	0.736	0.790	0.916	0.442
11. Western Region	0.851	0.899	0.786	0.684
12. Bombay	0.829	0.913	0.938	0.727
13. Hyderabad	0.771	0.358	0.776	0.736
14. Southern Region	0.802	0.424	0.851	0.508
15. Madras	0.576	0.574	0.394	0.535

Note : Significance levels for the correlation coefficients are as follows: 1%, 0.641; 5%, 0.514; 10%; 0.441.

CHAPTER VI

STRUCTURAL CHANGES IN THE COMMODITY FLOW PATTERN

1. Measurement of Structural Change

The object is to measure the change in the pattern of commodity flows. If there are n number of regions between which such flows take place for any given situation, we have $n(n-1)$ inter-connections, any or all of which are likely to change over time. It becomes unwieldy to describe all the relations and changes in them and the overall view of such changes remains ambiguous. Hence, the need for a measure which would indicate the total impact of the change in the structure.¹

¹ Abel and Waugh have suggested a method of measuring the changes in the pattern of international trade (Martin E. Abel and Frederick V. Waugh, "Measuring Changes in International Trade," Journal of Farm Economics, November 1966, pp. 847-861). The international trade is to be represented in the form of a matrix, say, E which is a matrix of trade between regions netted between each pair of regions--a zero-axial skew-symmetric matrix or ZSM (i.e., a square matrix with elements a_{ij} such that each diagonal element $a_{ii} = 0$ and each non-diagonal element $a_{ji} = -a_{ij}$). An inverse will exist for a ZSM of even order if it is of full rank. The interest is to see how E changes over time. If E_t represents the import-export matrix for a given commodity in period t , then

$$\begin{array}{ll} E_1 = T_1 E_0 & T_1 = E_1 E_0^{-1} \\ E_2 = T_2 E_1 & \text{where, } T_2 = E_2 E_1^{-1} \\ E_t = T_t E_{t-1} & T_t = E_t E_{t-1}^{-1} \end{array}$$

Thus, T is a transformation matrix which is composed of two types of changes:

(continued)

Such inter-relations as indicated above could be conceived as a matrix with its basic definition of 'an ordered arrangement of a set of elements', each element of which will indicate the flow from a region i to a region j . Thus conceived, a measure indicating the change in the structure of matrices would have a general applicability to all phenomena which could be arranged in this form.

Change in a situation like this may be of two types i.e., (i) change of level or scale, (ii) change of structure.

If matrices A and B represent the two situations, and if there is only a difference of scale between the two, then

$$sB = A$$

where s is a scalar, and $sb_{ij} = a_{ij}$, for $i=1$ to n , $j=1$ to n .

(Footnote 1 from last page continued)

$$T = D + S$$

Where, D is the diagonal matrix of the same order as E , and measures the trend in the total imports or exports of each country (the k th row of E_1 is d_{kk} times the k th row of E_0 . If there is no change between $t = 0$ and $t = 1$, then D is a unit matrix);

And S represents the changes in the deviation from trend, or in the distribution of exports (or imports) among the countries. If there is no change in the distribution of exports (or, imports), all the non-diagonal elements of T will be zero.

There are other properties of these matrices which have been discussed in the paper referred to. But the difficulties arise in finding an inverse of matrix E . Moreover, this method, again, becomes unwieldy when we have to study hundreds of matrices; because, for every pair of matrices E , we have a transformation matrix T , every element of which, again, is to be read. Hence, the need for a more aggregative and broad indicator of the changes in the pattern of trade.

Therefore $\sum_{ij} s b_{ij} = \sum_{ij} a_{ij}$ where b_{ij} and a_{ij} are the elements of B and A matrix respectively. This means that B as a whole is s times A, and B has the same structure as A, but a different scale. On the other hand, if $\sum_{ij} a_{ij} = \sum_{ij} b_{ij}$, but there is no element to element correspondence between A and B, we can say there is a structural difference between A and B.

In the real situation, both type of changes are mixed up. Since we would like to measure the structural change, both the matrices can be brought to the same scale and thus the scale effect may be eliminated. This can be done simply by expressing each element of the matrix as a ratio of the sum of all its elements - say expressing the matrix as a percentage matrix

$$\frac{a_{ij}}{\sum_{ij} a_{ij}} \times 100 \text{ for all } i\text{'s and } j\text{'s.}$$

Now by A and B, we will refer to these scaled matrices.

In view of the particular type of Matrices that we have in mind i.e., Inter-regional Flow Matrices, it is proper to give weight to the different flows. In other words, a change of some magnitude in the flows between a distant pair of regions may be considered a bigger change than a change of the same magnitude in the flow of a pair of two neighbouring regions. In order to bring this effect in, we have, first, to multiply each of the two matrices by a distance matrix² (multiplication of corresponding elements

2 The distance matrix used for computations in this Chapter is the same as given in Table 5.10 (Chapter V).

only) and then convert them into percentage matrix i.e.,

$$\frac{d_{ij} a_{ij}}{\sum_{ij} d_{ij} a_{ij}} \times 100$$

Thus, finally our matrices which are to be compared are the weighted scaled matrices, and now, by A and B we will refer to these matrices only.

The sum of the absolute differences, element by element, of the two matrices gives a magnitude of change, say, $M = \sum_{ij} |a_{ij} - b_{ij}|$ which will be smaller if the differences are small and relatively larger if the differences are large. If there is no difference at all between the two matrices, then $M = 0$. In another extreme situation, if the two matrices have nothing in common between them, then,

$$M = 2 \sum_{ij} a_{ij} = 2 \sum_{ij} b_{ij} = \sum_{ij} (a_{ij} + b_{ij})$$

Now, if we define our measure of structural change (MC) as

$$MC = \frac{\sum_{ij} |a_{ij} - b_{ij}|}{\sum_{ij} (a_{ij} + b_{ij})}$$

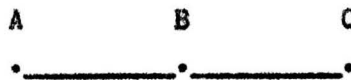
then the value of MC will lie between zero and unity

$$0 \leq MC \leq 1$$

and as MC moves from zero (a no change position) to unity (the extreme change position) it indicates higher and higher magnitude of change in the whole structure. MC measures just the extent of departure between the two matrices.

2. The Concept of Uni-directional Change

We can compute the measure of structural change (MC) for a series of matrices, say, A, B and C and see the departure between A and B, and between B and C. Now, if B is different from A and C is different from B, it is quite possible that C is the same as A, or C is as different from A as A is from B or any other situation. These differences or departures between different situations or matrices may be conceived of as the distances between different points in the space. So conceived, it becomes clear that if the distance between A and C is the sum of distances between A and B, and B and C, the three points are in a straight line



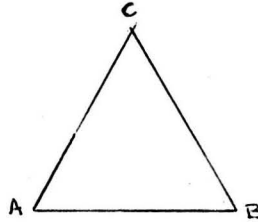
and if the phenomenon under study has moved from one situation to another in the above said manner, we may call it a uni-directional change, where ³

$$MC_{AC} = MC_{AB} + MC_{BC}$$

$$\text{or } Q = \frac{MC_{AC}}{MC_{AB} + MC_{BC}} = 1$$

³ While defining Q we have in mind a chronological order of the three matrices which represent three different situations, according to which A is the first and C is the last situation.

We may conceive of another situation, where all the points are equi-distant in space, and points A, B and C can be represented to form a triangle of equal sides



That is $MC_{AB} = MC_{BC} = MC_{AC}$, and

$$Q = \frac{MC_{AC}}{MC_{AB} + MC_{BC}} = \frac{1}{n-1}$$

where n is the number of matrices to be compared.

A third situation may be such where ~~A~~ B is different from A, C is different from B, but C is the same as A, in which case $MC_{AC} = 0$ and $Q = 0$.

Thus, we have three situations, each of an extreme type, which are :

- (1) $Q = 0$, i.e., a reversion to the original situation.
- (2) $Q = \frac{1}{n-1}$, i.e., all situations are equally different from each other, and
- (3) $Q = 1$, i.e., a perfect uni-directional movement, and all the other situations will lie within these extremes.

If purely from the point of view of descriptive convenience, we re-define the above three situations as

- (1) $DUC = -1$ when $Q = 0$,
- (2) $DUC = 0$ when $Q = \frac{1}{n-1}$, and
- (3) $DUC = +1$ when $Q = 1$

where DUC is the degree of Uni-directional change, which, when negative, shows a reversion towards the original situation; when zero, shows no direction in the change, viz., random change from year to year and when positive, shows some degree of change in one direction, i.e., going away from the original situation.

Thus defined, DUC will always be between -1 and +1. Transforming Q into DUC (merely a matter of shift of origin with two different scales on the two sides of $Q = 0$),

(a) When $Q < \frac{1}{n-1}$:-

$$DUC = (Q - \frac{1}{n-1}) (\frac{1}{n-1})^{-1}$$

$$\text{or } DUC = nQ - Q - 1$$

(b) When $Q \geq \frac{1}{n-1}$

$$DUC = (Q - \frac{1}{n-1}) (1 - \frac{1}{n-1})^{-1}$$

$$\text{or } DUC = \frac{nQ - Q - 1}{n-2}$$

where n is the number of matrices under study and DUC is the degree of uni-directional change between first and the last (nth) matrix.

It may be pointed here that DUC is not defined for $n=2$, and in fact in such case the problem of measuring uni-directional change does not arise at all. This measure is applicable only when there are more than two situations to be compared.

The property of uni-directional change as expressed

in terms of change in the structure of matrices is that when each element of the matrix (if it changes from one period to another) moves only in one direction, then $DUC = 1$. In terms of the inter-regional flow matrices, say, if flow from region 2 to 1 is always rising and flow from region 2 to 3 is always declining from period to period, and so on, then DUC is unity. Even if an element (or flow) a_{ij} stops rising or falling at a certain point of time, but does not revert its direction of change, the result will be the same. This will be clear from the following examples:

$$(1) \quad \begin{array}{ccc} A & B & C \\ \begin{bmatrix} 8 & 20 & 4 \\ 6 & 10 & 16 \\ 8 & 8 & 20 \end{bmatrix} & \begin{bmatrix} 6 & 18 & 3 \\ 8 & 12 & 17 \\ 8 & 8 & 20 \end{bmatrix} & \begin{bmatrix} 4 & 16 & 2 \\ 8 & 12 & 18 \\ 10 & 10 & 20 \end{bmatrix} & \begin{array}{l} MC_{AB} = .05 \\ MC_{BC} = .05 \\ MC_{AC} = .10 \\ DUC = 1.0 \end{array} \end{array}$$

$$(2) \quad \begin{array}{ccc} A & B & C \\ \begin{bmatrix} 40 & 10 & 5 \\ 5 & 1 & 9 \\ 5 & 10 & 15 \end{bmatrix} & \begin{bmatrix} 30 & 5 & 1 \\ 1 & 15 & 9 \\ 5 & 5 & 29 \end{bmatrix} & \begin{bmatrix} 0 & 13 & 8 \\ 5 & 14 & 10 \\ 15 & 10 & 25 \end{bmatrix} & \begin{array}{l} MC_{AB} = .28 \\ MC_{BC} = .35 \\ MC_{AC} = .40 \\ DUC = .27 \end{array} \end{array}$$

$$(3) \quad \begin{array}{ccc} A & B & C \\ \begin{bmatrix} 10 & 5 \\ 0 & 0 \end{bmatrix} & \begin{bmatrix} 5 & 10 \\ 0 & 0 \end{bmatrix} & \begin{bmatrix} 5 & 5 \\ 5 & 0 \end{bmatrix} & \begin{array}{l} MC_{AB} = .333 \\ MC_{BC} = .333 \\ MC_{AC} = .333 \\ DUC = 0.0 \end{array} \end{array}$$

In other words DUC shows how far the inter-regional connections show a persistent tendency in changing from

one period to another. If the changes show no persistency, then it is clear that they are random. On the other hand, if there is some persistency in the changes, we may interpret them to have been caused due to changes in the economic structure.

3. Results

We have 10 years' data for each of the 50 commodities (i.e., 10 flow matrices for each commodity), and hence we calculate MC for 9 chain combinations of years, i.e., MC_{1-2} , MC_{2-3} MC_{9-10} and MC_{1-10} . The results are presented in Table 6.1. The commodities, in the Table, are arranged in order of the degree of uni-directional change. In case of most of the commodities, we find there are wide fluctuations in the structure from year to year (i.e., high values of MC) and DUC is relatively low. Commodities like Raw Rubber, Rice not in husk, Jowar, castor, maize, molasses, castor oil and wheat show the widest fluctuations in the flow pattern, which means that these commodities do not have stable sources of supply and demand. For example, about wheat we know that in the years of relative food scarcity, this commodity flows from port regions to internal regions, specially to those states which are primarily wheat consuming states (e.g., U.P.). On the other hand, during the years of good crop these very demanding regions become surplus regions and the direction of flows are just reversed, as it happened during 1954-55 and 1955-56. There are

Table 6.1 : Measure of Structural Change (MC) and Degree of Uni-directional Change (DUC) in Commodity Flow Pattern (1950-51 to 1959-60)

	MC ₁₋₂	MC ₂₋₃	MC ₃₋₄	MC ₄₋₅	MC ₅₋₆	MC ₆₋₇	MC ₇₋₈	MC ₈₋₉	MC ₉₋₁₀	MC ₁₋₁₀	DUC
1. Salt	.1570	.1635	.1212	.0762	.1287	.1532	.1390	.1675	.1076	.4526	.2944
2. Kerosene Oil	.1046	.1120	.0639	.0931	.1199	.2302	.2200	.1584	.1149	.4519	.2926
3. Manganese Ore	.1543	.0380	.1077	.1095	.0772	.1009	.2009	.0607	.1897	.3461	.2498
4. Hides and Skins - Raw	.2096	.1917	.2050	.2182	.2078	.1777	.1415	.2152	.2205	.5356	.2122
5. Glass	.1808	.1758	.1648	.1564	.1927	.1561	.1886	.1598	.1782	.4432	.1961
6. Other Animals	.3647	.3073	.3928	.3345	.3109	.1669	.1752	.2139	.1555	.6798	.1908
7. Gram and Pulses	.2566	.2253	.2078	.2289	.1924	.1332	.1362	.1682	.1628	.4707	.1844
8. Oil - Groundnut	.2740	.3074	.2696	.1896	.1697	.2100	.1462	.1901	.1626	.5121	.1752
9. Oilseed - Cotton	.3897	.2463	.2037	.2439	.3049	.2039	.1631	.2055	.4567	.6337	.1699
10. Lac and Shellac	.2035	.3060	.1291	.1954	.1747	.1692	.1355	.0810	.3748	.4424	.1563
11. Oilcakes	.3196	.3157	.2558	.2365	.2289	.2435	.2051	.2955	.2353	.5839	.1562
12. Dry fruits	.1673	.1974	.1149	.1504	.1231	.1312	.1971	.1849	.1636	.3571	.1560
13. Raw wool	.3347	.3311	.2792	.2185	.2285	.1662	.1444	.1334	.2221	.4927	.1444
14. Bones	.2888	.2923	.2057	.2079	.2930	.3957	.2024	.2604	.1869	.5566	.1434
15. Oil--Coconut	.1724	.1876	.2402	.1994	.1139	.1621	.1813	.2451	.1311	.3894	.1433
16. Gunny bags and cloth	.2101	.2482	.2141	.2245	.3275	.1990	.2082	.1883	.3089	.4898	.1338
17. Cotton Twist and Yarn	.3812	.2784	.1931	.1717	.2024	.2124	.2523	.1871	.1855	.4719	.1322
18. Livestock - Cattle	.2369	.2202	.1755	.1780	.1873	.2188	.3138	.1520	.1550	.4192	.1316
19. Other grains (Millets etc.)	.3038	.4975	.4961	.3102	.2430	.1773	.3047	.3252	.3586	.6827	.1297
20. Coal and Coke	.1199	.0790	.1084	.0931	.1046	.0870	.1346	.1115	.0799	.2055	.1268
21. Iron and Steel	.1493	.1546	.1409	.1572	.1544	.1606	.2128	.1360	.2497	.3388	.1265
22. Cement	.2110	.1866	.2792	.3313	.1895	.2292	.3200	.2232	.1465	.4697	.1247
23. Rice in husk	.2355	.3049	.5143	.5619	.5237	.4630	.5899	.7911	.4294	.9643	.1208
24. Wheat flour	.3335	.3295	.3956	.4154	.3151	.2285	.3626	.3761	.2673	.6414	.1137
25. Tanned Hides and Skins and Leather	.2095	.2927	.2689	.2197	.2277	.2417	.2547	.3255	.3862	.4884	.1015
26. Jowar	.4259	.5830	.4704	.4039	.2713	.3904	.2777	.6956	.6754	.8347	.0989
27. Cotton Piece- goods	.2238	.1900	.1956	.1381	.1371	.1246	.1465	.2227	.1976	.3102	.0964
28. Myrobalans	.1738	.1534	.1040	.1491	.1608	.1447	.1837	.1686	.1135	.2583	.0900
29. Rice not in husk	.5148	.5585	.4527	.5219	.4240	.3816	.2916	.4548	.3936	.7609	.0892
30. Rubber Raw	.8845	.5604	.6815	.6367	.4622	.6280	.2407	.3154	.4676	.9184	.0871
31. Tobacco Raw	.1776	.1941	.2216	.1901	.2007	.1914	.2188	.2504	.2382	.3544	.0867
32. Raw Jute	.1626	.0773	.3101	.1873	.4590	.4110	.1091	.1257	.2051	.3846	.0863
33. Sheep and Goats	.1737	.1158	.1171	.0516	.1168	.1773	.1175	.0650	.0309	.1771	.0813

(continued)

Table 6.1 : (continued)

	MC ₁₋₂	MC ₂₋₃	MC ₃₋₄	MC ₄₋₅	MC ₅₋₆	MC ₆₋₇	MC ₇₋₈	MC ₈₋₉	MC ₉₋₁₀	MC ₁₋₁₀	DUC
34. Ghee	.3020	.3608	.2987	.2535	.2670	.3754	.2930	.3376	.3472	.4883	.0688
35. Oilseed-Castor	.3263	.5639	.4276	.5633	.1982	.3530	.4840	.5248	.1717	.6102	.0650
36. Wood and Timber	.1380	.1520	.2116	.1423	.1615	.1201	.1501	.3040	.3194	.2798	.0602
37. Sugar	.2185	.2496	.3346	.5254	.4310	.2427	.1574	.2623	.2078	.4322	.0599
38. Coffee	.2779	.2327	.2655	.2496	.3189	.2453	.2955	.1979	.2832	.3894	.0599
39. Tea	.0687	.1274	.1070	.1294	.1678	.0711	.2498	.1253	.2232	.2049	.0566
40. Oilseed - Groundnut	.3838	.3313	.4062	.2790	.2813	.3729	.3392	.2480	.2545	.4529	.0509
41. Raw Cotton	.2354	.1971	.1681	.1492	.2534	.1766	.2457	.1808	.2278	.2799	.0467
42. Oilseed - Til and Linseed	.3383	.2889	.3619	.2661	.3106	.2722	.3126	.3387	.3489	.4285	.0448
43. Maize	.8334	.9028	.7457	.6145	.4735	.5481	.4192	.6579	.5200	.8389	.0401
44. Molasses	.4021	.4142	.4980	.4719	.3456	.3207	.3230	.3682	.4239	.4786	.0259
45. Oilseed - Rape and Mustard	.2260	.2821	.2507	.2875	.2737	.2730	.1923	.2648	.2269	.2995	.0230
46. Other Oils	.2306	.2418	.2648	.2482	.2852	.2215	.2458	.2240	.2566	.2837	.0189
47. Hemp-Indian and Other Fibres	.2661	.3708	.3138	.1939	.3044	.4341	.3581	.2442	.1904	.3379	.0171
48. Gur, Jaggery and Shakkar	.1932	.1777	.2295	.2518	.1325	.1616	.1376	.2999	.3474	.2320	.0102
49. Wheat	.3651	.3642	.3205	.7918	.5412	.5422	.3494	.3289	.3188	.4484	.0036
50. Oil - Castor	.4287	.6035	.4420	.4615	.2835	.2156	.2377	.2673	.2618	.3521	.0102

Notes : (1) Years 1950-51, 1951-52 and so on till 1959-60 are numbered as 1, 2,10 serially. MC is calculated for chain combination of years, i.e., 1-2, 2-3, 9-10 and for the first and the last year combination, i.e., 1-10.

(2) Commodities, here, are arranged in descending order of their rank in DUC.

commodities which show relatively lesser fluctuations in the trading pattern, and have quite perceptible degree of uni-directional change (say, first 12 commodities in Table 6.1). On further examination of the flow matrices, we find in these cases that some of the exporting regions' share in export have slowly declined, while some others have gained. And there is a corresponding change in the sources of supply for the importing regions. Let us briefly discuss the main features of changes in case of these commodities.

Salt : Main exporters of salt are Western Region, Calcutta, Bombay, Rajasthan and Southern Region. Relative share in the exports of Western Region and Southern Region show a rise over the years, while those of Calcutta and Rajasthan have shown a marked decline. Further the source of supply of salt for Hyderabad has slowly shifted from Western Region to Southern Region. Bengal's imports from Calcutta have declined, but there is no corresponding rise in its imports from other regions.

Kerosene Oil : In case of kerosene oil, it is seen that the Western Region, Calcutta and West Bengal have increased their share in export to other regions, while the Southern Region has lost. And the source of supply for Hyderabad has shifted from Southern Region to Western Region.

Manganese Ore : The share of Western Region, Bihar and Orissa seem to have increased in exports of manganese

ore, while that of Central Region has declined.

Raw Hides and Skins : In the case of raw hides and skins, U.P.'s total share in export is declining, particularly its export to Calcutta, while at the same time, U.P.'s export to Madras has been increasing, which indicates a shift from Calcutta to Madras as main market. Orissa's share in export has also declined, while that of Assam has slightly risen.

Glass : U.P.'s share in total export has declined, while that of Bihar, Bengal and Orissa has steadily increased.

Other Animals : Other animals include horses, ponies and mules and other animals. There is relatively more year to year fluctuation in the trading pattern, specially in the first six years of the decade. A tendency of overall change in the pattern over the decade is nonetheless, perceptible. Share of U.P. in exports has declined, while the share of West Bengal and Bihar has increased. The share of Calcutta in total imports has also increased.

Gram and Pulses : The share of Punjab and Rajasthan in total exports has increased, while that of U.P., Central Region and Orissa shows a decline.

Groundnut Oil : The share of Western Region in exports has increased while that of Southern Region and Hyderabad has declined.

Cotton Oilseeds : Here again the share of Western

Region in export has shown a marked rise, while that of Hyderabad has declined.

Lac and Shellac : Bihar shows a sharp decline in the share of its export, and Western Region too shows a decline, though the relative share of Western Region in exports is itself quite small. There is decline in the share of Calcutta in total imports.

Oilcakes : Central Region's share in exports is rising while that of Hyderabad and Bombay is falling.

Dry Fruits : The share in export of Southern Region has increased while that of Bombay has declined. However, there is a sharper decline in total exports of Bombay, and there is some decline in exports of Southern Region too, and hence, the fact is that total inter-regional flow of this commodity shows a fall over the decade.

The changes in the flow pattern become less and less perceptible and regular when we come to the commodities with $DUC < 0.15$, and the changes become almost negligible and their tendency unexplainable when we look at the flow pattern of commodities with $DUC < 0.10$.

Thus except in the case of about a dozen commodities described above there is little or no change in the pattern of flows. Of these 12 commodities which have shown a perceptible change, wherever Western Region is one of the important exporters, it seems to have achieved more favourable situation as far as its share in the total exports

are concerned.

Another significant feature that emerges is that DUC is always positive (except in the case of castor oil where the value of DUC is very small).

PART III

DERIVATION OF OPTIMUM FLOWS

CHAPTER VII

A MODEL FOR OPTIMUM PATTERN OF LOCATION AND COMMODITY FLOWS

1. Review of Some Earlier Models

With the growing realization of the concept and importance of space as an explicit factor in the process of economic change, interest has grown in empirically highlighting the inter-spatial inter-industry connections. Prof. Leontief observes : "The movement of commodities and services between separate geographic areas and the internal economic structure of such regions are mutually inter-dependent. A truly comprehensive theory would consider the spatial distribution of economic activities to be an integral aspect of a single system of economic relationships." ¹

Being short of a "truly comprehensive" theory, partial equilibrium models were suggested, which, in general, may be called as 'inter-regional input-output models'. We may briefly mention three basic, but slightly different approaches to such models.

Leontief's inter-regional scheme² is the disaggregation of the solution of a national (input-output) model

¹ Wassily Leontief, "Interregional Theory" in Studies in the Structure of American Economy, New York, Oxford University Press, 1953, p. 93.

² Ibid., pp. 93-115.

into regional components, with the assumption of "local" and "national" industries. The physical production-consumption balance is achieved on a local or regional level in the case of former, and on a national or even international level in case of the latter. Thus, the inter-regional flows relate only to the 'national' industries. The percentage-wise participation of each individual region in the total output of every national commodity is known and constant. Given the input-output structure and the total outside demand for nationally balanced commodities and separate regional demands for all goods and services (regional as well as national), total requirements of each region can be known, and comparing the outputs with the corresponding total requirements of each region--commodity-wise, import-export structure of each region can be determined. In this scheme the balances of each region with the rest of the country, rather than balances with each of other regions can be known, and hence the author prefers to call his theory as a theory of "intra-national" but not "inter-regional" relationships. This approach, however, is useful in "the determination of the differential regional impact of a change in the final, i.e., outside demand for the products of a given national economy."³ Isard has examined the empirical implications of certain operations with the model.⁴

3 Ibid, p. 95.

4 Walter Isard, "Some Empirical Results And Problems of Regional Input-output Analysis," in Studies in the Structure of American Economy (op.cit., pp. 116-181).

In Isard's model,⁵ a commodity supplied from one region should be considered as a different input from a similar commodity supplied from another region. This distinction is made to "recognize the geographic inequalities that give rise to flows," and encompass "the full extent of heterogeneity in existing market areas."⁶ Each sector in a region is considered to procure a given input in different proportions from the various regions. Thus, the distinction of each input commodity-wise as well as region-wise makes Isard's model a "pure inter-regional model," but at the same time difficult to put to empirical test for want of such comprehensive data.

Chenery proposes another approach "derived from an expansion of the international trade sector in a national model."⁷ In his model, the supply (or, trade) coefficients are not combined with the input coefficients. All imports are charged to national sector producing similar commodities, and thus, are included in the total supply of the commodity available. Each region has a separate input-output

5 Walter Isard, "Interregional and Regional Input-Output Analysis : A Model of A Space Economy," The Review of Economics and Statistics, Vol.XXXIII, 1951, pp. 318-328.

6 Ibid, p. 320.

7 Hollis B. Chenery, "Interregional and International Input-Output Analysis," in The Structural Interdependence of the Economy, Ed. Tibor Barna, John Wiley & Sons, Inc., New York, 1954, pp. 341-356.

matrix. The ratio of the amount supplied from each region to the total demand in one region (i.e., "the regional supply coefficient") can be varied to take into account the factors which may affect trade patterns. Chenery has empirically tested his model for Italy⁸ and Moses has tested a similar model for the United States.⁹

One general characteristic of these inter-regional input-output models is that the pattern of inter-regional flows (or, the coefficients of inter-regional trade) as well as inter-industry flow coefficients are assumed to be constant. In other words, such models assume a given location pattern, and address themselves to the determination of levels of production and trade consequent to some exogenous changes. In developing economies, on the other hand, we have to think of levels of production and inter-regional flows simultaneously with the establishment of a suitable location pattern, which presents many alternatives. A linear programming cum inter-industry approach is most suitable for this purpose.¹⁰

8 Ibid.

9 Leon N. Moses, "The Stability of Interregional Trading Patterns and Input-Output Analysis," American Economic Review, Vol. XLV, 1955, pp. 803-832.

10 A good discussion of the inter-industry theory and linear programming models and the synthesis of the two approaches is contained in Inter-Industry Economics by H.B. Chenery and P.G. Clark (New York, John Wiley & Sons, Inc., 1959, Chapters 2, 3, 4, 5, 6, 11 and 12); and also in Methods of Regional Analysis: An Introduction to Regional Science by Walter Isard (New York, The Technology Press of M.I.T. & John Wiley & Sons, Inc., 1960, Chapters 8, 10 and 12).

Earlier attempts at inter-regional programming models are mostly confined to a single industry in isolation. Fox's model of U.S. livestock feed economy¹¹ and Henderson's programming model of U.S. coal industry¹² are important empirical attempts of this type. Ambika Ghosh has applied a programming model to test the efficiency of location and inter-regional flows of cement industry in India.¹³

But, the location and inter-regional flows of all the sectors of an economy are mutually inter-dependent, and hence, the need for a multi-regional multi-sectoral model, where linear programming and inter-industry analysis are fused together. The idea of such models, again, is not new. Regional Scientists like Isard¹⁴ and Lefebvre¹⁵ have worked on comprehensive theoretical schemes, and there are other studies in the field.¹⁶ Yet, the problems in empirical

11 K. A. Fox, "A Spatial Equilibrium Model of the Livestock Feed Economy in the United States," Econometrica, Vol. XXI, 1953, pp. 547-566.

12 J. M. Henderson, The Efficiency of Coal Industry, Harvard University Press, Cambridge, 1958.

13 Ambika Ghosh, Efficiency in Location and Inter-regional Flows--Cement Industry During the Five-Year Plans, 1950-1959, North-Holland Publishing Company, Amsterdam, 1965.

14 Walter Isard, Location and Space Economy, John Wiley & Company, New York, 1956.

15 Lefebvre L., Allocation in Space, North-Holland Publishing Company, Amsterdam, 1958.

16 For example, M. Harwitz, "Regional Development Policy," in Transport Investment and Economic Development, Ed. Garry Fromm, Brookings Institute, Washington D.C., 1965.

application of a comprehensive model have not been satisfactorily resolved so far. The need is to present such methods of analysis and tools for planning which compromise with the existing data and explain as much as is possible.

There are a few attempts in empirical application of a multi-sectoral multi-regional model to Indian situation. V. G. Bhatia developed a model for allocation of investments between regions in India.¹⁷ But the empirical application of the model was made at an abridged and simplified level due to the difficulties of data. Bhatia's model relates to the allocation of additional capacity of production between the regions. Allocation of investment were determined for two periods of five years each so as to maximize the income (value added) in the third five year period. Given the old and new technologies in each region (though, only the national input-output structure was used for all the regions), and also consumption demand, labour supply and initial capacities of production, his model would determine the regional allocation of additional production and inter-regional flows in such a way that inter-industry and final consumption requirements of each region are met, and value added in last period generated

17 Virbhan G. Bhatia, 'Inter-regional Allocation of Investment in Development Programming,' Unpublished Ph.D. Thesis, Department of Economics, Harvard University, Cambridge, December 1961.

by the cumulative investment in new technology are maximized. Mobility of labour between the regions is ruled out, and all the capacities, old and new, are supposed to have been fully utilized. His illustrative application of the model is in terms of four regions and eight sectors, including transport. Flow coefficient matrix of India (1953-54) represents old technology and flow coefficient and capital coefficient matrices of the United States (1947) represent the new technology for India.

Bhatia's treatment of the transport sector deserves special mention. "The transportation costs are directly related to the location and shipment patterns, and the amount of transportation needed for unit of a product will depend on where the inputs are obtained and to where the outputs are delivered,"¹⁸ whereas, in the conventional input-output format, transport input is treated as any other input, that is, as a fixed proportion of the total production. Hence, the transport row is taken out of the input-output matrix, and instead, a 'transport coefficient' is attached to each delivery which is a variable. He uses average freight rate per ton-mile to calculate the 'transport coefficients'.¹⁹

18 Ibid, p. 43.

19 We have adopted this method of treating transport sector in our model with some modification in the method of computing the transport coefficients. A further discussion of this concept and the method of computation will be found in Section 2 of this chapter and in the next chapter.

Ambika Ghosh has attempted a model for optimum pattern of production and exchange of commodities between regions in India.²⁰ The efficiency of the actual flow pattern is aimed to be tested against the optimum obtained from the model. The balance relations of his empirically tested model state that for any commodity in a region, the inter-industry plus final consumption plus imports of that commodity from all the other regions minus exports to other regions must equal its production in that region. Transport sector is considered as exogenous, and its requirements are included in final demand. One of the constraints imposes a limitation on the availability of total transportation between the regions. Objective is to minimize the labour cost of production and transport cost of deliveries. The empirical application of the model is based on data relating to Indian Union in 1954. Country has been divided into five regions and the number of sectors is seven. Two solutions have been obtained, one without using capacity constraints, and another with capacity constraints. Results are far different from the actuals, more so in the case of second solution. However,

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20 Ambika Ghosh, "An Inter-Industrial Programming Model for Production And Transportation of Commodities For Different Regions of India," Artha Vijnana, Vol.9 (No.2), 1967.

very few sectors are considered explicitly; they are: Coal, sugar, cement, cotton, jute and iron and steel. The rest of the sectors are lumped together with final demand. Moreover, the production location of even the natural-resource-based sectors like coal, cotton and jute was allowed to be determined by the model without a natural resource constraint, specially when the capacity constraints were also relaxed. Hence, as the author himself points out, the exercise is only illustrative in nature.

2. The Present Model

Our interest has been to work out an operational model starting with a simple structure and introducing further dimensions with each successive experiment, and thus arrive at a comprehensive enough scheme, within the constraints of availability of data and computational facilities, to give useful results for planning purposes. A beginning in this direction was made by Narain Das (1964-65),²¹ working at Gokhale Institute at that time. Further improvements have been made both in the dimension of the problem and its formulation.

(A) Formulation of the Model : This model is an effort towards establishing a norm of location pattern and

21 Narain Das and D. B. Sardesai, "Location of Industries in India--Transport Cost Minimization," Artha Vijnana, Vol. 9 (Special Issue), 1967.

efficient inter-regional flows. The model gives a static picture as to what the situation should be, given the location of natural resources, the regionwise demand for various commodities and a technology of production as reflected by inter-industry flow matrix.

Broadly speaking, the most influencing economic factors in the choice of location are the costs of transportation (both, that of raw materials and other inputs from the source to the point of production, and of finished goods from the point of production to the point of consumption), and the availability and cost of labour. There may be many other factors, economic and non-economic, influencing the choice of location for an entrepreneur, but most of them are the result of an already established pattern of industrialization, which itself may be imbalanced, and hence, may further lead to imbalanced regional growth as well as growth at a higher cost in terms of the national resources. Hence, in the wake of a developing economy, where almost every sector has to be established and expanded, it becomes very important to have a picture in view as to how the shape of the things should turn out, and therefrom to know the gaps to be filled and corrective measures to be taken.

The linear programming model that we formulate in these pages is in terms of transport minimization only.

The country is divided into a number of regions and

the productive activities are aggregated into a number of meaningful groups (sectors).

Every region has some demand for final consumption which may include private and public consumption and also the demand for capital formation. Besides, there is inter-industry consumption demand for the productive activities of the region. These demands are to be satisfied out of the region's own production plus what the region imports from other regions minus what it exports to other regions. This relationship for commodity i in region r can be expressed as :

$$1.1 \quad \sum_s x_i^{sr} - \sum_s x_i^{rs} + (1-a_{11}) p_1^r - \sum_j a_{1j} p_j^r = y_1^r$$

$$r = s = 1 \text{ to } k \quad r \neq s$$

$$i = j = 1 \text{ to } n \quad i \neq j$$

where

x_i^{sr} = Shipment of commodity i into region r from region s (i.e., imports of r)

x_i^{rs} = Shipment of i from region r to region s (i.e., exports of r)

a_{11} = Inter-industry flow coefficient of i for sector i itself

a_{1j} = Inter-industry flow coefficient of i for sector j

p_1^r = Production of sector i in region r

y_1^r = Demand of sector i in region r

This demand balance equation becomes the first and the most important constraint of the Linear Programming

problem which we are attempting. This constraint requires data on the final demand of each region (commoditywise) and an inter-industry flow matrix to supply a_{ij} coefficients. If it is thought that different regions may have different technology of production, then we should have an inter-industry flow matrix for each region under consideration, and then the technological cost differentials of the regions could be taken care of by this model. However, in deciding to use regional matrices for this purpose, care must be taken to see that regional variations in the input structure really reflect the technological differences of producing the same commodity in different regions. With the present level of aggregation of sectors in terms of which such matrices are constructed, it is more likely that regional differences in the input structure are mainly due to product mix differences in different regions.²² This being the case,

22 To elucidate this point, let us take the example of iron and steel industry, which includes basic iron and steel, structurals, castings and forgings and light-ferrous metal products in A.S.I. (India) classification. If an attempt is made to construct input coefficient matrices for different States in India, it will be found that Maharashtra has an input structure (iron and steel being taken as one sector) much lower than the all-India average input structure for this industry, specially in respect of basic inputs like iron ore, coal and pig iron. The iron and steel industry in Maharashtra is composed of mainly forging and light ferrous products, and iron ore and coal do not constitute the basic inputs of these products. Now if this input structure was to be accepted as a differential input structure for this region, the optimization scheme of our model would give an undue preference for Maharashtra for the location of iron and steel industry over other regions.

(continued)

it is better to use an average input structure for all the regions--the national input-output matrix being such an average. And thus, we may use the national input-output matrix for all the regions with the implicit assumption of uniform production function in all the regions. The dimensions of 'A' matrix (input-output matrix) should correspond to the number of sectors into which we classify all the activities.

It may be noted here that we are introducing x_1^{rs} (i.e., shipment in and out of a region) and P_i^r (i.e., production levels) as unknown variables. But we know that production location of all the commodities are not alterable and hence, cannot be left to be determined by the model. These are, for example, the mining sectors and the products of agriculture whose location is fixed due to natural endowments of a region and cannot be changed. Hence, the production of these sectors is to be assigned a priori to

(Footnote 22 continued from last page)

With reference to R. Dhar's study on "A Study of the Inter-regional Inter-sectoral Relations of the Indian Economy 1953-54 (Economic Analysis in Input-Output Framework--With Indian Empirical Explorations, eds., P. N. Mathur and R. Bharadwaj, Input-Output Research Association, Poona, India, pp. 155-176), it was pointed out at the discussion in the Seminar that there were big differences in inter-regional coefficients which, it was felt by Prof. P.N. Mathur, was due to product mix, and "this would be the case even when the disaggregated classification of A.S.I. is used." (Ibid, pp. 233-234.) (A.S.I. refers to Annual Survey of Industries, India.)

the regions. In fact it is the location of these sectors which forms an important constraint over the location of other sectors as they supply basic inputs to most of the other sectors. In the absence of this constraint, anything could be produced anywhere and perhaps, it would have been wise to produce every commodity in every region, and do away with the cost of transportation.

We may call these sectors as primary sectors. We have to assign the capacity of each region to produce these primary outputs as constraints.²³ The capacity may be taken as proportional to actual production of these sectors in different regions.

We know the final total demand of each sector for the country as a whole, i.e., Y_t vector, and we have an inter-industry flow matrix A . From these we obtain the total level of production of all the sectors which is necessary to sustain the final demand, as :

$$(I-A)^{-1} Y_t = P_t, \quad Y_t = \text{Total demand vector}$$

$$P_t = \text{Total production vector}$$

Out of the P_t vector, the production level of the primary sectors is allocated between the regions in the known

23 For the sectors relating to mining, the capacity may be conceived of as proportional to deposits as a first approximation. However, the input-structure relates to the minerals worked up, and hitherto unexploited deposits may require quite a different input structure. Since, we are working with the input coefficients relating to actual production, it is better to take the capacity as proportional to actual production.

proportion in which they are produced in different regions.

Suppose, out of n number of sectors that we are considering, first m number of sectors were primary sectors, then equation 1.1 for i , where $i = 1$ to m , would become :

$$1.2 \quad \sum_s x_1^{sr} - \sum_s x_1^{rs} - \sum_{j=(m+1) \text{ to } n} a_{1j} P_j^r \\ = y_1^r + (a_{11}-1)P_1^r + \sum_{j=1 \text{ to } m} a_{1j} P_j^r$$

and the rest of the equations, where $i = (m+1)$ to n , would become :

$$1.3 \quad \sum_s x_i^{sr} - \sum_s x_i^{rs} + (1-a_{ii})P_i^r - \sum_{j=(m+1) \text{ to } n} a_{ij} P_j^r \\ = y_i^r + \sum_{j=1 \text{ to } m} a_{ij} P_j^r$$

We have simply transferred the known production levels to the right-hand-side, and thus, out of n number of P_i variables in each region, only $n-m$ number of P_i 's remain unknown.

For this constraint we will have n number of equations ($n =$ number of sectors) for each region.

Our next constraint sets a limit over the total production of those sectors which appear as unknown variables. This would be expressed as :

$$2. \quad \sum_{i=r} P_i^r \leq P_{t_1} \quad \text{for } i = (m+1) \text{ to } n, \quad r=1 \text{ to } (k-1)$$

How we have obtained P_t vector has been discussed above. This restriction becomes necessary to ensure that the production of any sector is not more than what is required for the economy as a whole. Otherwise, since production is a variable with zero cost in objective function, our model, in its effort to minimise the transportation, may suggest very high production of some of the sectors.

The above two conditions are sufficient to get a solution of the problem. But it is quite possible that in the optimum solution, some of the regions are always importing while the others are only exporting regions. In a normative situation such a state of affairs cannot be allowed to exist. Every region should have sufficient activities (those which are most suited to it) to fulfil its own requirements and to pay for the imports of other sectors for which other regions are more suited. What is true in international situation is true in case of regions also, except of the case of internal migration. However, in the long run, or stationary state, a uni-directional migration becomes contradictory. And this is important from the point of view of a balanced regional growth.²⁴ Hence,

24 This point was suggested by Prof. W. Leontief, when the paper by Narain Das (cited earlier) was discussed at the First Indian Input-Output Seminar held at Gokhale Institute of Politics and Economics, Poona, in September 1965. See: "Summary of the Proceedings," Artha Vijnana Vol.9, (Special Issue), 1967, p. 523.

we impose a trade balance constraint also.

$$3. \quad \sum_{s1} x_1^{rs} - \sum_{s1} x_1^{sr} = 0 \quad \begin{array}{l} s = 1 \text{ to } k \\ i = 1 \text{ to } n \end{array}$$

which states that all the exports of a region should be equivalent to its imports. The number of these equations is equivalent to the number of regions.

Thus, finally we have three sets of constraints. Our objective is to minimise the total transportation of goods between the regions. That is

$$\text{Minimise } \sum_{irs} t_i^{rs} x_i^{rs} \quad \begin{array}{l} i = 1 \text{ to } n \\ r = s = 1 \text{ to } k \end{array}$$

where t_i^{rs} is the transport coefficient for commodity i from region r to s ,²⁵ that is, the wagon kilometres required to transport i from r to s .

Transport is an exogenous sector, and the requirements for the inputs of transport sector are included in the final demand.²⁶

(B) A Revised Formulation : In the earlier formulation we have taken transport as an exogenous sector, and the requirements for the inputs of transport sector are included

25 A discussion of the 'transport coefficient' is contained in the next section and in the following chapter.

26 This model was tested empirically with four regions and 23 sectors of economic activities. The results were presented in a paper submitted to Regional Science Conference, Kharagpur, September 1967. See: P. N. Mathur and S. R. Hashim, "A Model For Location of Industries and Inter-regional Commodity Flows," Indian Journal of Regional Science, Vol. 1, Number 1, 1968, pp. 24-36.

in the final demand which is pre-assigned, while, in fact, the demand for transport (goods) sector is itself a variable depending upon the flow pattern which is not pre-determined. In the following formulation, we have attempted to accommodate this feature of goods transportation in our model.²⁷

In the familiar input-out^{put} format, the demand for the output of an industry i by other industries as their inputs, is shown as a row of the matrix, and the assumption is that the output of this industry goes as input into other industries as a fixed proportion of the production of those industries. This is not exactly the case with goods transport industry unless we assume unchanging location and inter-regional trading pattern. Particularly in a model, where we are envisaging to establish an optimum flow and location pattern the demand for transport, say, for Iron and Steel industry depends on the location and flow pattern of this industry, which in turn depends on the location and flow pattern of many other industries. Moreover, the input requirements of transport industry are also to be transported. Hence transport cannot be treated as just one of the other sectors for our purposes.

27 Out of the various modes of goods transportation we confine our analysis for the present to Railways only. However, it will not be difficult to take into account the other modes of transport within the framework of the model, if we have the relevant data.

Let us define

X_1^{rs} = shipment of commodity 1 from region r to s,

t_1^{rs} = transport coefficient, i.e., units of transport service required to transport 1 from r to s,

and a_{it} = transport input coefficient, i.e., requirement of i as input per unit of transport service.

Then, the transport demand for sector 1 in region r is

$\sum_{s=1}^k t_1^{rs} X_1^{rs}$, assuming that the demand for transport

is created in the exporting region. The requirement of i in r as input for transportation of 1 from r to all other regions will be

$$\sum_{s=1}^k a_{it} t_1^{rs} X_1^{rs}$$

The total requirement of i in r as input for transportation of 1 and of all other commodities (j's) from this region to all other regions will be

$$\sum_{s=1}^k a_{it} t_1^{rs} X_1^{rs} + \sum_{s=1}^k \sum_{j=1}^n a_{it} t_j^{rs} X_j^{rs},$$

which is to be subtracted from the commodity balance equations 1.1.

Besides this, some further modifications in the commodity balance equations (1.1) are necessitated. Now, since it is not possible to pre-determine the total (all-India) production of all the sectors, it is not possible to transfer the production of primary sectors and their input requirements to the right-hand-side as known as we did in

equations 1.2 and 1.3. We have to introduce these as unknowns. Still, we know the proportions in which the total production of these commodities will be available in different regions.

Define

- p_j^T = Total (all-India) production of primary sectors j ,
- q_j^r = proportion of p_j^T available in region r , and
- a_{ij} = the input coefficient, i.e., product of i entering into sector j as coefficient.

Then,

$\sum_{j=1}^m a_{ij} q_j^r p_j^T$ would give the requirement of i as

inputs for all the primary sectors j (out of n total number of sectors, say, m number of sectors are primary).

And now we can write the new commodity balance equations for commodity i in region r ,

where $i = 1$ to m , as

$$4.1 \quad \sum_{s=1}^k X_{i1}^{sr} + (1-a_{i1}) q_1^r p_1^T - \sum_{j=1}^m a_{ij} q_j^r p_j^T - \sum_{j=m+1}^n a_{ij} p_j^r \\ - \sum_{s=1}^k (1+a_{it} t_t^{rs}) X_{i1}^{rs} - \sum_{s=1}^k \sum_{j=1}^n a_{it} t_j^{rs} X_j^{rs} = y_i$$

where $i = m+1$ to n , as

$$4.2 \quad \sum_{s=1}^k X_{i1}^{sr} - \sum_{j=1}^m a_{ij} q_j^r p_j^T + (1-a_{i1}) p_1^r - \sum_{j=m+1}^n a_{ij} p_j^r \\ - \sum_{s=1}^k (1+a_{it} t_t^{rs}) X_{i1}^{rs} - \sum_{s=1}^k \sum_{j=1}^n a_{it} t_j^{rs} X_j^{rs} = y_i$$

We may also include in this system those sectors which will be locally balanced (that is, which do not require inter-regional transportation--such as 'electricity generation' the assumption about which is that every region produces enough to satisfy demands within the region) and still their output is required by transportation and/or other sectors as inputs. The commodity balance equation for such sectors will be :

$$4.3 \quad \sum_{j=1}^m a_{1j} q_j^r p_j^T + (1-a_{11}) p_1^r - \sum_{j=m+1}^n a_{1j} p_j^r \\ - \sum_{s=1}^k \sum_{j=1}^n a_{1s} t_j^{rs} x_j^{rs} = y_1$$

Obviously, the production balance equations (constraint 2 of the earlier formulations) which state that the sum of production in $k-1$ regions should be less than or equal to the total (all-India) production are not required now. Instead, we have to give constraints 4.1, 4.2 and 4.3 for all the k regions instead of giving them for $k-1$ regions as in earlier formulations. Since all are equations, the final demands (y_1 's) will themselves be a constraint on the total production of all the sectors.

Constraints 3, i.e., trade balance constraints will remain the same. That is:

$$\sum_{s=1}^k \sum_{i=1}^n x_i^{rs} - \sum_{s=1}^k \sum_{i=1}^n x_i^{sr} = 0$$

The objective function to be minimized will be :

$$\sum_{i=1}^n \sum_{r=1}^k \sum_{s=1}^k t_1^{rs} x_1^{rs}$$

t_1^{rs} are the wagon kilometres required to transport i from r to s , and all the transport inputs are expressed as input requirements per wagon kilometre.²⁸ The methods and problems relating to the computation of transport coefficients (t_1^{rs}) and transport input vector (a_{it} 's) have been discussed in detail in the following chapter.

Dimension of the Problem : The total number of constraints will be :

$$= k(1+n) - 1$$

nk number of commodity balance equations, and

$k-1$ number of trade balance equations, where n is the number of sectors and k is the number of regions.

The number of variables will be

$$[\overline{k(n-m)} + \overline{m}] + [(\overline{n-l})(k^2-k)]$$

where l is the number of locally balanced sectors and the rest are as defined earlier. Thus, in a problem with five regions and 27 sectors, out of which 10 are primary sectors and 1 is locally balanced sector, the number of constraints and variables are 139 and 615 respectively.

²⁸ It is assumed that the transport inputs are to be provided in the region where the traffic originates, and hence, the transport coefficients are multiplied by the export variables in each region.

CHAPTER VIII

TRANSPORT INPUTS AND OTHER DATA FOR THE MODEL

The empirical application of the model discussed in the previous chapter, presents further problems due to the limitations of the data and computational facilities available, and hence involves further assumptions at various steps. We will spell out, here, the dimension of the proposed problem in terms of number of regions and sectors, the nature and the sources of data used and assumptions made.

1. Regions

It is proposed to solve this problem in terms of five regions.¹ The 'five-region' division of India is the same as described in Chapter II, i.e., East, North, Centre, West and South. As is the necessity of inter-regional programming models of this type, each region is to be represented by a point--thus introducing a finiteness in the infinity of space. All the inter-regional movements are assumed to be movements between these points.

¹ Initially it was intended to solve this problem in terms of 15 regions, chosen for the analysis of actual flows. But then the size of the linear programming problem becomes so large that it could not be handled by the computer available to us. Hence the number of regions was cut down to 5 only. The dimension of the problem and the problems of computation have been spelled out in the next chapter.

Choice of these points presents problem, and is likely to affect the results as well. A point to be a fair representative of a region, for this purpose, should either be a geographical centre or an industrial centre of the region, and preferably both. By virtue of being a geographical centre, the intra-regional transportation cost will be averaged out. If the point is an industrial centre, most of the industrial activities will be located around this centre and also a bulk of the trading activities will take place through this centre only. However, it is difficult to find a centre in each region which is suitable from all points of view, and hence, the choice has to depend upon the best personal judgement. We selected Calcutta, Delhi, Nagpur, Bombay and Bangalore for East, North, Centre, West and South respectively. Except Bombay, other centres are fairly geographical as well as industrial centres of their respective regions. Bombay is on the western extreme of Western Region. But keeping in view the industrial complexes of the Western Region which are all along the Western strip (from Ahmedabad to Poona) with heavy concentration around Bombay, we thought Bombay to be a better point than any other.

2. Sectors

The classification of the sectors is based on Planning Commission's Input-Output table for 1959.² Out of the 29

2 Economic Division, Planning Commission, Government of India, "An Input-Output Table For the Indian Economy for 1959," Artha Vijnana, Vol.9 (Special Number), 1967, pp. 309-310.

sectors of the said table, the sector of "trade margins" was dropped. A sector of "crude oil" was added, thus distinguishing it as separate from the "other minerals" sector of Planning Commission's table, in view of its importance in the determination of location of petroleum products.³ As it is intended to determine the optimum pattern of location and commodity flows for the year 1959-60, i.e., the last year of the decade for which we have studied the actual commodity flows, the current input coefficients (i.e., 'A' matrix) based on the same table were taken for use in the model, except in respect of the two sectors of transport (i.e., 'Railways' and 'Other transport').⁴ For 'crude oil' sector, the input coefficients were taken from the Input-Output table for 1963, prepared in Gokhale Institute of Politics and Economics.⁵ For 'transportation' sector, the input coefficients have been worked out as described in Section 5 of this chapter. (A list of the sectors appears in Table 8.2.)

3 In an earlier solution (cf: P. N. Mathur and S. R. Hashim, "A Model for Location of Industries and Inter-regional Commodity Flows," Indian Journal of Regional Science, Vol. 1, No. 1, 1968, pp. 24-36), where 'crude oil' sector was combined with 'other minerals' sector the optimum results gave location of petroleum and petroleum products in all the regions except Western Region, and largest quantity was to be produced in Northern Region. This happened because 'Other mining' products, which include many other minerals besides 'crude oil', are found in all the regions.

4 We propose to work out the input coefficient for 'goods transport' separately.

5 Presented at the Second All-India Input-Output Conference, November 1967, Gokhale Institute, Poona (to be published in Artha Vijnana).

Out of the 27 sectors, besides transport, 6 sectors pertaining to agriculture, and another 4 pertaining to mining were considered as 'primary' sectors, whose location pattern is given. The proportions in which the total production of these sectors will be available in different regions is given in Table 8.1.

Table 8.1 : Regional Proportions of Total Production of Primary Sectors

Sectors	North	West	East	South	Centre
1. Foodgrains	.33648	.11328	.20896	.18410	.15718
2. Cotton	.26467	.47238	.00495	.15833	.09967
3. Jute and Other Fibres	.01612	.03259	.90949	.04180	-
4. Oilseeds	.23043	.28357	.03239	.33175	.12186
5. Plantations	.00494	-	.65532	.33974	-
6. Other Agri- culture	.27741	.11760	.25839	.20161	.14499
7. Coal	.00224	-	.79478	-	.20298
8. Iron ore	.01688	-	.62578	.13678	.22056
9. Crude oil	-	-	1.00000	-	-
10. Other Mining	.14881	.18804	.19930	.23940	.22445

Note:- These proportions are based on the actual production in 1959-60 as reported in the Statistical Abstracts of Indian Union, C.S.O., Government of India. 'Other Agriculture' which is composed of fishing, forestry, animal husbandry, and other food and cash crops, is, however, distributed in proportion of population, as no data are available on the actual regional production of the most of the constituents of this sector. However, since the regions are big and this sector is composed of a variety of products, this assumption may not be too bad. It is interesting to note that proportions of food production compare closely with regional population proportions.

3. Final Demand

Basis of the calculation of final demand was the same input-output table for 1959. Total final demand for our purpose was defined as :

$$C_1 + C_2 + K + E - I = Y_t$$

where Y_t is total Final Demand.

C_1 and C_2 are Demand for private and public consumption respectively. K is the demand for capital formation, E is foreign export and I ⁶ is foreign import. Inter-industry requirements of the sectors left out (i.e., trade and passenger transport) were also included in the final demand.

The allocation of final demand between the regions was made with respect to each constituent of the final demand. This presented some difficulty as to the basis of allocation of each constituent particularly because information which could guide us in this matter is lacking. However, since our study is normative, it was thought fair to divide the demand for private consumption in proportion of population of different regions (assuming equal per capita consumption in all the regions), and since our sectors are highly aggregated, the regional differences of consumption habits and tastes get covered up to a great degree.

⁶ Only competitive imports, because, non-competitive imports are not included in Planning Commission's 1959 Input-Output table's final demand column. They have a separate flow matrix for non-competitive imports.

The demand for public consumption was assumed to be proportional to demand for private consumption, and the demand for capital formation was taken as proportional to actual additions to fixed capital stocks in different regions during the year 1960, as a first approximation.⁷

Foreign exports and foreign imports which are respectively added and subtracted from the final demand are allocated between the regions according to the ports which handle these traffic and their proportionate share in it (commoditywise).⁸ All the exports and imports were allocated to the three maritime regions, i.e., West, South and East.

Inter-industry requirements for the sectors left out (i.e., trade and passenger transport part of transport sector) again presents a difficult problem because, we do not know the level of activities in respect of these sectors in different regions. But as we have implicitly presumed that all the regions are self-sufficient in respect of these sectors, we can further presume that per capita consumption of these services will be almost equal

7 It may be pointed out that whole of the consumption of cement is treated as used for capital formation in Planning Commission's Input-Output Table. State Trading Corporation reports the consumption of cement in different regions. Annual Survey of Industries reports the net additions to fixed capital in different regions.

8 This information was obtained from various Port Administration Reports.

in all the regions and allocate these requirements in proportion of population.

Thus, allocating these different elements of final demand between regions and adding them up for each region, we obtain commoditywise regional demands, i.e., Y_1^{rs} , presented in Table 8.2.⁹

4. Transport Coefficients

Each unit of a commodity 1 for being transported over a unit distance requires some units of transport services, say t_1 . If the distance between a place r and another place s is d^{rs} , then a unit of 1 to be transported from r to s will require $t_1 d^{rs} = t_1^{rs}$ units of transport service, and total shipment of 1 from r to s say, x_1^{rs} will require $t_1^{rs} x_1^{rs}$ units of transport service.

t_1^{rs} , i.e., units of transport service required to transport a unit of commodity 1 from region r to region s may be called "transport coefficient".

An attempt has been made, here, to find out the transport coefficients for various commodities. All the calculations, unless otherwise indicated, are based on railway data,¹⁰ and they are for the year 1959-60.

9 In the table of final demand presented here the input-requirements of railways goods sector have also been included for reasons explained in the next chapter, and initially they are allocated between the regions on the same basis as other inter-industry requirements of the sectors left out. However, the input requirements of railways goods transport sector are subject to further adjustments as discussed in the next chapter.

10 Railway Board, Ministry of Railway, Government of India, Annual Report on Indian Railways (Part II - Statistics).

Table 8.2 : Final Demand

	All India			Regionwise Distribution of Total Final Demand				
	Gross Domestic Expenditure	Inter-industry Requirements of sectors left out	Total Final Demand	North	West	East	South	Centre
1. Foodgrains	2994.80	-	2994.80	864.85	310.14	763.81	603.98	452.02
2. Cotton	38.80	-	38.80	16.56	- 8.45	14.18	7.86	8.65
3. Jute and Other Fibres	2.70	-	2.70	0.42	0.18	1.39	0.50	0.21
4. Oilseeds	228.50	-	228.50	65.88	21.18	61.37	45.63	34.44
5. Plantation Products	150.40	-	150.40	11.51	4.88	82.59	45.40	6.02
6. Other Agriculture	2180.90	130.10	2311.00	618.70	292.97	603.05	469.01	327.27
7. Coal	11.40	30.30	41.70	10.97	4.64	12.54	8.00	5.55
8. Iron Ore	1.80	-	1.80	-	-	1.17	0.63	-
9. Crude oil	- 21.40	-	- 21.40	-	-21.40	-	-	-
10. Other Mining	15.00	4.80	19.80	1.33	8.76	1.24	7.77	0.70
11. Iron and Steel	148.90	3.10	152.00	25.56	37.01	36.02	30.40	23.01
12. Aluminium and Other Non-ferrous Metals	- 17.40	7.30	- 10.10	2.03	- 7.17	- 6.58	- 0.38	+ 2.00
13. Non-electrical equipment	165.90	59.20	225.10	61.27	35.53	26.36	56.47	45.47
14. Electrical Equipment	84.50	2.80	87.30	20.99	23.86	10.09	16.85	15.51
15. Transport Equipment	203.50	-	203.50	75.90	10.45	37.04	40.44	39.67
16. Chemicals	20.70	12.00	32.70	25.24	- 19.05	0.41	12.41	13.69
17. Petroleum and Petroleum Products	- 36.70	73.00	36.30	31.12	-30.07	6.81	11.99	16.45
18. Fertilizers	- 16.20	-	- 16.20	0.61	- 5.63	- 5.32	- 6.18	0.32
19. Cement	41.80	0.80	42.60	10.52	6.25	10.55	8.29	6.99
20. Glass, Wood and Other Non-metallic Industries	137.80	11.50	149.30	25.36	35.33	40.27	29.23	19.11
21. Food, Beverage and Tobacco etc .	1188.70	-	1188.70	326.68	144.05	307.05	240.19	170.73
22. Textiles	690.00	5.60	695.60	177.17	124.78	165.01	134.27	94.37
23. Jute and Coir Manufacturing	114.90	11.70	126.60	8.77	3.72	96.51	13.02	4.58
24. Rubber and Leather Products	100.20	31.50	131.70	29.27	13.97	30.41	42.75	15.30
25. Paper and Paper Products	74.40	13.90	88.30	27.33	5.86	23.03	17.00	15.08
26. Other Industries	16.60	7.20	23.80	5.88	3.80	6.78	4.27	3.07
27. Electric Generation	19.70	14.00	33.70	9.36	3.58	8.77	6.15	5.84

Notes : (1) Gross Domestic Expenditure = Private and public consumption + Domestic Capital formation + Exports - Imports

(2) Inter-industry requirements of sectors left out include the requirements of Railways goods transport also, and have been obtained as $Y - G$, where $Y = (I-A)P$, and $G =$ Gross Domestic Expenditure, $Y =$ Vector of Total Final Demand of 27 sectors, $P =$ Vector of Total actual production of these 27 sectors, and $A =$ the input coefficient matrix of the above 27 sectors.

Conventionally the output of an industry is expressed in terms of its value for the convenience of balancing the input-output matrix, though, conceptually the output of an industry should be thought of in terms of physical units. The proceeds of goods transport sectors are its freight earnings. But we can think of transport for our purposes in terms of the real physical units, say wagon-kilometres. This would be more advantageous than taking the transport units in terms of freight earnings, since we have to find out the transport service to be incurred in transporting a unit of different types of commodities, and it is known that the freights charged for different commodities do not reflect the relative position of the service performed, or the real cost incurred. In other words, the inputs of transport sector are more directly related to a wagon-kilometre performance than to a unit of freight earning.¹¹

Thus, our transport coefficient is the wagon-kilometre requirements of transporting a unit of certain commodity over a given distance, and these, again, are in terms of standard 4 wheeler broad-gauge wagons.

The classification of the sectors for which we calculate transport coefficients has been discussed above.

¹¹ However, it may be pointed out that the cost function in transport is not linear - the cost decreases with increasing distance and bulk of the commodity transported. But our formulation assumes a linear cost function. This is a general assumption with the whole of input-output scheme, which we are presently not able to do away with.

Out of these sectors 'Railways' and 'Other transport' and 'electricity generation' are excluded for calculating transport coefficients.

The loading capacity of a wagon is expressed in terms of tonnes, while the commodities to be produced and transported are expressed in terms of values. This involves the enormous difficulties of conversion of each commodity's value to its tonnes equivalence, say tonnage of one crore rupees worth of a commodity (unit being a crore rupees worth of a commodity), more so, because the sectors are each an aggregation of various commodities differing widely in weight, shape and value. However, we tried to obtain an average (weighted) price for each sector's output as best as could be ascertained from the available data.

Total production of foodgrains and oilseeds was obtained from statistical abstracts, and value of foodgrains from the input-output table referred to earlier. This gave us an average tonnage per crore rupees worth of foodgrains. The tonnage per crore rupees worth of oilseeds on an average was assumed to be 17 per cent less than that of foodgrains, (the prices of oilseeds being generally more than those of foodgrains, and this being the approximate difference). About cotton, jute and other fibres, plantation products (tea, coffee and rubber) we obtained the total production for the year and wholesale prices as

reported in the Indian Statistical Abstract, and these prices were adjusted for the difference between producer's and wholesale prices. It may be mentioned here that since Planning Commission Input-Output table for 1959 is in terms of producer's prices and we are making use of this table, we are taking the same as the basis of our calculations.

'Other agriculture' is a sector which includes products of forest, animal husbandry, fisheries and other products of agriculture. It is difficult to obtain an average weight-price ratio for this sector. Hence, the transport requirements per unit of output of this sector had to be arbitrarily assigned as slightly higher than that of the foodgrains sector which has the highest requirement of transport per unit among the sectors of agriculture group. About coal, iron ore and 'other mining', values and weights, both are reported in Statistical Abstracts. For crude oil, we had to depend on values and weights reported in ASI report 1963.

For the following sectors, we obtained the values and weights of major products reported in ASI reports 1959 and arrived at an average weight-price ratio (which automatically gets weighted by production of different types within a sector group).

- (1) Aluminium and non-ferrous metals
- (2) Paper and Paper products
- (3) Jute products

- (4) Textiles
- (5) Rubber and Leather
- (6) Fertilizers
- (7) Iron and Steel
- (8) Chemicals

For petroleum products, again, we had to depend upon the wholesale prices as reported in Statistical Abstracts. For the rest of the sectors, no information having a bearing on weight-price ratio being available, transportation demand was assumed to be similar to identical sectors (slightly lower or higher - based on personal judgement) for which such calculation was already made.

The next step is to calculate wagon-km. requirements for carrying a unit of the products of these sectors over a kilometre. The Railway Board Report gives the loading capacity of a wagon in respect of three types of commodities: coal and coke, heavy merchandise and light merchandise. Besides, there is empty haulage in respect of all the commodities which has to be taken into account while ascertaining the transport requirement. The 'Eastern Region Transport Survey' reports (in an unpublished report) the rates of empty haulage for coal, iron ore, petroleum, oil and lubricants (P.O.L.) and other commodities. Taking these into account, we calculate average wagon-load in respect of different commodities (or groups of commodities) as shown below (Table 8.3).

Table 8.3 : Average Wagon-load

	Standard B. G. Wagon- load (Tonnes)	Ratio of empty haulage to loaded (%)	Wagon- Kms. required	Average Wagon- load (Tonnes)
	(1)	(2)	(3)	(4)
Coal	22.2	80	1.80	12.33
Iron Ore and P.O.L.	19.8	100	2.00	9.90
Heavy Merchandise	19.8	33	1.33	14.89
Light Merchandise	12.5	33	1.33	9.40

The average wagon-load in column 4 above was used to obtain wagon-kilometres requirements for transporting a unit of outputs of different sectors over one kilometre and the results are presented in Table 8.4. These are the t_1 's. Now, if we take a matrix of distance between the regions d^{rs} (Table 8.5) ($r = 1$ to k and $s = 1$ to k , where k is the number of regions) and multiply each t_1 with various d^{rs} 's we will arrive at a set of t_1^{rs} coefficients.

Table 8.4 : Sectorwise Wagon-Kilometre Requirements

Sectors	Type of Merchandise	Tonnes per crore of rupees worth	Wagon-Kilometres required for carrying one crore rupees worth of the sector over a kilometre*
1. Foodgrains	H	21,450	1,441
2. Cotton	H	5,299	356
3. Jute and Other Fibres	H	17,575	1,180
4. Oilseeds	H	15,000	1,007
5. Plantation products	L	2,455	261
6. Other agriculture	H	20,000	1,343
7. Coal	C	505,051	40,961
8. Iron Ore	I	1,389,116	140,315
9. Crude Oil	I	225,000	27,272
10. Other Mining	H	185,185	12,437
11. Iron and Steel	H	44,209	2,969
12. Aluminium and Non-ferrous metals	L	3,093	329
13. Non-Electrical Equipment	L	3,000	319
14. Electrical Equipment	L	3,000	319
15. Transport Equipment	L	3,000	319
16. Chemicals	H	9,633	647
17. Petroleum and Other Products	I	24,360	2,461
18. Fertilizers	H	35,226	2,366
19. Cement	H	156,495	10,510
20. Glass, Wood and Non-metallic Industries	H	10,000	672
21. Food, Beverage and Tobacco	L	3,000	319
22. Textiles	L	2,054	219
23. Jute and Coir Products	L	9,308	990
24. Rubber and Leather Products	L	1,436	153
25. Paper and Paper Products	L	6,236	663
26. Other Industries	H	10,000	672

* In terms of standard Broad-gauge wagons (4-wheelers).

Notes : H = Heavy Merchandise. L = Light Merchandise.
C = Coal. I = Iron Ore and P.O.L.

Table 8.5 : Distance Between the Regions (In Kilometres)

	North	West	East	South	Centre
1. North (Delhi)	-	1388	1437	2313	1090
2. West (Bombay)	1388	-	1965	1114	834
3. East (Calcutta)	1437	1965	-	1946	1131
4. South (Bangalore)	2313	1114	1946	-	1220
5. Centre (Nagpur)	1090	834	1131	1220	-

5. Transport Input Vector

Transport, like other sectors, itself requires the products of other sectors as well as that of its own as inputs, and these inputs are also to be transported to where the transport demand is created. Thus a vector of inputs going into the transport industry a_{it} ($i=1 \dots n$), is associated with transport coefficient (t_i^{RS}). An attempt has been made here to work out an input vector applicable to goods transport by Indian Railways for use in the model.

Total product of the transport service has been expressed in terms of wagon-kilometres (as discussed earlier). Finding out the total material inputs consumed (sectorwise) and total wagon-kilometres performed, we can express these inputs as crores of rupees worth of inputs consumed per thousand wagon-kilometres, and this will be our transport input vector (i.e., a_{it} , $i=1 \dots n$).

This analysis has been done for the year 1959-60. The data used are all, unless otherwise indicated, from the Railway Board's Report (Part II - Statistics).

Since the Railways perform the services both in respect of goods and passengers, the main problem is that of apportionment of total inputs consumed between these two class^{es} of services. In respect of fuels, i.e., coal, diesel and petrol etc. more detailed information is available, and hence, the analysis is done at a more detailed level. In case of other inputs, only aggregative data are available, and therefore, a broad basis of apportionment has been used. We will discuss here in some detail the methods of arriving at various inputs apportionable to goods transport services.

Coal : Consumption of coal is given in two broad heads: (i) consumption of locomotive services, and (ii) consumption on other than locomotive services. Locomotive services are divided into passenger, goods, mixed, shunting and siding, departmental and miscellaneous services. Other than locomotive services are divided into water-pumping stations, electric generating stations, mechanical workshops and running sheds, bridge engineering and signal shops and miscellaneous purposes. Data are available with respect to each zonal railway and each gauge.

In respect of other fuels also, some of these details are available.

Thus, except the direct consumption on passenger and goods services, consumptions on all other services are to be apportioned between goods and passenger transport. As per the data available, the following could be considered as bases for apportionment :

(a) Engine hours : Data on engine hours are available for each service, i.e., passenger, goods, mixed, shunting and siding, departmental and miscellaneous, and each one of the latter four is apportioned between goods and passenger services. The same proportions of engine-hours have been used to apportion the consumption of coal on various locomotive services.

In respect of consumption of coal on mixed services, slightly modified basis was adopted. Consumption of coal per engine-hour was obtained both for direct goods and direct passenger services and this rate was applied to the goods and passenger proportion of mixed engine-hours and the consumption of coal for goods and passenger proportion of mixed was obtained. Total of this consumption was slightly more than the actual consumption of mixed services. Hence, the actual consumption on mixed services was apportioned according to the ratio obtained from the calculated consumption. This modified method could not be applied to the apportionment of inputs on other services because of their different nature.

Taking engine-hours as basis for apportioning locomotive service-consumption has two favourable points :

(i) locomotive consumption of fuel may fairly be assumed to be more directly related to engine-hours than to engine-kilometres and/or wagon-kilometres, (ii) data regarding engine-hours are exactly in the same details as the data regarding consumption of coal on locomotive services.

Consumption of coal and its value was calculated for each railway and gauge separately and was then added up in order to obtain the total of consumption.

(b) Wagon-kilometres : Data are available as per passenger and proportion of mixed and departmental - which is again divided into passenger and goods services. Thus, we could obtain total goods wagon-kms. and total passenger wagon-kms. (all in terms of standard 4 wheeler) and a ratio of each to total. This ratio was used to apportion the non-locomotive consumption of coal between goods and passenger services. Since non-locomotive services mainly relate to repairs and maintenance workshops, wagon-kilometre was considered to be a better indicator of necessity of repairs and maintenance as it takes into account the number of wagons in use, distance covered and also the load to be carried by the locomotives, and these may fairly be assumed to have a direct bearing on the wear and tear of rolling stock as well as tracks and bridges.

(c) Engine-kilometres : These are available for passenger and proportion of mixed, goods and proportion of mixed and departmental services, the last one being

mixed of goods and passenger services.

Percentage of goods services to total in respect of each of the three bases, considered above, is:

	<u>Broad Gauge</u>	<u>Metre Gauge</u>
(a) Engine-hours	75.26	65.15
(b) Wagon-kilometres	72.74	60.07
(c) Engine-kilometres	58.10	46.99

Thus engine-kilometres gives a much lower proportion to goods than the other two. This is because the speed of goods train is very low and goods trains are much heavier (having more number of wagons than a passenger train). Hence, kilometrage coverage is quite low. However, fuel consumption as well as wear and tear per engine-kilometre must be much higher in case of goods trains than in case of passenger trains. Thus, engine-kilometre cannot be considered to be a fair indicator either of fuel consumed or of wear and tear or even of transport services performed.

As between engine-hours and wagon-kilometres, the first one is a slight over-estimate over the other just because the speed of goods trains is low. However, we have used both of these ratios for reasons and purposes discussed here.

Other Fuels : In principle, the basis of apportionment of other fuels, i.e., wood, diesel, petrol and kerosene oil, is the same as for coal. However, since the amount of consumption of these fuels is very low, and

sometimes detailed (service-wise) breakdowns have not been given, an aggregate ratio has been used, except in the case of diesel where the analysis is on the same pattern as for coal.

All these computations have been done for each zonal railway and for each gauge. Data are all in quantities, but the purchase prices of these fuels (i.e., prices excluding inward transportation) are reported, and thus the values have been obtained.

Other Inputs Consumed : For inputs other than fuels, we had to depend upon the stores transaction account which gives issues of various stores during the year. Most of these issues have been treated as consumable stores, and hence, as flow inputs because of their recurring nature of demand. Issues in respect of permanent way material and track tools (D) are wholly and those in respect of Metals (G(b)4) are partially treated as capital expenditure and have been excluded. Recourse had to be taken to Railway budget also in order to get a comparison of current expenditure over commodities, and some of the items are taken from the budget only. The stores account include some 44 items most of which relate to iron and steel, parts of machineries and small machines and tools, track and signal and building materials. We classified all these items according to the sectors of Planning Commission, Input-Output table, 1959. From the stores account we excluded fuel and fuel oil for which we had direct calcula-

tions. 'Building materials' was divided into its sectoral components in the following proportions.¹²

Timber	17.12 per cent
Cement	26.34 per cent
Iron and Steel	26.27 per cent
Glass, wood and other non-metallic industries	30.27 per cent

Following is a brief description of the classification and the sources of the inputs, sectorwise:

- | | |
|--------------------------------------|--|
| (1) Coal | Direct calculation from Railway Board Report. This compares also with the expenditure reported in Railway budget. |
| (2) Iron and Steel | A and S of Stores Transaction Account (Report of Railway Board) plus 26.27 per cent of 'Building Materials', i.e., F1 of S.T. A/c. |
| (3) Aluminium and Non-ferrous Metals | G(b)1 and half of G(b)4 of S.T. A/c. |
| (4) Non-Electrical Equipment | G, B, C, G(b)2, G(b)12, G(b)13, F2a, F2b and F2c of S.T. A/c. |
| (5) Electrical Equipment | H(a), H(b), H(c), H(d), H(f)2, H(f)3, H(e)a, H(a)b and H(f)1 of S.T. A/c. |
| (6) Transport Equipment | Ea1, Ea2, Ea3, Eb1, Eb2, Evb, Ec1, and Ec2 of S.T. A/c. |
| (7) Chemicals | G(b)5 of S.T. A/c. |
| (8) Petroleum and Petroleum Products | Fuel part of it is based on direct calculation, plus lubricating oil and grease, i.e., G(b)10 of S.T. A/c. |

¹² These ratios are based on the study of building inputs in Poona by P. Venkatramaiah, Artha Vijnana, 1964, and two other surveys carried out in Bombay and Delhi and quoted by Venkatramaiah.

- | | |
|--|--|
| (9) Cement | 26.34 per cent of 'Building Materials' i.e., Fl of S.T. A/c. |
| (10) Glass, Wood and Non-metallic Industries | 47.39 per cent (timber and other industries) of 'Building Materials', i.e., Fl of S. T. A/c. |
| (11) Textiles | G(b)9 of S.T. A/c. |
| (12) Rubber and Leather | Eb5, Eb6 and Gb3 of S.T. A/c. |
| (13) Paper and Paper Products | Taken from budget - actual expenditure. This is slightly higher than that reported in S.T. A/c. of the Railway Board Report. |
| (14) Electricity Generation | Taken from Budget - Actual expenditure. |

Seventy per cent of the total of these inputs consumed on Railways was apportioned to goods transport. This is approximately the ratio of goods wagon-kilometres (in terms of standard 4 wheeler B.G. wagons) to total wagon-kilometres. The stores transaction account of the Railway Board Report gives the transactions for each zonal railway. However, it was considered better, in this case, to rely on the aggregate of all the railways rather than apportioning the inputs zonal-railwaywise.

Thus we obtain an input vector. In order to arrive at the input coefficients (i.e., inputs per unit of wagon-kilometre), we had to obtain the total goods wagon-kilometres. Since wagons on different gauges have different capacities, all the wagon-kilometres had to be converted and expressed in terms of a standard unit. This was done by expressing the wagon-kilometres on all the

gauges in terms of standard 4 wheeler broad-gauge wagons as shown below:

Table 8.6 : Broad Gauge Wagon Equivalent of Wagons of Other Gauges

Gauges	Wagon-kms. (in thousands) (excluding brake-vans, but including departmental)	B.G. Wagon Equivalent of one wagon *	Total wagon-kms. in terms of B. G. (Thousands)
Broad Gauge	5,602,222	1.000	5,602,222
Metre Gauge	1,842,309	0.561	1,033,535
Narrow Gauge	84,788	0.311	26,369
Total	-	-	6,662,126

* Based on information contained in the report on Eastern Region Transport Survey (unpublished).

The inputs and input coefficient are shown in Table 8.7.

Table 8.7 : Transport Input Coefficients 1959-60
(Railways - Goods Transport)

(in Crores of Rupees)

Sectors	Current Inputs	Inputs per crore wagon- kilometres (a_{it})
1. Coal	21.4190	.03215
2. Iron and Steel	4.2662	.00640
3. Aluminium and Non-ferrous Metals	5.8500	.00878
4. Non-Electrical Equipment	4.1443	.00622
5. Electrical Equipment	3.5011	.00526
6. Transport Equipment	15.1619	.02276
7. Chemicals	1.3430	.00202
8. Petroleum and Petroleum Products	6.9590	.01045
9. Cement	1.0218	.00159
10. Glass, Wood and Non-Metallic Industries	6.6978	.01005
11. Textiles	2.6430	.00397
12. Rubber and Leather	0.4579	.00069
13. Paper and Paper Products	1.1830	.00178
14. Electricity Generation	4.4590	.00669
Total		.11881

Total Wagon-kilometres in terms
of standard 4 wheeler (B.G.) = 6,66,21,26 thousand

Consumption of total Material Inputs	per thousand wagon-kilometres	= Rs. 118.81
	per wagon-kilometre	= Rs. 0.11881

Note: Inputs from the sectors other than the above 14 sectors are zero.

CHAPTER IX

RESULTS OF THE OPTIMUM SOLUTION AND COMPARISON WITH ACTUALS

1. Solution of the Problem

In a problem with five regions and 27 sectors (excluding transport), out of which the number of primary sectors is ten, and that of regionally balanced sector (i.e., electricity generation) which does not involve inter-regional flows, is one, the number of constraints and variables are 139 and 615 respectively (i.e., 139 rows and 615 columns) according to the revised formulation (formulation (B) in Chapter VII). Though, the maximum limit of the dimensions of the problem which could be handled by the computer available with a given computational programme is stated to be much higher than this, yet the experience was that even a problem of this dimension could not be solved due to the accumulation of process errors beyond tolerance limits.¹ The density of the matrix cells (i.e., the number of non-zero cells in the matrix) and the length of the mantissa of the coefficients of the matrix have an important

¹ The computer available was IBM 1620, Model II, and the standard Linear programming programme used was IBM 1620-1311 LP System. The Manual of this programme prescribes a limit of 250 rows and 2000 columns on the dimension of a problem to be solved on this computer.

bearing on the computational efficiency. This necessitated a change in the formulation of the problem in such a way that the number of rows and columns as well as the density of the matrix non-zero cells were reduced to the extent possible, keeping the number of regions and the sectors the same. According to the formulation (A) of Chapter VII, where transport sector is totally exogenous, this problem would have 588 columns (i.e., $26 \times 5 \times 4 = 520$ shipment variable and $17 \times 4 = 68$ production variables), and 129 rows. Moreover, since

$$\sum_{s=1}^k \sum_{j=1}^n a_{it} t_j^{rs} x_j^{rs}$$

part of equation 4.1 of the formulation (B), (Chapter VII), which accounts for the transport input requirements from sector i for exporting the output of all the other sectors j ($j = n-1$) from region r , adds more number of non-zero cells to each equation, the number of non-zero cells in the matrix is reduced to a great extent if we adopt the formulation (A), and add the transport input requirements to the final demand of each region. However, even with the formulation (A), approximately the same results could be obtained as would have been obtained from formulation (B), if we adopt an iterative procedure of allocating the transport input requirements to the regions' final demand. This iterative procedure is described below.

Adopting the formulation (A) i.e., treating 'transport' as exogenous, and allocating the input requirements

of goods transport sector to the final demand of the regions on the basis of, say, population, obtain the first solution. Total requirements of inputs for goods transportation are pre-determined on the basis of the actual input-output table used. After a solution has been obtained, we can calculate the transport input requirements of each region, for the obtained flow pattern using the 'transport coefficients' and the 'transport input coefficients', and thus, re-allocate the regional transport input requirements according to this calculation, and obtain a second solution. This procedure is repeated till the difference between the previous allocation and the new allocation is reduced to a negligible quantity.

For getting the final results of this problem, thus, three solutions were obtained. Re-allocation of final demand after adjusting for goods transport inputs on the basis of the first solution is presented in Table 9.1. 'Transport coefficients' as worked out in the previous chapter were used as coefficients in the objective functions, which was to be minimized. The results of the third and the final solution are presented here.

2. The Results

The results of the optimum solution are presented in Tables 9.2 to 9.4. Table 9.2 shows the inter-regional flows of each of the 26 sectors, Table 9.3 shows the trade composition of each of the five regions, and Table 9.4

**Table 9.1 : Re-allocation of Final Demand Between the Regions
(Based on the First Solution)(In Crores of Rupees)**

Sectors	Regionwise Allocation of Final Demand					Total Final Demand
	1 North	2 West	3 East	4 South	5 Centre	
1. Foodgrains	864.85	310.14	763.81	603.98	452.02	2994.80
2. Cotton	16.56	- 8.45	14.18	7.86	8.65	38.80
3. Jute	0.42	0.18	1.39	0.50	0.21	2.70
4. Oilseeds	65.88	21.18	61.37	45.63	34.44	228.50
5. Plantations	11.51	4.88	82.59	45.40	6.02	150.40
6. Other						
Agriculture	618.70	292.97	603.05	469.01	327.27	2311.00
7. Coal	8.35	4.34	18.14	5.66	5.21	41.70
8. Iron Ore	-	-	1.17	0.63	-	1.80
9. Crude Oil	-	-12.40	-	-	-	-21.40
10. Other Mining	1.33	8.76	1.24	7.77	0.70	19.80
11. Iron and Steel	25.04	36.95	37.14	29.93	22.94	152.00
12. Aluminium and Other Metals	1.32	- 7.25	- 5.05	- 1.02	1.90	-10.10
13. Non-Electrical Equipment	60.79	35.47	27.44	56.01	45.39	225.10
14. Electrical Equipment	20.56	23.81	11.01	16.46	15.46	87.30
15. Transport Equipment	74.04	10.24	41.00	38.78	39.44	203.50
16. Chemicals	25.08	-19.63	0.76	12.26	14.23	32.70
17. Petroleum and Petroleum Products	30.27	-29.97	8.63	11.23	16.14	36.30
18. Fertilizers	0.61	- 5.63	- 5.32	- 6.18	0.32	-16.20
19. Cement	10.39	6.23	10.83	8.17	6.98	42.60
20. Glass, Wood and Other Industries	24.54	35.23	42.02	28.50	19.01	149.30
21. Food, Beverage and Tobacco	326.68	144.05	307.05	240.19	170.73	1188.70
22. Textiles	176.85	124.74	165.70	133.95	94.36	695.60
23. Jute and Coir Manufactures	8.77	3.72	96.51	13.02	4.58	126.60
24. Leather and Rubber Products	29.21	13.96	30.54	42.70	15.29	131.70
25. Paper and Paper Products	27.18	5.84	23.34	16.87	15.07	88.30
26. Other Industries	5.88	3.80	6.78	4.27	3.07	23.80
27. Electric Generation	8.81	3.52	9.93	5.66	5.78	33.70

Table 9.2 * OPTIMUM INTERREGIONAL FLOWS *
(In Crores of Rupees)

SECTOR NO	EXP REG	-IMPORTING REGIONS-				
		1	2	3	4	5
1	1	0.000	0.000	184.916	0.000	14.340
1	2	0.000	0.000	0.000	26.229	0.000
1	3	0.000	0.000	0.000	0.000	0.000
1	4	0.000	0.000	0.000	0.000	0.000
1	5	0.000	0.000	0.000	43.362	0.000
2	1	0.000	0.000	0.000	0.000	0.000
2	2	4.636	0.000	0.000	31.843	77.127
2	3	0.000	0.000	0.000	0.000	0.000
2	4	0.000	0.000	0.000	0.000	0.000
2	5	0.000	0.000	64.352	0.000	0.000
3	1	0.000	0.000	0.000	0.000	0.000
3	2	0.000	0.000	0.000	0.000	0.000
3	3	4.639	0.000	0.000	4.705	3.594
3	4	0.000	0.000	0.000	0.000	0.000
3	5	0.000	.431	0.000	0.000	0.000
4	1	0.000	0.000	0.000	0.000	0.000
4	2	17.278	0.000	0.000	0.000	41.881
4	3	0.000	0.000	0.000	0.000	0.000
4	4	0.000	0.000	41.684	0.000	0.000
4	5	0.000	0.000	32.556	0.000	0.000
5	1	0.000	0.000	0.000	0.000	0.000
5	2	0.000	0.000	0.000	0.000	0.000
5	3	12.067	0.000	0.000	0.000	8.038
5	4	0.000	2.978	0.000	0.000	0.000
5	5	0.000	1.902	0.000	0.000	0.000
6	1	0.000	0.000	0.000	0.000	0.000
6	2	0.000	0.000	0.000	0.000	0.000
6	3	3.369	0.000	0.000	7.291	23.676
6	4	0.000	0.000	0.000	0.000	0.000
6	5	0.000	24.623	0.000	0.000	0.000
7	1	0.000	0.000	0.000	0.000	0.000
7	2	0.000	0.000	0.000	0.000	0.000
7	3	15.705	0.000	0.000	13.563	3.522
7	4	0.000	0.000	0.000	0.000	0.000
7	5	0.000	6.372	0.000	0.000	0.000

(continued)

Table 9.2 * OPTIMUM INTERREGIONAL FLOWS *
(In Crores of Rupees)

SECTOR NO	EXP REG	-IMPORTING REGIONS-				
		1	2	3	4	5
1	1	0.000	0.000	184.916	0.000	14.340
1	2	0.000	0.000	0.000	26.229	0.000
1	3	0.000	0.000	0.000	0.000	0.000
1	4	0.000	0.000	0.000	0.000	0.000
1	5	0.000	0.000	0.000	43.362	0.000
2	1	0.000	0.000	0.000	0.000	0.000
2	2	4.636	0.000	0.000	31.843	77.127
2	3	0.000	0.000	0.000	0.000	0.000
2	4	0.000	0.000	0.000	0.000	0.000
2	5	0.000	0.000	64.352	0.000	0.000
3	1	0.000	0.000	0.000	0.000	0.000
3	2	0.000	0.000	0.000	0.000	0.000
3	3	4.639	0.000	0.000	4.705	3.594
3	4	0.000	0.000	0.000	0.000	0.000
3	5	0.000	.431	0.000	0.000	0.000
4	1	0.000	0.000	0.000	0.000	0.000
4	2	17.278	0.000	0.000	0.000	41.881
4	3	0.000	0.000	0.000	0.000	0.000
4	4	0.000	0.000	41.684	0.000	0.000
4	5	0.000	0.000	32.556	0.000	0.000
5	1	0.000	0.000	0.000	0.000	0.000
5	2	0.000	0.000	0.000	0.000	0.000
5	3	12.067	0.000	0.000	0.000	8.038
5	4	0.000	2.978	0.000	0.000	0.000
5	5	0.000	1.902	0.000	0.000	0.000
6	1	0.000	0.000	0.000	0.000	0.000
6	2	0.000	0.000	0.000	0.000	0.000
6	3	3.369	0.000	0.000	7.291	23.676
6	4	0.000	0.000	0.000	0.000	0.000
6	5	0.000	24.623	0.000	0.000	0.000
7	1	0.000	0.000	0.000	0.000	0.000
7	2	0.000	0.000	0.000	0.000	0.000
7	3	15.705	0.000	0.000	13.563	3.522
7	4	0.000	0.000	0.000	0.000	0.000
7	5	0.000	6.372	0.000	0.000	0.000

(continued)

Table 9.2 : (continued)

SECTOR NO	EXP REG	-IMPORTING REGIONS-				
		1	2	3	4	5
8	1	0.000	0.000	0.000	0.000	0.000
8	2	0.000	0.000	0.000	0.000	0.000
8	3	0.000	0.000	0.000	0.000	0.000
8	4	0.000	0.000	0.000	0.000	0.000
8	5	0.000	0.000	0.000	0.000	0.000
9	1	0.000	0.000	0.000	0.000	0.000
9	2	.125	0.000	0.000	.110	.061
9	3	0.000	0.000	0.000	0.000	0.000
9	4	0.000	0.000	0.000	0.000	0.000
9	5	0.000	0.000	0.000	0.000	0.000
10	1	0.000	0.000	0.000	0.000	0.000
10	2	0.000	0.000	0.000	0.000	0.000
10	3	0.000	0.000	0.000	0.000	0.000
10	4	0.000	0.000	0.000	0.000	0.000
10	5	0.000	.584	1.960	0.000	0.000
11	1	0.000	0.000	0.000	0.000	0.000
11	2	0.000	0.000	0.000	0.000	0.000
11	3	28.070	0.000	0.000	26.588	2.041
11	4	0.000	0.000	0.000	0.000	0.000
11	5	0.000	36.977	0.000	0.000	0.000
12	1	0.000	0.000	.445	0.000	0.000
12	2	0.000	0.000	0.000	2.471	4.262
12	3	0.000	0.000	0.000	0.000	0.000
12	4	0.000	0.000	0.000	0.000	0.000
12	5	0.000	0.000	6.778	0.000	0.000
13	1	0.000	0.000	0.000	0.000	0.000
13	2	0.000	0.000	0.000	0.000	0.000
13	3	72.049	0.000	0.000	44.908	99.014
13	4	0.000	0.000	0.000	0.000	0.000
13	5	0.000	38.300	0.000	0.000	0.000
14	1	0.000	0.000	0.000	0.000	0.000
14	2	0.000	0.000	0.000	0.000	0.000
14	3	0.000	0.000	0.000	0.000	0.000
14	4	0.000	23.814	0.000	0.000	0.000
14	5	0.000	0.000	0.000	0.000	0.000

(continued)

Table 9.2 : (continued)

SECTOR NO	EXP REG	-IMPORTING REGIONS-				
		1	2	3	4	5
15	1	0.000	0.000	0.000	0.000	0.000
15	2	0.000	0.000	0.000	0.000	0.000
15	3	0.000	0.000	0.000	0.000	0.000
15	4	0.000	0.000	0.000	0.000	0.000
15	5	0.000	10.240	0.000	0.000	0.000
16	1	0.000	0.000	0.000	0.000	0.000
16	2	0.000	0.000	0.000	0.000	5.650
16	3	0.000	0.000	0.000	0.000	0.000
16	4	0.000	0.000	0.000	0.000	0.000
16	5	0.000	0.000	0.000	0.000	0.000
17	1	0.000	0.000	0.000	0.000	0.000
17	2	37.405	0.000	0.000	18.999	29.459
17	3	0.000	0.000	0.000	0.000	0.000
17	4	0.000	0.000	0.000	0.000	0.000
17	5	0.000	0.000	7.623	0.000	0.000
18	1	0.000	0.000	0.000	0.000	0.000
18	2	0.000	0.000	0.000	0.000	1.416
18	3	0.000	0.000	0.000	0.000	0.000
18	4	0.000	0.000	0.000	0.000	0.000
18	5	0.000	0.000	0.000	0.000	0.000
19	1	0.000	0.000	0.000	0.000	0.000
19	2	0.000	0.000	0.000	0.000	0.000
19	3	0.000	0.000	0.000	0.000	0.000
19	4	0.000	0.000	0.000	0.000	0.000
19	5	0.000	0.000	0.000	0.000	0.000
20	1	0.000	0.000	0.000	0.000	0.000
20	2	0.000	0.000	0.000	0.000	0.000
20	3	0.000	0.000	0.000	0.000	0.000
20	4	0.000	0.000	0.000	0.000	0.000
20	5	0.000	36.692	0.000	0.000	0.000
21	1	0.000	0.000	0.000	0.000	0.000
21	2	0.000	0.000	0.000	0.000	0.000
21	3	0.000	0.000	0.000	0.000	0.000
21	4	0.000	0.000	0.000	0.000	0.000
21	5	0.000	11.091	0.000	0.000	0.000

(continued)

Table 9.2 : (continued)

SECTOR NO	EXP REG	-IMPORTING REGIONS-				
		1	2	3	4	5
22	1	0.000	0.000	0.000	0.000	0.000
22	2	0.000	0.000	0.000	0.000	0.000
22	3	0.000	0.000	0.000	0.000	0.000
22	4	0.000	83.907	0.000	0.000	0.000
22	5	0.000	0.000	0.000	0.000	0.000
23	1	0.000	0.000	0.000	0.000	0.000
23	2	0.000	0.000	0.000	0.000	0.000
23	3	0.000	0.000	0.000	0.000	0.000
23	4	0.000	0.000	0.000	0.000	0.000
23	5	0.000	0.000	0.000	0.000	0.000
24	1	0.000	0.000	0.000	0.000	0.000
24	2	0.000	0.000	0.000	0.000	0.000
24	3	0.000	0.000	0.000	0.000	0.000
24	4	0.000	14.078	32.524	0.000	21.082
24	5	4.359	0.000	0.000	0.000	0.000
25	1	0.000	0.000	0.000	0.000	0.000
25	2	0.000	0.000	0.000	0.000	0.000
25	3	0.000	0.000	0.000	0.000	0.000
25	4	0.000	0.000	0.000	0.000	0.000
25	5	0.000	6.959	0.000	0.000	0.000
26	1	0.000	0.000	0.000	0.000	0.000
26	2	0.000	0.000	0.000	0.000	0.000
26	3	0.000	0.000	0.000	0.000	0.000
26	4	0.000	0.000	0.000	0.000	0.000
26	5	0.000	0.000	0.000	0.000	0.000

Note : The serial numbers of regions and sectors correspond to those in Table 9.1.

Table 9.3 : TRADE COMPOSITION OF REGIONS-OPTIMUM

REGION NO=1	EXPORT	PERCENT	SECTOR	IMPORT	PERCENT
	199.256	99.777	1	0.000	0.000
	0.000	0.000	2	4.636	2.321
	0.000	0.000	3	4.639	2.322
	0.000	0.000	4	17.278	8.651
	0.000	0.000	5	12.067	6.042
	0.000	0.000	6	3.369	1.687
	0.000	0.000	7	15.705	7.864
	0.000	0.000	8	0.000	0.000
	0.000	0.000	9	.125	.062
	0.000	0.000	10	0.000	0.000
	0.000	0.000	11	28.070	14.055
	.445	.222	12	0.000	0.000
	0.000	0.000	13	72.049	36.078
	0.000	0.000	14	0.000	0.000
	0.000	0.000	15	0.000	0.000
	0.000	0.000	16	0.000	0.000
	0.000	0.000	17	37.405	18.730
	0.000	0.000	18	0.000	0.000
	0.000	0.000	19	0.000	0.000
	0.000	0.000	20	0.000	0.000
	0.000	0.000	21	0.000	0.000
	0.000	0.000	22	0.000	0.000
	0.000	0.000	23	0.000	0.000
	0.000	0.000	24	4.359	2.182
	0.000	0.000	25	0.000	0.000
	0.000	0.000	26	0.000	0.000
TOTAL	199.701	100.000		199.702	100.000
REGION NO=2	EXPORT	PERCENT	SECTOR	IMPORT	PERCENT
	26.229	8.773	1	0.000	0.000
	113.606	38.001	2	0.000	0.000
	0.000	0.000	3	.431	.144
	59.159	19.788	4	0.000	0.000
	0.000	0.000	5	4.880	1.632
	0.000	0.000	6	24.623	8.236
	0.000	0.000	7	6.372	2.131
	0.000	0.000	8	0.000	0.000
	.296	.099	9	0.000	0.000
	0.000	0.000	10	.584	.195
	0.000	0.000	11	36.977	12.369
	6.733	2.252	12	0.000	0.000
	0.000	0.000	13	38.300	12.811
	0.000	0.000	14	23.814	7.965
	0.000	0.000	15	10.240	3.425
	5.650	1.889	16	0.000	0.000
	85.863	28.721	17	0.000	0.000
	1.416	.473	18	0.000	0.000
	0.000	0.000	19	0.000	0.000
	0.000	0.000	20	36.692	12.273
	0.000	0.000	21	11.091	3.710
	0.000	0.000	22	83.907	28.067
	0.000	0.000	23	0.000	0.000
	0.000	0.000	24	14.078	4.709
	0.000	0.000	25	6.959	2.327
	0.000	0.000	26	0.000	0.000
TOTAL	298.952	100.000		298.948	100.000

(continued)

Table 9.3 : (continued)

REGION NO=3	EXPORT	PERCENT	SECTOR	IMPORT	PERCENT
	0.000	0.000	1	184.916	49.596
	0.000	0.000	2	64.352	17.260
	12.938	3.470	3	0.000	0.000
	0.000	0.000	4	74.240	19.912
	20.105	5.392	5	0.000	0.000
	34.336	9.209	6	0.000	0.000
	32.790	8.794	7	0.000	0.000
	0.000	0.000	8	0.000	0.000
	0.000	0.000	9	0.000	0.000
	0.000	0.000	10	1.960	.525
	56.699	15.207	11	0.000	0.000
	0.000	0.000	12	7.223	1.937
	215.971	57.926	13	0.000	0.000
	0.000	0.000	14	0.000	0.000
	0.000	0.000	15	0.000	0.000
	0.000	0.000	16	0.000	0.000
	0.000	0.000	17	7.623	2.044
	0.000	0.000	18	0.000	0.000
	0.000	0.000	19	0.000	0.000
	0.000	0.000	20	0.000	0.000
	0.000	0.000	21	0.000	0.000
	0.000	0.000	22	0.000	0.000
	0.000	0.000	23	0.000	0.000
	0.000	0.000	24	32.524	8.723
	0.000	0.000	25	0.000	0.000
	0.000	0.000	26	0.000	0.000
TOTAL	372.839	100.000		372.838	100.000
REGION NO=4	EXPORT	PERCENT	SECTOR	IMPORT	PERCENT
	0.000	0.000	1	69.591	31.622
	0.000	0.000	2	31.843	14.469
	0.000	0.000	3	4.705	2.137
	41.684	18.941	4	0.000	0.000
	2.978	1.353	5	0.000	0.000
	0.000	0.000	6	7.291	3.313
	0.000	0.000	7	13.563	6.163
	0.000	0.000	8	0.000	0.000
	0.000	0.000	9	.110	.049
	0.000	0.000	10	0.000	0.000
	0.000	0.000	11	26.588	12.081
	0.000	0.000	12	2.471	1.122
	0.000	0.000	13	44.908	20.406
	23.814	10.821	14	0.000	0.000
	0.000	0.000	15	0.000	0.000
	0.000	0.000	16	0.000	0.000
	0.000	0.000	17	18.999	8.633
	0.000	0.000	18	0.000	0.000
	0.000	0.000	19	0.000	0.000
	0.000	0.000	20	0.000	0.000
	0.000	0.000	21	0.000	0.000
	83.907	38.127	22	0.000	0.000
	0.000	0.000	23	0.000	0.000
	67.684	30.756	24	0.000	0.000
	0.000	0.000	25	0.000	0.000
	0.000	0.000	26	0.000	0.000
TOTAL	220.067	100.000		220.069	100.000

(continued)

Table 9.3 : (continued)

REGION NO=5	EXPORT	PERCENT	SECTOR	IMPORT	PERCENT
	43.362	12.937	1	14.340	4.278
	64.352	19.200	2	77.127	23.011
	.431	.128	3	3.594	1.072
	32.556	9.713	4	41.881	12.495
	1.902	.567	5	8.038	2.398
	24.623	7.346	6	23.676	7.064
	6.372	1.901	7	3.522	1.050
	0.000	0.000	8	0.000	0.000
	0.000	0.000	9	.061	.018
	2.544	.759	10	0.000	0.000
	36.977	11.032	11	2.041	.608
	6.778	2.022	12	4.262	1.271
	38.300	11.427	13	99.014	29.542
	0.000	0.000	14	0.000	0.000
	10.240	3.055	15	0.000	0.000
	0.000	0.000	16	5.650	1.685
	7.623	2.274	17	29.459	8.789
	0.000	0.000	18	1.416	.422
	0.000	0.000	19	0.000	0.000
	36.692	10.947	20	0.000	0.000
	11.091	3.309	21	0.000	0.000
	0.000	0.000	22	0.000	0.000
	0.000	0.000	23	0.000	0.000
	4.359	1.300	24	21.082	6.290
	6.959	2.076	25	0.000	0.000
	0.000	0.000	26	0.000	0.000
TOTAL	335.161	100.000		335.163	100.000

- Notes :** (1) The serial numbers of regions and sectors correspond to those in Table 9.1.
- (2) Due to truncation of digits beyond three decimal points, the percentages may not add upto 100 exactly.
- (3) Exports and Imports are in crores of rupees.

Table 9.4 : * OPTIMUM PRODUCTION PATTERN ***(In Crores of Rupees)**

SECTOR NO	-R E G I O N S-					ALL INDIA
	1.NORTH	2.WEST	3.EAST	4.SOUTH	5.CENTRE	
1	1390.066	467.982	863.255	760.553	649.342	4131.199
2	68.337	121.968	1.278	40.880	25.734	258.199
3	.952	1.926	53.750	2.470	0.000	59.100
4	84.268	103.701	11.845	121.320	44.564	365.699
5	1.190	0.000	157.932	81.877	0.000	241.000
6	1043.949	442.552	972.373	758.698	545.626	3763.199
7	.212	0.000	75.424	0.000	19.262	94.900
8	.113	0.000	4.192	.916	1.477	6.700
9	0.000	0.000	5.000	0.000	0.000	5.000
10	9.181	11.602	12.296	14.770	13.848	61.700
11	5.456	0.000	145.920	13.810	71.431	236.617
12	7.306	0.000	0.000	1.575	9.818	18.699
13	0.000	0.000	292.076	27.012	0.000	319.088
14	22.363	0.000	18.649	43.495	17.289	101.796
15	86.386	0.000	48.263	45.286	57.964	237.899
16	66.371	0.000	54.602	58.556	32.496	212.025
17	0.000	58.572	13.408	0.000	0.000	71.980
18	14.921	0.000	4.016	.945	5.617	25.499
19	10.704	6.234	11.378	8.528	7.553	44.397
20	33.844	0.000	53.434	38.452	63.246	188.976
21	399.848	160.263	374.643	295.337	221.065	1451.156
22	216.410	49.571	202.682	268.490	115.427	852.580
23	15.367	6.280	111.450	19.682	8.852	161.631
24	29.776	0.000	0.000	123.480	0.000	153.256
25	37.929	0.000	36.575	26.688	29.073	130.265
26	21.555	9.196	30.275	27.892	11.472	100.390
27	27.606	8.896	42.009	24.027	22.106	124.644

Note : The serial numbers of sectors correspond to those in Table 9.1.

shows the optimum production pattern. The 27th sector, which is 'electric generation', does not appear in the inter-regional trade, as our assumption is that each region will produce sufficient electricity to meet its own requirements, and electricity will not be transmitted to other regions.

Looking at the Table 9.2, we find that in case of most of the commodities, the Central Region is an importer as well as an exporter. This is so, because of the exact central position of the Central Region (specially that of Nagpur, which has been taken as the 'centre of economic gravity' for Central Region), as far as the movements between North and South, and between East and West are concerned. And, hence, the solution gives, in these cases, flows through Central Region. However, as far as the movements between North and East, East and South, South and West, and between North and West are concerned, direct trade is possible and economical in terms of transport cost.

From these results we find that 'iron ore', 'cement', 'jute and coir manufactures' and 'other industries' do not enter the inter-regional trade. Production of iron and steel, which uses iron ore as basic raw material, is suggested in all those regions where iron ore is produced. Hence this industry has to be raw material based. Eastern Region, accordingly, shares the largest bulk of the production of steel.

Cement is a commodity, the basic inputs for which (most important being limestone which is included in 'other minerals') are found in all the regions, and also the cost of transporting cement is relatively heavier. This results in a suggested self-sufficiency of all the regions in respect of this commodity.

The suggestion of self-sufficiency of all the regions in respect of 'jute and coir manufactures' is, rather, peculiar. We find that East is supposed to export raw jute to all the regions, and each region has to manufacture it, in spite of the fact that the cost of transporting raw jute is relatively heavier than that of its finished products. But then, there is that normative condition of balance of trade between the regions according to which the total value of exports of a region must equal the total value of its imports. Eastern Region being richly endowed with minerals like iron ore and coal, and also having bulk of plantation product (i.e., tea) and almost whole of raw jute production, is in a position to export most of these products to other regions and is also most suitable for the establishment of manufacturing industries, like iron and steel, non-electrical equipment, and jute textiles etc. But as the situation is, the finished products being costlier than the basic raw materials needed to produce the same amount of finished products, other regions can balance their trade with Eastern Region by importing only a few of these

manufactures, and for others, importing the raw materials to be manufactured in their own territories. Hence, given the data, it is the inter-regional trade of raw jute that is preferred by our optimizational scheme.

'Other industries' group includes a variety of other industries, and hence there is no specific input combination. The general inputs are available in all the regions. Therefore it is expected that all the regions will be self-sufficient in respect of this sector.

Textiles is another case like jute manufactures. It is seen from the results that Northern, Eastern and Central Regions are to be self-sufficient in textile, while Southern Region besides meeting its own demand has to meet a part of the demand of the Western Region, in spite of the fact, again, that Western Region is the largest producer of raw cotton, and it is expected to export raw cotton to all the other regions. This again is due to the constraint of balance of trade between the regions.

The industries in which all the regions except Western Region, are to be self-sufficient are: electrical equipment (to be supplied to West by South), transport equipment, glass, wood and other non-metallic industries, food, beverage and tobacco and paper and paper products (all of these to be supplied to West by Centre).

The specialization of Western Region is suggested in petro-chemical industries (i.e., petroleum and petroleum products, chemicals and fertilizers).

The most important exports, thus, are: foodgrains from North; cotton, petroleum products and oilseeds from West; non-electrical equipment, iron and steel, coal, jute (raw) and plantation products (i.e., tea) from East; and textiles, leather and rubber products, oilseeds and electrical equipment from South.

Goods transportation input requirements (based on the first solution as well as on the third and the final solutions) and their regionwise distribution are presented in Table 9.5. These were obtained by applying the transport coefficients and transport input vector as discussed in Chapter VIII. The total wagon-kilometres of transportation required as per the final solution works out to be 3,796,704 thousand (398,947 thousand less than that as per first solution) that is about 57 per cent of the actual wagon-kilometres of goods transport by railways in 1959-60, which is 6,662,126 thousand. Accordingly the input requirements as per final solution also work out to be about 57 per cent of the actual inputs in 1959-60 (Table 8.6, last column). An exact idea of the savings in terms of input requirements is difficult to have because the optimum flow pattern refers to only inter-regional flows, while, the actual railway goods transport include inter-regional flows as well as intra-regional flows. However, on the other hand, the optimum flow pattern does not leave any part of flows for other means of transport, that is, it covers the

Table 9.5 : Goods Transport Input Requirements Based on the Optimum Flow Pattern (In Crores of Rupees)

Sectors	Goods Transport Input Requirements as per First Solution	Goods Transport Input Requirements as per Third and Final Solution	Regionwise Distribution of the Goods Transport Input Requirements as per Third and Final Solution				
			North	West	East	South	Centre
Coal	13.50	12.21	1.12	1.28	7.82	0.37	1.62
Iron and Steel	2.68	2.43	0.22	0.26	1.56	0.07	0.32
Aluminium and Other Metals	3.68	3.33	0.31	0.35	2.13	0.10	0.44
Non-Electrical Equipment	2.64	2.36	0.22	0.25	1.51	0.07	0.31
Electrical Equipment	2.21	2.00	0.18	0.21	1.28	0.06	0.27
Transport Equipment	9.55	8.64	0.79	0.91	5.53	0.26	1.15
Chemicals	0.84	0.76	0.07	0.08	0.49	0.02	0.10
Petroleum Products	4.38	3.96	0.36	0.41	2.54	0.12	0.53
Cement	0.67	0.61	0.06	0.06	0.39	0.02	0.08
Glass, Wood and Others	4.22	3.82	0.35	0.40	2.44	0.12	0.51
Textiles	1.67	1.52	0.14	0.16	0.97	0.05	0.20
Rubber and Leather	0.29	0.26	0.02	0.03	0.17	0.01	0.30
Paper and Paper Products	0.74	0.66	0.06	0.06	0.43	0.02	0.09
Electricity	2.81	2.55	0.23	0.27	1.63	0.08	0.34

Total wagon-kilometres of transportation required :-

- (i) as per first solution 4,195,651 thousand
(ii) as per final solution 3,796,704 thousand

total inter-regional transport, while, actually the railways cover only a part, however major it may be, of the total inter-regional flows. Thus, if we assume that the intra-regional transport part of the actual total transport is covered by the road and other transport sector,² and total railways goods transport is equivalent to inter-regional part of total transport, then as we can see, the savings in terms of inputs are quite large.

3. Comparison of Optimal and Actual Inter-regional Flows

The optimal inter-regional flows are available in respect of commodities classified and grouped in 26 sectors corresponding to the Planning Commission's Input-Output Table, while actual inter-regional flows are available in respect of selected commodities. Only in a few cases, the commodities correspond to the sectors and hence, a comparison is possible. Further, the optimal flows show the total flows (by all means of transport) between the regions, while our actual flows pertain only to movements by railways. However, in case of a few commodities, the movement by railways together with coastal trade, could be regarded to cover more or less complete flows, specially when the regions are so big. From these considerations, we select the following five commodities for comparison between

² Total Gross Domestic Output of Road and Other Transport Sector is 543.6 crores as against that of Railways which is 426.5 crores only. (Source: Planning Commission's Input-Output Table 1959.)

the actual and the optimal flows: (1) Coal and Coke; (2) Raw Cotton; (3) Raw Jute; (4) Iron and Steel; and (5) Cement. Coal and Coke is an important input for most of the industries, and raw jute and raw cotton are two very important raw materials. Iron and steel and cement--the two manufactured commodities, again represent two important sectors of Indian economy. Therefore, in view of the inter-sectoral inter-regional interdependence a comparison in respect of these five commodities would throw sufficient light on the efficiency of the pattern of locations and flows.

Actual flows are in terms of 15 regions. But for comparison with optimum flows, the actual flows have been aggregated in terms of five regions. Also, an estimate of coastal trade has been made and included in the tables of actual flows.³

It would have been interesting, though, to see the trend in the structure of trade for the whole of the decade under study with a view to finding out whether the tendency has been that of convergence towards an optimum flow pattern or not, yet the limitations of our optimum calculations make the scope of such comparison very limited. The optimum flows have been derived only for the year 1959-60,

³ Source of this being the 'Coasting Trade of India' published by the Department of Commercial Intelligence and Statistics, Government of India, Calcutta.

taking the broad structure of the economy as it existed in that year. Any change in the structural variables, like final demand, foreign imports and exports, production of primary sectors in different regions and regional distribution of population would affect the results of optimum solution substantially, even if the matrix of inter-sectoral relations were assumed to be the same. The comparison, therefore, has been attempted for the year 1959-60 only.

For comparison purposes, it may be pointed out, that the pattern of flows is more important than the level of flows--level of flows being weighted by prices. However, effort has been made to make the two comparable in this respect also, by taking, as far as possible, the same price level which is used for the input-output table made use of in the model.

Table 9.6 presents the actual inter-regional flows of five commodities. In order to have an idea of the departure in the pattern of actual flows from the optimum pattern, measures of structural change (MC)⁴ have been calculated and included in Table 9.6 (figures within brackets). Further, as there is a large amount of cross-hauling in actual trade, due to say, differences in qualities of the same commodity produced in different regions or, product-mix differences, and the optimal scheme does not account for

4 As discussed in Chapter VI.

Table 9.6 : Actual Inter-regional Flows of Selected Commodities (In Crores of Rupees)

Commodities and MC	Exporting Regions	Importing Regions				
		1	2	3	4	5
1. Coal and Coke (0.2652)	1. North	-	-	0.053	-	0.001
	2. West	0.001	-	-	0.020	0.001
	3. East	15.527	4.238	-	4.657	2.707
	4. South	-	0.260	0.001	-	0.005
	5. Centre	0.118	4.122	0.089	2.613	-
2. Raw Cotton (0.6965)	1. North	-	6.656	0.822	2.018	1.140
	2. West	4.051	-	1.919	7.511	2.999
	3. East	0.009	0.003	-	0.032	0.009
	4. South	0.051	0.807	0.134	-	0.099
	5. Centre	2.536	6.236	1.566	4.931	-
3. Raw Jute (0.7697)	1. North	-	0.009	0.781	-	0.009
	2. West	0.004	-	0.085	-	0.006
	3. East	1.292	0.004	-	0.566	0.100
	4. South	0.011	0.015	5.501	-	0.045
	5. Centre	0.004	0.019	0.100	0.034	-
4. Iron and Steel (0.5158)	1. North	-	0.886	0.208	0.491	0.510
	2. West	1.246	-	0.185	0.731	1.407
	3. East	9.263	8.797	-	7.344	3.866
	4. South	0.068	0.833	0.036	-	0.389
	5. Centre	0.742	1.251	0.122	0.227	-
5. Cement (0.5000)	1. North	-	0.234	0.007	-	0.569
	2. West	0.103	-	0.013	0.035	0.064
	3. East	0.077	0.003	-	0.001	0.227
	4. South	0.001	0.061	0.177	-	0.335
	5. Centre	1.293	2.370	0.005	0.453	-

(continued)

(Note to Table 9.6)

1. Average prices assumed for each of the above five commodities (sectors) are as follows :-

(Rs. per thousand maunds)

Coal and Coke	739.52
Raw Cotton	70,358.00
Raw Jute	21,213.80
Iron and Steel	8,434.22
Cement	2,382.16

2. The Table includes also the estimates of coasting trade in respect of each of the commodities as shown below :

(thousand maunds)

<u>Coal and Coke</u>	East to South	32,300.0
<u>Raw Cotton</u>	West to South	708.6
	West to East	167.9
<u>Raw Jute</u>	South to East	2,368.0
<u>Iron and Steel</u>	East to South	322.0
	East to West	112.0
<u>Cement</u>	South to West	1.4

3. Measures of structural change (MC) between optimal and actual flows are given in brackets with the names of the commodities.

Table 9.7 : Net Exports and Imports of Regions - Actuals and Optimum

Commodities	Regions	Actuals	Optimum	Total net flows as percentage of total gross flows - actual
Coal and Coke	1. North	- 15.592	- 15.705	
	2. West	- 8.598	- 6.372	
	3. East	+ 26.986	+ 32.790	
	4. South	- 7.024	- 13.563	
	5. Centre	+ 4.228	+ 2.850	
	Total Net Flows	+31.214	+ 35.640	90.70
Raw Cotton	1. North	+ 3.989	- 4.636	
	2. West	+ 2.778	+113.606	
	3. East	- 4.388	- 64.352	
	4. South	- 13.401	- 31.843	
	5. Centre	+ 11.022	- 12.775	
	Total Net Flows	+ 17.789	+113.606	40.87
Raw Jute	1. North	- 0.512	- 4.639	
	2. West	+ 0.048	- 0.431	
	3. East	- 4.505	+ 12.938	
	4. South	+ 4.972	- 4.705	
	5. Centre	- 0.003	- 3.163	
	Total Net Flows	+ 5.020	+ 12.938	58.47
Iron and Steel	1. North	- 9.224	- 28.070	
	2. West	- 8.198	- 36.977	
	3. East	+ 28.719	+ 56.699	
	4. South	- 7.467	- 26.588	
	5. Centre	- 3.830	+ 34.936	
	Total Net Flows	+ 28.719	+ 91.635	74.40
Cement	1. North	- 0.664	-	
	2. West	- 2.453	-	
	3. East	+ 0.106	-	
	4. South	+ 0.085	-	
	5. Centre	+ 2.926	-	
	Total Net Flows	+ 3.117	-	51.71

Note : Plus signs indicate net exports and minus signs indicate net imports.

such differences and does not allow any cross-hauling (except in the case of Central Region as discussed earlier), we may get a better idea if we compare the net exports and imports of each region, and the net inter-regional flows. Hence, Table 9.7 presents the actual and optimal net imports and exports of each region.

It may be seen that the magnitude of MC is relatively smaller in case of coal, and very large in case of raw cotton and raw jute--indicating a significant departure between the actual and optimum in the last two cases. In case of iron and steel and cement also it is quite high. There is no inter-regional flow of cement in the optimum scheme--each region being self-sufficient in respect of this commodity.

One general conclusion which follows from the results of optimum solution and the above comparison is that it is the dispersion and self-sufficiency in respect of manufacturing industries that is suggested in a larger measure, and, hence, the trade level increases and also the pattern changes in case of basic inputs and raw materials like coal, jute and cotton raw and iron and steel. On the other hand, the trading of jute and coir manufactures, textiles (except for the imports of West), cement and 'other industries' becomes nil in the optimum scheme.

APPENDIX I

LIST OF THE COMMODITIES AND THEIR AGGREGATION

Names of the Commodities under study	Names of the corresponding commodities as per "Accounts relating to Inland Trade of India"
1. Animals - Cattle	Cattle (excluding sheep and goats)
2. Animals - Sheep and Goats	Sheep and Goats
3. Animals - Others	1. Horses, Ponies and Mules 2. Others
4. Bones	Bones
5. Hides and Skins tanned and leather	Hides and skins tanned and leather
6. Hides and Skins - Raw	1. Hides Raw 2. Skins Raw
7. Sugar	Sugar (excluding Khandsari Sugar)
8. Gur, Jaggery and Shakkar	1. Khandsari Sugar 2. Gur, Jaggery and Shakkar
9. Molasses	Molasses
10. Cotton piece goods	1. Cotton piece goods - foreign in bales 2. Cotton piece goods - foreign in boxes 3. Cotton piece goods - Indian in bales 4. Cotton piece goods - Indian in boxes
11. Cotton Twist and Yarn	1. Cotton Twist and Yarn - Foreign 2. Cotton Twist and Yarn - Indian
12. Gram and Pulses	*1. Gram and gram products *2. Pulses other than gram and gram products
13. Rice in husk	Rice in husk

(continued)

APPENDIX I : (continued)

Names of the commodities under study	Names of the corresponding commodities as per "Accounts relating to Inland Trade of India"
14. Rice not in husk	Rice not in husk
15. Wheat	Wheat
16. Wheat Flour	Wheat Flour
17. Jowar	Jowar
18. Maize	Maize
19. Other grains	1. Bajra 2. Millets other than Jowar and Bajra 3. Other sorts
20. Oilseed - Til and Linseed	1. Oilseed - Til or janjli 2. Oilseed - Linseed
21. Oilseed - Groundnut	Oilseed - Groundnut
22. Oilseed - Cotton	Oilseed - Cotton
23. Oilseed - Rape and Mustard	Oilseed - Rape and Mustard
24. Oilseed - Castor	Oilseed - Castor
25. Ghee	Ghee
26. Oil - Coconut	Oil - Coconut
27. Oil - Groundnut	Oil - Groundnut
28. Oil - Castor	Oil - Castor
29. Oil - Others	Oil - Others
30. Hemp - Indian and other fibres	Hemp - Indian and other fibres
31. Raw Jute	1. Jute raw - pucca bales 2. Jute raw - loose
32. Raw wool	Wool raw

(continued)

APPENDIX I : (continued)

Names of the commodities under study	Names of the corresponding commodities as per "Accounts relating to Inland Trade of India"
33. Raw Cotton	1. Cotton raw - loose 2. Cotton raw - pucca bales
34. Coal and Coke	Coal and Coke
35. Manganese Ore	Manganese Ore
36. Kerosene Oil	Kerosene Oil
37. Cement	Cement
38. Glass	Glass
39. Iron and Steel	Iron and Steel bars, sheets, girders and other commercial forms of iron and steel
40. Salt	Salt
41. Gunny bags and cloth	Gunny bags and cloth
42. Myrobalans	Dyes and Tans - Myrobalans
43. Rubber Raw	Rubber Raw
44. Coffee	Coffee
45. Tea	Tea
46. Tobacco Raw	Tobacco Raw
47. Fruits dried	Fruits dried
48. Oilcakes	1. Oilcakes - Castor 2. Oilcakes - Others
49. Timber	1. Wood and Timber - Teak 2. Wood and Timber - Others
50. Lac and Shellac	Lac and Shellac

* Recorded as one commodity, i.e., gram and pulses before April 1952.

APPENDIX II

FLOW TABLES FOR MAIN EXPORTING REGIONS

(FOR 50 COMMODITIES AND 10 YEARS)

NOTES

- (1) I indicates Importing regions which are as below :
- | | |
|--------------------|---------------------|
| 1. Assam | 9. Rajasthan |
| 2. West Bengal | 10. Delhi |
| 3. Bihar | 11. Western Region |
| 4. Orissa | 12. Bombay |
| 5. Calcutta | 13. Hyderabad |
| 6. U. P. | 14. Southern Region |
| 7. Central Region | 15. Madras |
| 8. Northern Region | |
- (2) T indicates total of the column, i.e., total export of the region in a particular year.
- (3) Figures are in 100 maunds unless otherwise indicated.
- (4) It may be observed in these tables that the total of exports of a region invariably exceeds the actual sum of the column. This is so because the actual processing and totalling has been done with larger number of digits than are printed. While printing the tables on computer, the right-hand side digits are just truncated. Hence, the difference between the actual and the printed total represents the sum of insignificant flows.

(1) **Table 1 : Cattle (Excluding Sheep and Goats)****(In Hundred Heads)**

I	EXPORTING REGION 8				NORTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.	
2	9.	1.	1.	0.	2.	1.	0.	4.	15.	10.	
3	138.	89.	31.	39.	34.	81.	23.	20.	18.	89.	
4	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	
5	232.	289.	149.	168.	121.	176.	82.	209.	222.	276.	
6	746.	828.	291.	377.	302.	262.	309.	709.	490.	525.	
7	2.	9.	19.	16.	21.	36.	31.	57.	41.	40.	
9	1.	2.	2.	3.	2.	4.	32.	3.	9.	13.	
10	19.	7.	4.	7.	4.	1.	4.	11.	10.	15.	
11	15.	13.	21.	8.	23.	44.	35.	108.	115.	134.	
12	234.	193.	123.	115.	132.	105.	96.	0.	0.	1.	
13	0.	0.	0.	1.	0.	1.	1.	2.	2.	3.	
14	0.	0.	0.	0.	0.	1.	1.	2.	4.	3.	
15	0.	0.	0.	0.	0.	0.	1.	1.	3.	1.	
T	1402.	1436.	643.	760.	646.	718.	621.	1130.	935.	1125.	

I	EXPORTING REGION 9				RAJASTHAN						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	2.	2.	0.	0.	3.	4.	5.	7.	0.	8.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	20.	28.	2.	3.	4.	19.	13.	11.	5.	22.	
7	25.	31.	17.	10.	8.	5.	11.	31.	14.	16.	
8	16.	33.	32.	18.	37.	24.	34.	25.	30.	35.	
10	147.	58.	35.	105.	93.	11.	51.	48.	55.	30.	
11	68.	21.	88.	205.	47.	137.	109.	189.	76.	203.	
12	1.	2.	2.	3.	3.	5.	5.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	282.	178.	180.	346.	197.	209.	231.	314.	183.	317.	

I	EXPORTING REGION 3				BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	2.	7.	7.	0.	0.	1.	3.	2.	10.	32.	
2	82.	97.	87.	94.	169.	210.	209.	187.	165.	130.	
4	5.	8.	5.	5.	6.	2.	1.	4.	14.	8.	
5	372.	433.	395.	422.	427.	486.	462.	418.	475.	440.	
6	3.	3.	5.	4.	1.	1.	3.	3.	4.	15.	
7	2.	1.	3.	13.	12.	6.	4.	6.	14.	27.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	1.	0.	0.	1.	1.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	469.	552.	505.	541.	617.	711.	685.	624.	685.	657.	

(continued)

(1) **Table 1 : Cattle (Excluding Sheep and Goats)****(In Hundred Heads)**

I	EXPORTING REGION 8				NORTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.	
2	9.	1.	1.	0.	2.	1.	0.	4.	15.	10.	
3	138.	89.	31.	39.	34.	81.	23.	20.	18.	89.	
4	0.	0.	0.	0.	0.	0.	0.	0.	2.	3.	
5	232.	289.	149.	188.	121.	176.	82.	209.	222.	276.	
6	746.	828.	291.	377.	302.	262.	309.	709.	490.	525.	
7	2.	9.	19.	16.	21.	36.	31.	57.	41.	40.	
9	1.	2.	2.	3.	2.	4.	32.	3.	9.	13.	
10	19.	7.	4.	7.	4.	1.	4.	11.	10.	15.	
11	15.	13.	21.	8.	23.	44.	35.	108.	115.	134.	
12	234.	193.	123.	115.	132.	105.	96.	0.	0.	1.	
13	0.	0.	0.	1.	0.	1.	1.	2.	2.	3.	
14	0.	0.	0.	0.	0.	1.	1.	2.	4.	3.	
15	0.	0.	0.	0.	0.	0.	1.	1.	3.	1.	
T	1402.	1436.	643.	760.	646.	718.	621.	1130.	935.	1125.	

I	EXPORTING REGION 9				RAJASTHAN						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	2.	2.	0.	0.	3.	4.	5.	7.	0.	8.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	20.	28.	2.	3.	4.	19.	13.	11.	5.	22.	
7	25.	31.	17.	10.	8.	5.	11.	31.	14.	16.	
8	16.	33.	32.	18.	37.	24.	34.	25.	30.	35.	
10	147.	58.	35.	105.	93.	11.	51.	48.	55.	30.	
11	68.	21.	88.	205.	47.	137.	109.	189.	76.	203.	
12	1.	2.	2.	3.	3.	5.	5.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	282.	178.	180.	346.	197.	209.	231.	314.	183.	317.	

I	EXPORTING REGION 3				BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	2.	7.	7.	0.	0.	1.	3.	2.	10.	32.	
2	82.	97.	87.	94.	169.	210.	209.	187.	165.	130.	
4	5.	8.	5.	5.	6.	2.	1.	4.	14.	8.	
5	372.	433.	395.	422.	427.	486.	462.	418.	475.	440.	
6	3.	3.	5.	4.	1.	1.	3.	3.	4.	15.	
7	2.	1.	3.	13.	12.	6.	4.	6.	14.	27.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	1.	0.	0.	1.	1.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	469.	552.	505.	541.	617.	711.	685.	624.	685.	657.	

(continued)

Table A : (continued)

	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	3.	1.	0.	11.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	4.	0.	0.	0.	0.	0.	0.
5	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	3.	28.	5.	0.	2.	6.	3.	11.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
11	29.	21.	19.	34.	19.	12.	15.	8.	11.	16.
12	20.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	1.	3.	2.	7.	1.	4.	6.	7.	11.	5.
15	24.	15.	16.	10.	10.	7.	11.	23.	22.	19.
T	83.	43.	43.	98.	37.	26.	36.	47.	49.	54.

	EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	1.	0.	0.	1.	1.	3.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
5	1.	0.	2.	22.	19.	77.	24.	20.	31.	62.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	1.	0.	0.	0.	0.	0.	2.	4.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	2.	0.	3.	24.	19.	78.	26.	22.	38.	69.

	EXPORTING REGION 2				WEST BENGAL					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
3	24.	21.	24.	13.	23.	41.	51.	29.	30.	38.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	59.	41.	43.	56.	71.	71.	92.	109.	105.	94.
6	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	2.	6.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	239.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	323.	64.	69.	71.	96.	114.	145.	142.	141.	144.

(3) **Table 2 : Sheep and Goats**
(In Hundred Heads)

I	EXPORTING REGION 9				RAJASTHAN					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	89.	11.	33.	1.	4.	7.	12.	2.	9.	3.
7	23.	24.	7.	3.	23.	36.	42.	8.	48.	68.
8	11.	25.	1.	0.	1.	2.	8.	15.	1.	1.
10	624.	929.	244.	166.	287.	311.	67.	32.	1.	4.
11	4795.	4435.	4540.	4836.	5033.	6090.	7346.	7243.	6478.	7065.
12	37.	185.	48.	60.	38.	37.	28.	42.	36.	12.
13	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	5583.	5611.	4875.	5070.	5389.	6485.	7507.	7345.	6576.	7157.

I	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	1.	1.	0.	0.	0.	0.	9.	0.
2	5.	13.	28.	21.	8.	66.	9.	85.	18.	5.
3	27.	55.	69.	4.	3.	28.	26.	10.	19.	20.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1327.	2948.	2309.	1545.	1762.	3559.	1399.	1827.	2218.	2271.
7	84.	225.	144.	186.	197.	35.	37.	62.	38.	7.
8	0.	0.	1.	0.	0.	0.	0.	0.	3.	5.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	2.	3.	5.	10.	4.	5.	2.	5.	4.
11	157.	98.	52.	311.	343.	473.	579.	245.	94.	103.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	15.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
T	1603.	3343.	2609.	2077.	2327.	4169.	2059.	2233.	2408.	2433.

I	EXPORTING REGION 3				BIHAR					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	1.	0.	6.	50.	0.	6.	32.	9.	7.	1.
2	19.	83.	69.	51.	14.	69.	28.	15.	13.	7.
4	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
5	1682.	1806.	1137.	1168.	1137.	1245.	933.	277.	342.	589.
6	0.	1.	7.	0.	0.	0.	3.	0.	0.	1.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	1704.	1892.	1222.	1270.	1152.	1321.	997.	302.	365.	600.

(continued)

Table 2 : (continued)

I	EXPORTING REGION 7				CENTRAL REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	1.	0.	2.	2.	2.	0.	0.	15.	11.	0.	
6	1.	0.	0.	0.	0.	0.	4.	2.	0.	1.	
8	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	
9	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	
10	4.	0.	0.	0.	0.	1.	0.	0.	0.	0.	
11	386.	396.	366.	742.	620.	1240.	1105.	631.	479.	474.	
12	0.	3.	2.	0.	1.	0.	0.	0.	0.	5.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	394.	400.	372.	745.	624.	1242.	1112.	649.	491.	483.	

I	EXPORTING REGION 2				WEST BENGAL						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	14.	1.	
3	2.	5.	17.	13.	1.	2.	2.	3.	2.	2.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	486.	249.	48.	159.	90.	150.	356.	99.	216.	101.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	489.	255.	66.	178.	92.	152.	358.	104.	233.	104.	

I	EXPORTING REGION 13				HYDRABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	265.	59.	26.	45.	64.	143.	3.	0.	0.	3.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	1.	12.	1.	1.	0.	1.	1.	0.	1.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	
T	267.	72.	27.	47.	64.	144.	5.	0.	1.	6.	

(5) **Table 3 : Other Animals**

(In Hundred Heads)

I	EXPORTING REGION 2			WEST BENGAL						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
3	1.	1.	3.	4.	1.	5.	2.	1.	2.	5.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	209.	299.	366.	450.	371.	328.	457.	751.	1573.	1764.
6	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	212.	303.	375.	455.	373.	334.	460.	752.	1580.	1771.

I	EXPORTING REGION 3			BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	20.	0.	0.	0.	0.	0.	0.	29.	0.
2	8.	7.	18.	52.	91.	106.	75.	77.	59.	62.
4	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
5	25.	145.	399.	443.	242.	148.	249.	355.	613.	882.
6	8.	1.	0.	2.	0.	2.	6.	1.	3.	5.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	42.	175.	420.	499.	337.	257.	332.	435.	707.	952.

I	EXPORTING REGION 6			U. P.						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	3.	9.	17.	6.	1.	8.	11.	16.	15.	22.
3	43.	65.	59.	41.	12.	41.	37.	30.	60.	70.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	163.	107.	112.	104.	32.	73.	114.	80.	94.	237.
7	1.	1.	4.	2.	2.	1.	1.	2.	2.	1.
8	11.	5.	6.	4.	7.	3.	4.	7.	9.	4.
9	0.	7.	0.	4.	0.	0.	0.	0.	1.	0.
10	61.	86.	19.	4.	8.	5.	6.	7.	8.	16.
11	0.	0.	1.	2.	40.	0.	2.	2.	1.	0.
12	1.	1.	1.	8.	2.	1.	3.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	308.	285.	223.	178.	109.	136.	183.	149.	195.	354.

(continued)

Table 3 : (continued)

I	EXPORTING REGION 7				CENTRAL REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	2.	4.	1.	0.	0.	0.	0.	1.	1.	
3	0.	0.	0.	4.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.	
6	3.	1.	1.	4.	1.	0.	44.	99.	56.	87.	
8	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	4.	16.	4.	7.	
11	3.	3.	1.	2.	4.	1.	2.	1.	1.	1.	
12	2.	4.	1.	3.	0.	1.	1.	1.	1.	1.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	14.	12.	11.	17.	8.	5.	54.	120.	65.	100.	

I	EXPORTING REGION 14				SOUTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	
11	2.	6.	109.	0.	0.	0.	0.	0.	0.	1.	
12	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	5.	2.	0.	0.	1.	1.	1.	2.	2.	2.	
15	896.	225.	313.	0.	0.	4.	0.	0.	0.	0.	
T	905.	234.	424.	1.	3.	6.	2.	4.	6.	5.	

I	EXPORTING REGION 4				ORISSA						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	14.	18.	2.	15.	8.	7.	7.	3.	1.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	2.	15.	39.	3.	16.	8.	8.	7.	3.	2.	

(11) **Table 4 : Bones**

	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	10.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	10.
2	5391.	6477.	2302.	2245.	1372.	1759.	1005.	453.	2329.	2801.
3	17.	165.	68.	0.	3.	0.	3.	19.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1917.	1567.	3333.	3140.	2617.	3189.	1463.	1337.	3276.	2573.
7	38.	88.	35.	107.	262.	66.	6.	58.	64.	33.
8	0.	0.	0.	7.	32.	129.	136.	119.	122.	141.
9	66.	586.	198.	457.	380.	376.	436.	880.	130.	83.
10	11.	10.	3.	47.	171.	98.	145.	183.	110.	185.
11	99.	68.	40.	122.	426.	281.	162.	112.	523.	381.
12	19.	49.	25.	29.	63.	91.	180.	361.	586.	1107.
13	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.
14	699.	1034.	614.	813.	1145.	414.	1346.	1316.	1369.	1072.
15	35.	63.	85.	150.	52.	12.	37.	3.	11.	36.
T	8297.	10110.	6710.	7124.	6527.	6420.	4923.	4846.	8524.	8430.

	EXPORTING REGION 3				BIHAR					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	4276.	4422.	1904.	1824.	1452.	1631.	969.	985.	1378.	1485.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	332.	302.	226.	405.	766.	1064.	728.	1152.	1453.	1250.
6	24.	64.	16.	5.	2.	5.	7.	2.	0.	3.
7	0.	0.	0.	4.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	2528.	0.	0.	0.	0.
9	0.	0.	0.	6.	0.	4.	0.	0.	0.	0.
10	21.	1.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	12.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.
14	0.	71.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	4655.	4862.	2148.	2246.	2233.	5233.	1710.	2139.	2832.	2740.

	EXPORTING REGION 8				NORTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	3917.	2871.	846.	1469.	922.	1136.	298.	138.	387.	510.
3	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	5.	6.	174.	62.	19.	46.	70.	73.	151.	199.
6	869.	2025.	1340.	584.	453.	542.	1051.	925.	1190.	855.
7	1.	0.	0.	0.	6.	2.	0.	12.	3.	0.
9	42.	739.	380.	391.	489.	119.	315.	209.	117.	195.
10	0.	0.	22.	142.	325.	153.	9.	0.	2.	12.
11	15.	18.	35.	20.	22.	125.	3.	2.	100.	2.
12	0.	14.	88.	547.	796.	100.	192.	196.	165.	437.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	10.	24.	58.	251.	469.	447.	784.
15	0.	0.	0.	0.	0.	0.	6.	0.	0.	7.
T	4851.	5675.	2888.	3229.	3059.	2286.	2202.	2027.	2565.	3004.

(continued)

Table 4 : (continued)

EXPORTING REGION 7				CENTRAL REGION						
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1856.	1653.	495.	433.	198.	126.	113.	102.	99.	146.
3	0.	0.	3.	15.	10.	10.	0.	0.	0.	0.
4	0.	0.	0.	4.	0.	0.	0.	0.	0.	0.
5	23.	10.	74.	77.	94.	51.	94.	76.	94.	123.
6	46.	103.	49.	12.	13.	35.	32.	16.	2.	8.
8	0.	0.	0.	0.	0.	10.	0.	0.	0.	0.
9	17.	108.	46.	44.	39.	60.	83.	90.	0.	25.
10	0.	0.	0.	0.	0.	0.	6.	18.	25.	0.
11	500.	733.	197.	223.	283.	293.	323.	311.	595.	300.
12	546.	1147.	574.	573.	550.	489.	746.	1067.	855.	788.
13	2.	0.	0.	0.	0.	0.	0.	0.	52.	123.
14	148.	165.	176.	332.	510.	480.	193.	500.	1197.	1376.
15	0.	24.	0.	41.	15.	0.	0.	5.	5.	11.
T	3141.	3946.	1619.	1760.	1717.	1560.	1595.	2189.	2928.	2903.

EXPORTING REGION 9				RAJASTHAN						
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	337.	116.	10.	0.	2.	29.	20.	0.	0.	15.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	2.	0.	0.	0.	0.	7.	3.	0.	5.	4.
6	20.	16.	10.	0.	3.	21.	19.	0.	44.	6.
7	0.	0.	40.	0.	4.	0.	3.	26.	99.	182.
8	0.	0.	0.	0.	0.	16.	3.	5.	27.	11.
10	0.	7.	2.	3.	5.	6.	2.	0.	0.	80.
11	691.	255.	230.	566.	617.	373.	332.	697.	1052.	1417.
12	85.	4527.	1074.	1229.	1322.	2108.	2191.	1413.	1039.	1540.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	41.	34.	104.	83.	199.	103.	84.	251.	144.	459.
15	110.	23.	21.	5.	18.	10.	0.	0.	0.	0.
T	1290.	4982.	1496.	1887.	2174.	2676.	3160.	2394.	2413.	3716.

EXPORTING REGION 11				WESTERN REGION						
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	13.	4.	25.	27.	13.	0.	10.	0.	6.	3.
3	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	4.	3.	0.	0.
6	3.	0.	5.	3.	0.	83.	6.	3.	0.	6.
7	3.	23.	10.	45.	54.	30.	75.	87.	90.	55.
8	2.	0.	4.	0.	0.	0.	0.	0.	0.	0.
9	238.	677.	203.	286.	193.	246.	455.	212.	50.	57.
10	2.	0.	7.	6.	0.	6.	12.	25.	87.	22.
12	332.	4117.	2019.	1537.	1334.	1644.	2260.	2192.	2733.	1947.
13	0.	0.	9.	2.	14.	0.	0.	0.	8.	1.
14	136.	294.	243.	487.	559.	506.	630.	1046.	1127.	1302.
15	11.	36.	0.	8.	17.	27.	10.	3.	12.	72.
T	744.	5153.	2529.	2403.	2185.	2544.	3472.	3576.	4117.	3469.

(14)

Table 5 : Hides and Skins Tanned and Leather

		EXPORTING REGION 6				UTTAR PRADESH					
		50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1		0.	0.	0.	0.	0.	0.	2.	0.	2.	5.
2		8.	0.	3.	0.	3.	0.	1.	6.	4.	3.
3		21.	8.	44.	10.	2.	21.	42.	34.	2.	4.
4		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5		274.	199.	169.	103.	113.	116.	15.	60.	0.	29.
7		66.	71.	48.	61.	60.	118.	91.	139.	98.	91.
8		36.	28.	23.	25.	24.	54.	25.	23.	20.	10.
9		27.	45.	27.	28.	37.	94.	63.	83.	44.	32.
10		17.	1.	0.	2.	1.	8.	7.	6.	0.	2.
11		44.	25.	33.	32.	50.	50.	76.	103.	95.	200.
12		256.	160.	112.	118.	129.	186.	394.	318.	0.	178.
13		4.	5.	81.	5.	12.	11.	11.	28.	25.	34.
14		26.	25.	24.	18.	36.	23.	38.	51.	85.	81.
15		29.	23.	36.	8.	13.	6.	52.	27.	0.	61.
T		812.	596.	605.	421.	485.	692.	822.	882.	379.	736.

		EXPORTING REGION 2				WEST BENGAL					
		50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3		2.	0.	2.	10.	0.	4.	1.	5.	0.	0.
4		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5		26.	0.	3.	0.	0.	1.	1.	0.	8.	0.
6		0.	0.	3.	3.	1.	81.	16.	7.	4.	6.
7		0.	0.	0.	0.	13.	12.	9.	45.	31.	15.
8		0.	1.	0.	0.	3.	14.	0.	0.	2.	1.
9		1.	0.	0.	0.	0.	1.	1.	0.	0.	2.
10		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11		6.	2.	3.	5.	13.	6.	4.	8.	6.	2.
12		3.	1.	0.	4.	35.	5.	56.	155.	67.	24.
13		0.	7.	3.	0.	8.	26.	10.	16.	41.	57.
14		57.	19.	20.	81.	98.	40.	27.	63.	104.	62.
15		27.	6.	8.	42.	33.	23.	44.	106.	109.	130.
T		125.	40.	47.	150.	209.	217.	176.	410.	376.	305.

		EXPORTING REGION 5				CALCUTTA					
		50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1		8.	2.	23.	18.	1.	3.	23.	17.	2.	3.
2		13.	7.	7.	6.	7.	6.	6.	4.	1.	1.
3		66.	54.	55.	57.	55.	70.	57.	33.	19.	22.
4		1.	0.	8.	0.	4.	1.	2.	0.	0.	0.
6		162.	156.	144.	169.	236.	246.	246.	206.	183.	54.
7		5.	6.	4.	4.	4.	13.	10.	31.	22.	20.
8		65.	43.	47.	64.	64.	65.	90.	79.	81.	38.
9		0.	0.	0.	2.	2.	2.	3.	5.	5.	4.
10		18.	16.	17.	21.	32.	23.	18.	4.	2.	7.
11		10.	6.	17.	15.	13.	21.	20.	34.	35.	38.
12		30.	25.	26.	22.	0.	27.	21.	88.	64.	54.
13		0.	0.	2.	1.	1.	3.	1.	5.	10.	47.
14		19.	47.	12.	12.	15.	8.	12.	12.	9.	16.
15		51.	72.	25.	23.	33.	27.	44.	34.	22.	25.
T		454.	439.	394.	440.	473.	521.	560.	558.	462.	335.

(continued)

Table 5 : (continued)

I	EXPORTING REGION 13				HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	15.	0.	0.	
7	0.	0.	0.	0.	6.	0.	0.	0.	0.	6.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	14.	6.	2.	2.	1.	2.	2.	1.	2.	1.	
12	12.	137.	0.	0.	2.	3.	2.	3.	1.	0.	
14	0.	1.	1.	1.	3.	6.	16.	3.	13.	2.	
15	156.	195.	241.	164.	144.	191.	165.	132.	184.	25.	
T	183.	344.	244.	189.	158.	204.	186.	159.	201.	36.	

I	EXPORTING REGION 4				ORISSA						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	6.	0.	1.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	1.	0.	0.	0.	0.	1.	1.	1.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	2.	0.	0.	0.	1.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	6.	7.	17.	5.	0.	2.	13.	0.	5.	
15	70.	55.	61.	77.	47.	70.	51.	39.	19.	18.	
T	75.	69.	71.	97.	54.	71.	54.	55.	21.	26.	

I	EXPORTING REGION 3				BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.	
2	4.	3.	14.	3.	20.	9.	40.	18.	4.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	10.	20.	11.	6.	19.	40.	21.	8.	1.	0.	
6	13.	64.	13.	19.	49.	65.	54.	66.	75.	37.	
7	0.	0.	3.	0.	2.	13.	10.	18.	10.	7.	
8	4.	2.	0.	0.	0.	7.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	1.	1.	32.	6.	0.	2.	1.	2.	1.	1.	
12	0.	0.	0.	2.	5.	11.	3.	11.	2.	3.	
13	0.	0.	0.	0.	0.	4.	3.	2.	6.	24.	
14	2.	2.	5.	0.	2.	8.	9.	9.	12.	13.	
15	2.	5.	0.	2.	21.	34.	45.	53.	68.	63.	
T	41.	100.	83.	42.	123.	197.	191.	193.	183.	156.	

(15) **Table 6 : Hides and Skins - Raw**

I	EXPORTING REGION 3						BIHAR			
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.
2	456.	610.	307.	359.	586.	786.	774.	646.	799.	726.
4	24.	35.	4.	5.	6.	1.	2.	1.	0.	1.
5	3073.	3241.	2336.	2356.	2208.	2518.	2612.	2112.	2884.	3138.
6	693.	818.	484.	344.	270.	234.	376.	295.	368.	338.
7	1.	0.	6.	1.	6.	0.	1.	2.	0.	1.
8	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	3.	0.	1.	0.	1.	0.	0.	0.	3.	0.
11	11.	4.	6.	44.	3.	9.	0.	0.	6.	0.
12	0.	0.	2.	0.	4.	0.	1.	2.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
14	91.	26.	33.	114.	102.	91.	183.	172.	119.	10.
15	5.	5.	31.	34.	31.	79.	61.	134.	46.	226.
T	4364.	4743.	3216.	3262.	3222.	3721.	4015.	3367.	4229.	4449.

I	EXPORTING REGION 6						UTTAR PRADESH			
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	40.	26.	7.	0.	11.	15.	55.	2.	65.	0.
3	111.	170.	148.	192.	35.	237.	161.	191.	245.	111.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1130.	1067.	930.	1381.	811.	927.	575.	745.	976.	899.
7	127.	44.	41.	129.	94.	105.	107.	101.	120.	94.
8	199.	180.	334.	316.	344.	352.	377.	366.	375.	177.
9	230.	303.	172.	572.	424.	461.	389.	266.	194.	92.
10	233.	227.	153.	213.	182.	166.	119.	61.	40.	11.
11	128.	168.	142.	225.	163.	83.	51.	25.	12.	39.
12	318.	221.	126.	228.	287.	320.	319.	256.	163.	149.
13	1.	3.	1.	8.	1.	0.	0.	0.	0.	19.
14	927.	378.	480.	639.	343.	404.	198.	86.	122.	49.
15	821.	363.	319.	987.	745.	1352.	824.	1262.	1371.	1028.
T	4271.	3155.	2858.	4895.	3445.	4428.	3180.	3366.	3686.	2673.

I	EXPORTING REGION 11						WESTERN REGION			
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	1.	0.	1.	0.	1.	15.	8.	0.	0.
6	25.	16.	18.	11.	2.	7.	6.	4.	6.	115.
7	23.	11.	26.	29.	22.	36.	39.	22.	35.	36.
8	0.	16.	0.	0.	3.	1.	0.	0.	0.	0.
9	24.	20.	34.	51.	41.	36.	91.	87.	64.	138.
10	2.	2.	0.	0.	0.	1.	0.	0.	3.	11.
12	775.	687.	688.	649.	750.	692.	899.	738.	756.	858.
13	5.	13.	22.	17.	14.	14.	11.	6.	5.	60.
14	940.	837.	923.	1053.	1048.	1056.	994.	743.	537.	90.
15	97.	71.	93.	141.	107.	129.	183.	322.	258.	447.
T	1895.	1679.	1809.	1957.	1991.	1978.	2241.	1934.	1668.	1759.

(continued)

Table 6 : (continued)

I	EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	8.	8.	6.	33.	30.	8.	45.	13.
3	1.	5.	6.	0.	2.	4.	2.	1.	4.	7.
5	33.	95.	1162.	231.	139.	152.	211.	136.	147.	181.
6	0.	1.	0.	0.	0.	0.	0.	1.	1.	0.
7	8.	5.	15.	37.	16.	28.	19.	2.	2.	7.
8	0.	1.	1.	0.	0.	0.	0.	0.	2.	0.
9	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	38.	41.	15.	22.	36.	15.	31.	38.	26.	18.
12	13.	16.	25.	6.	3.	11.	7.	18.	5.	0.
13	0.	0.	0.	0.	0.	1.	11.	0.	0.	0.
14	866.	507.	468.	374.	491.	343.	280.	213.	190.	222.
15	57.	70.	135.	210.	189.	294.	299.	446.	290.	314.
T	1022.	804.	1840.	892.	886.	886.	895.	867.	716.	768.

I	EXPORTING REGION 2				WEST BENGAL					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	2.	2.	0.	0.
3	11.	0.	8.	11.	12.	26.	28.	31.	18.	33.
4	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.
5	1355.	99.	1034.	1034.	1163.	1139.	1129.	884.	1058.	1057.
6	19.	0.	12.	10.	5.	10.	1.	6.	10.	12.
7	0.	0.	0.	0.	9.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	1.	0.	0.	11.	0.
9	0.	0.	0.	1.	0.	0.	0.	0.	986.	0.
10	3.	0.	0.	0.	0.	9.	0.	0.	0.	0.
11	0.	2.	0.	1.	0.	0.	0.	2.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.
13	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.
14	11.	0.	19.	22.	27.	114.	164.	69.	35.	8.
15	108.	1.	50.	72.	62.	93.	96.	156.	162.	357.
T	1513.	105.	1126.	1159.	1281.	1398.	1423.	1156.	2285.	1478.

I	EXPORTING REGION 1				ASSAM					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
2	3.	3.	0.	0.	0.	2.	4.	1.	8.	11.
3	1.	0.	0.	0.	0.	1.	0.	1.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	281.	343.	252.	149.	713.	512.	310.	414.	919.	960.
6	6.	0.	1.	0.	0.	0.	2.	2.	0.	1.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	11.	4.	4.	13.	20.	15.	25.	17.	0.	0.
15	0.	3.	12.	4.	0.	0.	0.	12.	23.	7.
T	305.	361.	271.	168.	735.	533.	344.	449.	951.	982.

(21)

Table 7 : Sugar**(In Thousand Maunds)**

	EXPORTING REGION 6						UTTAR PRADESH			
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	87.	53.	11.	29.	22.	71.	121.	142.	311.	232.
2	69.	122.	144.	131.	69.	188.	159.	178.	283.	337.
3	35.	53.	404.	163.	75.	273.	797.	611.	612.	229.
4	20.	81.	31.	47.	6.	6.	26.	54.	91.	119.
5	622.	1001.	831.	6.	194.	462.	456.	1797.	816.	718.
7	1363.	1690.	1694.	2304.	846.	1764.	1950.	3441.	2620.	3227.
8	2603.	2216.	1604.	2793.	1927.	3022.	2967.	2212.	1049.	2347.
9	1001.	901.	679.	1479.	910.	1411.	1709.	1623.	1257.	1701.
10	547.	588.	506.	1202.	1496.	1976.	2021.	1734.	558.	73.
11	541.	1379.	2269.	3750.	1695.	3007.	4119.	5063.	3610.	3424.
12	1033.	1416.	1464.	825.	30.	333.	1248.	2239.	171.	38.
13	2.	42.	10.	13.	1.	0.	12.	22.	0.	12.
14	402.	210.	34.	67.	0.	1.	1069.	1565.	317.	594.
15	14.	51.	71.	2.	0.	1.	126.	133.	8.	171.
T	8345.	9811.	9757.	12816.	7277.	12522.	16786.	20821.	11708.	13230.

	EXPORTING REGION 3				BIHAR					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	231.	293.	199.	129.	98.	189.	225.	367.	362.	534.
2	162.	358.	444.	467.	384.	536.	710.	506.	607.	755.
4	199.	199.	124.	98.	73.	34.	109.	110.	147.	157.
5	1723.	2227.	2745.	28.	528.	1264.	1251.	2185.	1023.	2265.
6	28.	41.	14.	68.	32.	53.	106.	11.	38.	135.
7	10.	3.	15.	73.	41.	94.	159.	234.	184.	155.
8	0.	0.	0.	1.	0.	5.	0.	0.	0.	4.
9	2.	6.	2.	3.	0.	1.	0.	0.	0.	1.
10	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	182.	142.	153.	320.	160.	173.	175.	92.	55.	93.
12	67.	169.	15.	41.	13.	118.	55.	226.	0.	10.
13	0.	72.	0.	0.	0.	0.	0.	2.	0.	3.
14	972.	464.	161.	251.	5.	82.	80.	188.	3.	27.
15	11.	7.	10.	3.	0.	0.	10.	7.	4.	0.
T	3592.	3986.	3888.	1489.	1338.	2555.	2885.	3934.	2429.	4145.

	EXPORTING REGION 15				MADRAS					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	2.	4.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	1.	13.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	15.	81.	0.	0.	0.	0.	0.
12	0.	1.	0.	0.	0.	0.	0.	0.	0.	6.
13	0.	0.	0.	25.	32.	34.	2.	0.	0.	0.
14	57.	146.	102.	1120.	1992.	294.	39.	24.	2.	7.
T	58.	147.	102.	1163.	2123.	340.	42.	24.	2.	13.

(24)

Table 8 : Molasses

I	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	382.	446.	1599.	378.	363.	775.	267.	404.	409.	278.
2	1101.	625.	1057.	1286.	322.	1088.	1454.	1834.	2320.	1332.
3	1493.	1674.	1954.	2097.	831.	2850.	1651.	2106.	2569.	1555.
4	76.	42.	65.	131.	52.	45.	97.	194.	488.	611.
5	980.	356.	2299.	1159.	559.	610.	441.	980.	1888.	732.
7	2.	3.	55.	0.	6.	1.	1.	164.	92.	31.
8	1593.	2070.	2243.	821.	1739.	2766.	2268.	592.	738.	1237.
9	204.	423.	199.	219.	79.	138.	197.	368.	334.	311.
10	15.	22.	0.	56.	86.	71.	26.	24.	31.	127.
11	11.	0.	19.	172.	21.	12.	8.	20.	43.	127.
12	0.	0.	0.	4.	0.	4.	0.	4.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	109.	0.	0.	0.	0.	25.	25.
15	0.	0.	0.	28.	0.	0.	0.	0.	0.	0.
T	5861.	5665.	9493.	6468.	4062.	8364.	6414.	6696.	8942.	6371.

I	EXPORTING REGION 3				BIHAR					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	1364.	1806.	1170.	402.	326.	937.	929.	2225.	1121.	784.
2	1416.	1532.	417.	590.	697.	845.	1250.	1556.	1635.	1924.
4	105.	50.	0.	13.	8.	0.	0.	4.	6.	14.
5	2404.	1800.	403.	2004.	746.	3002.	1158.	1316.	2005.	1275.
6	726.	1321.	238.	39.	102.	668.	204.	403.	536.	426.
7	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.
8	3.	9.	0.	0.	0.	0.	0.	0.	0.	50.
9	0.	57.	0.	0.	0.	9.	0.	5.	0.	0.
10	0.	29.	0.	0.	0.	0.	0.	0.	0.	41.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	11.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	6019.	6607.	2229.	3063.	1881.	5464.	3543.	5511.	5305.	4517.

I	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	4.	0.	0.	0.	0.
2	1018.	419.	841.	194.	71.	278.	0.	0.	55.	399.
3	282.	252.	25.	0.	38.	135.	4.	0.	0.	89.
4	0.	81.	80.	0.	0.	20.	14.	34.	0.	38.
5	3400.	362.	623.	14.	318.	575.	16.	33.	0.	98.
6	21.	1170.	116.	3.	1092.	129.	0.	0.	5.	186.
7	334.	34.	0.	0.	3.	0.	0.	0.	11.	231.
8	59.	301.	51.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	21.	64.	97.	8.	8.	10.	114.
10	811.	372.	9.	0.	52.	0.	0.	0.	0.	0.
12	22.	27.	21.	45.	69.	28.	33.	310.	34.	38.
13	23.	0.	0.	9.	0.	0.	0.	0.	0.	0.
14	42.	0.	0.	189.	229.	2.	0.	892.	52.	0.
15	0.	0.	0.	132.	283.	0.	0.	0.	2248.	0.
T	6016.	3022.	1770.	610.	2224.	1273.	77.	1280.	2417.	1196.

(continued)

Table 8 : (continued)

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	22.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	141.	256.	173.	16.	41.	5.	14.	4.	135.	122.
3	102.	11.	34.	5.	3.	0.	4.	0.	5.	0.
4	4.	4.	0.	38.	0.	0.	0.	19.	0.	5.
5	43.	168.	34.	79.	45.	18.	35.	51.	101.	7.
6	703.	444.	399.	279.	332.	435.	217.	241.	306.	395.
8	162.	31.	0.	2.	65.	1.	0.	0.	0.	8.
9	199.	136.	93.	148.	284.	296.	577.	235.	492.	808.
10	48.	30.	0.	4.	69.	23.	0.	0.	10.	35.
11	94.	62.	147.	129.	289.	285.	291.	316.	303.	230.
12	4.	0.	4.	0.	0.	0.	0.	82.	48.	4.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	3.	58.	60.	0.	0.	0.	110.	8.
15	0.	0.	0.	105.	0.	0.	0.	0.	0.	0.
T	1530.	1145.	891.	868.	1192.	1065.	1140.	950.	1513.	1627.

I	EXPORTING REGION 13				HYDERABAD					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	16.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	2.	6.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	22.	3.	0.
5	0.	0.	0.	0.	0.	4.	91.	9.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	6.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	5.	705.	378.	24.	56.	1058.	1511.	13.
15	0.	0.	0.	159.	150.	48.	6.	272.	785.	60.
T	16.	0.	5.	864.	534.	77.	157.	1368.	2300.	74.

I	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	79.	88.	466.	17.	22.	98.	28.	22.	0.	0.
3	0.	9.	47.	3.	0.	0.	0.	0.	7.	4.
4	499.	495.	7.	17.	43.	144.	126.	158.	152.	184.
5	533.	564.	992.	79.	261.	443.	123.	147.	0.	17.
6	7.	41.	7.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	8.	4.	0.	8.	0.	0.	27.	0.
8	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.	0.	0.	29.	0.	0.	0.	0.	0.	1.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	42.	18.	0.	0.	0.	0.	0.	0.	0.	0.
15	452.	400.	570.	599.	309.	662.	657.	925.	5747.	683.
T	1632.	1619.	2099.	751.	639.	1357.	936.	1252.	5934.	891.

(35) **Table 10 : Cotton Piece Goods**

	EXPORTING REGION 11				WESTERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	236.	731.	178.	10.	69.	246.	161.	39.	1255.	1593.	
2	24.	30.	35.	50.	18.	201.	46.	60.	170.	139.	
3	3291.	4251.	3684.	1972.	951.	1889.	1040.	1221.	1634.	2497.	
4	279.	611.	383.	124.	96.	149.	145.	94.	135.	244.	
5	1882.	1705.	1323.	2627.	1929.	2550.	2050.	1426.	2168.	2515.	
6	2552.	4266.	4115.	3027.	2418.	5509.	3015.	4097.	3548.	4547.	
7	864.	1742.	1568.	1821.	1531.	2185.	2259.	3490.	2508.	2287.	
8	1332.	1686.	2184.	1701.	1771.	1959.	1807.	2047.	2120.	1756.	
9	735.	1369.	1438.	1635.	1440.	1994.	1849.	2132.	1737.	2061.	
10	730.	850.	1708.	2351.	2065.	2062.	1720.	2916.	3884.	3532.	
12	14178.	4228.	8525.	7841.	9710.	11108.	8576.	9159.	7062.	6479.	
13	650.	1144.	679.	674.	653.	734.	618.	528.	744.	739.	
14	2417.	4822.	2461.	2300.	1861.	1929.	1897.	1976.	1805.	1637.	
15	843.	1486.	1020.	908.	899.	849.	933.	926.	1244.	1133.	
T	30019.	28929.	29309.	27048.	25417.	33370.	26123.	30118.	30020.	31164.	

	EXPORTING REGION 12				BOMBAY						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	187.	831.	327.	0.	57.	237.	62.	7.	0.	0.	
2	130.	328.	105.	21.	65.	117.	124.	70.	38.	31.	
3	3217.	4247.	4415.	2236.	1789.	2922.	1753.	2334.	2840.	5077.	
4	206.	600.	237.	77.	45.	83.	35.	36.	37.	47.	
5	1705.	1767.	2758.	4490.	2948.	3871.	2122.	1062.	2669.	2628.	
6	2373.	3886.	2654.	2607.	3275.	7212.	4382.	5122.	5084.	6729.	
7	944.	2121.	1429.	1377.	1234.	1743.	1577.	855.	345.	507.	
8	1202.	1953.	2067.	1531.	1678.	1853.	1962.	2087.	1201.	983.	
9	531.	873.	721.	969.	953.	1287.	1092.	1280.	1118.	1395.	
10	857.	485.	1555.	538.	1755.	2414.	2404.	4183.	4628.	3623.	
11	1906.	1877.	965.	972.	923.	971.	879.	1332.	1487.	1066.	
13	330.	661.	338.	307.	400.	385.	147.	89.	77.	84.	
14	1363.	2718.	1914.	1468.	1194.	1263.	879.	571.	484.	429.	
15	431.	724.	1002.	1040.	1129.	1145.	1050.	872.	796.	1187.	
T	15390.	23076.	20493.	17639.	17452.	25508.	18475.	19907.	20812.	23792.	

	EXPORTING REGION 7				CENTRAL REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	6.	9.	3.	0.	3.	3.	9.	0.	31.	22.	
2	9.	0.	4.	17.	14.	5.	8.	8.	21.	19.	
3	701.	1359.	675.	201.	216.	364.	336.	330.	528.	808.	
4	193.	588.	195.	123.	135.	70.	76.	47.	77.	114.	
5	275.	283.	232.	460.	327.	439.	406.	212.	269.	410.	
6	1032.	1312.	2218.	1858.	1758.	2596.	1776.	1814.	1963.	3634.	
8	770.	1017.	1027.	899.	1290.	1116.	1022.	1185.	8933.	612.	
9	396.	765.	728.	1041.	1062.	1352.	1270.	1409.	1295.	1017.	
10	225.	43.	676.	855.	909.	798.	457.	795.	654.	555.	
11	237.	214.	212.	294.	384.	386.	435.	383.	652.	397.	
12	3938.	1101.	2104.	2763.	2781.	2418.	2142.	1420.	122.	1096.	
13	31.	10.	10.	24.	34.	64.	74.	73.	0.	62.	
14	27.	68.	100.	43.	116.	90.	71.	263.	0.	92.	
15	5.	1.	6.	70.	15.	17.	22.	26.	0.	16.	
T	7849.	6778.	8198.	8654.	9050.	9725.	8111.	7972.	14551.	8860.	

(continued)

Table 10 : (continued)

	EXPORTING REGION 13				HYDERABAD					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
3	13.	6.	21.	15.	6.	19.	13.	32.	10.	40.
4	0.	0.	1.	2.	1.	0.	0.	5.	0.	0.
5	1.	4.	6.	11.	15.	10.	14.	21.	29.	41.
6	2.	5.	5.	10.	31.	21.	18.	39.	24.	81.
7	0.	0.	2.	16.	6.	8.	4.	8.	8.	18.
8	2.	0.	4.	25.	60.	66.	41.	87.	84.	72.
9	0.	6.	8.	4.	5.	1.	3.	7.	6.	6.
10	3.	0.	2.	8.	17.	20.	19.	56.	57.	66.
11	10.	2.	13.	24.	63.	160.	367.	227.	111.	72.
12	884.	35.	291.	534.	1559.	1623.	1092.	1239.	790.	524.
14	5.	21.	35.	86.	189.	360.	296.	181.	155.	137.
15	54.	0.	7.	6.	29.	64.	58.	67.	118.	13.
T	981.	84.	399.	752.	1987.	2358.	1932.	1976.	1397.	1075.

	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	7.	7.	4.	0.	17.	7.	0.	6.	6.
2	2.	9.	13.	18.	1.	7.	7.	2.	5.	9.
3	20.	33.	50.	65.	25.	34.	29.	17.	22.	42.
4	20.	25.	27.	28.	15.	8.	13.	5.	9.	9.
5	109.	106.	148.	195.	116.	107.	91.	126.	79.	156.
6	77.	65.	66.	64.	33.	125.	55.	70.	126.	80.
7	50.	53.	65.	61.	40.	77.	64.	78.	58.	48.
8	57.	56.	28.	37.	43.	154.	68.	150.	118.	105.
9	23.	36.	33.	24.	21.	35.	23.	28.	29.	26.
10	119.	58.	64.	53.	19.	24.	25.	112.	105.	10.
11	137.	76.	111.	120.	171.	165.	152.	167.	186.	132.
12	718.	234.	346.	485.	289.	292.	263.	494.	369.	282.
13	47.	77.	118.	88.	62.	83.	118.	130.	80.	111.
15	750.	394.	445.	399.	279.	314.	190.	129.	72.	44.
T	2134.	1235.	1527.	1647.	1121.	1449.	1113.	1513.	1271.	1068.

	EXPORTING REGION 6				U. P.					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	24.	1.	0.	0.	0.	8.	0.	0.	21.	21.
2	10.	18.	11.	26.	8.	47.	11.	11.	38.	12.
3	99.	22.	502.	966.	742.	1147.	922.	892.	1143.	1013.
4	7.	3.	7.	2.	3.	12.	19.	6.	29.	37.
5	286.	195.	163.	370.	406.	291.	38.	213.	77.	79.
7	34.	37.	183.	146.	105.	102.	131.	164.	105.	84.
8	40.	18.	243.	269.	282.	284.	243.	238.	314.	192.
9	47.	48.	40.	126.	26.	39.	62.	84.	112.	70.
10	43.	11.	143.	186.	185.	153.	184.	165.	136.	62.
11	24.	22.	46.	110.	9.	20.	22.	126.	65.	45.
12	1355.	361.	79.	171.	236.	87.	200.	579.	455.	140.
13	3.	1.	0.	1.	6.	12.	4.	5.	14.	13.
14	6.	5.	2.	9.	16.	6.	4.	7.	11.	9.
15	2.	2.	7.	8.	2.	3.	1.	9.	19.	7.
T	1986.	750.	1431.	2396.	2032.	2218.	1846.	2506.	2545.	1789.

(36)

Table 11 : Cotton Twist and Yarn

I	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	19.	7.	0.	1.	17.	0.	0.	0.	0.
2	3.	8.	13.	125.	63.	28.	7.	30.	28.	34.
3	220.	823.	310.	117.	27.	70.	35.	27.	110.	94.
4	329.	788.	400.	234.	93.	141.	134.	74.	187.	182.
5	407.	765.	687.	861.	808.	690.	633.	1241.	626.	660.
6	362.	910.	462.	389.	409.	450.	686.	1117.	1155.	1662.
7	803.	627.	540.	427.	471.	669.	535.	1032.	1012.	1110.
8	265.	591.	288.	292.	217.	229.	291.	193.	213.	128.
9	30.	57.	68.	48.	57.	58.	59.	69.	60.	29.
10	58.	81.	63.	40.	34.	30.	43.	202.	117.	34.
11	173.	508.	648.	648.	999.	1293.	1027.	1070.	724.	475.
12	487.	124.	499.	547.	599.	295.	201.	499.	84.	17.
13	398.	715.	509.	368.	544.	583.	332.	370.	151.	217.
15	2551.	803.	1003.	863.	697.	302.	174.	143.	54.	53.
T	6092.	6823.	5502.	4965.	5024.	4861.	4161.	6072.	4526.	4701.

I	EXPORTING REGION 9				RAJASTHAN					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	2.	4.	7.	0.	0.	0.	0.	0.	20.	2.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
3	76.	159.	38.	0.	0.	3.	0.	23.	4.	27.
4	23.	20.	11.	0.	0.	0.	0.	0.	0.	0.
5	11.	13.	11.	0.	0.	0.	0.	5.	0.	0.
6	12.	161.	67.	30.	28.	190.	137.	114.	89.	44.
7	19.	43.	0.	27.	23.	39.	45.	74.	96.	38.
8	36.	65.	18.	48.	57.	68.	34.	15.	14.	5.
10	10.	5.	45.	130.	113.	90.	93.	43.	2.	6.
11	145.	70.	274.	481.	650.	377.	435.	287.	448.	419.
12	151.	52.	129.	119.	132.	175.	109.	82.	39.	30.
13	47.	8.	3.	1.	0.	0.	0.	0.	0.	0.
14	22.	37.	17.	7.	4.	0.	0.	1.	0.	0.
15	3.	0.	17.	2.	1.	0.	0.	0.	0.	0.
T	563.	643.	643.	849.	1011.	945.	856.	648.	716.	577.

I	EXPORTING REGION 12				BOMBAY					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	2.	23.	11.	0.	2.	25.	1.	0.	0.	0.
2	1.	9.	11.	21.	5.	25.	8.	8.	18.	18.
3	112.	349.	219.	168.	100.	215.	115.	71.	114.	222.
4	27.	8.	42.	58.	28.	26.	31.	9.	7.	3.
5	83.	155.	101.	151.	103.	59.	60.	69.	104.	144.
6	148.	148.	263.	291.	259.	527.	247.	197.	188.	186.
7	117.	122.	227.	229.	164.	181.	133.	71.	42.	38.
8	45.	157.	40.	67.	56.	147.	73.	44.	30.	111.
9	10.	11.	10.	7.	14.	14.	11.	18.	16.	13.
10	14.	73.	133.	21.	85.	87.	80.	117.	125.	60.
11	566.	872.	467.	680.	547.	515.	497.	625.	434.	259.
13	91.	44.	137.	155.	164.	106.	57.	19.	73.	22.
14	227.	31.	171.	210.	136.	137.	137.	54.	45.	21.
15	126.	3.	42.	83.	32.	15.	42.	25.	18.	14.
T	1577.	2011.	1879.	2166.	1702.	2087.	1500.	1333.	1220.	1117.

(continued)

Table 11 : (continued)

I	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	7.	26.	8.	1.	10.	12.	12.	7.	8.	2.
2	45.	80.	52.	35.	12.	77.	19.	42.	79.	182.
3	76.	84.	98.	104.	9.	61.	530.	60.	112.	179.
4	27.	16.	53.	64.	40.	81.	53.	32.	57.	83.
5	10.	24.	10.	49.	12.	15.	51.	64.	192.	139.
6	63.	83.	101.	154.	147.	275.	298.	367.	272.	509.
7	32.	97.	88.	89.	76.	107.	159.	139.	177.	240.
8	59.	134.	97.	141.	99.	139.	63.	71.	67.	193.
9	31.	6.	14.	23.	21.	56.	55.	60.	53.	252.
10	23.	25.	38.	19.	23.	54.	36.	126.	123.	92.
12	1471.	159.	651.	565.	237.	366.	259.	572.	535.	461.
13	105.	161.	169.	189.	250.	241.	138.	151.	127.	96.
14	298.	205.	318.	529.	623.	481.	609.	411.	379.	323.
15	73.	14.	35.	44.	41.	101.	78.	110.	34.	11.
T	2327.	1121.	1740.	2015.	1606.	2072.	2367.	2218.	2223.	2766.

I	EXPORTING REGION 15				MADRAS					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	1.	0.	0.	0.	0.	1.	1.
3	0.	0.	0.	0.	0.	2.	0.	0.	8.	7.
4	1.	1.	0.	4.	18.	10.	36.	56.	160.	146.
5	5.	0.	3.	23.	9.	2.	12.	64.	109.	95.
6	0.	2.	4.	2.	1.	22.	8.	18.	8.	15.
7	3.	3.	7.	5.	24.	1.	5.	16.	22.	14.
8	1.	4.	2.	0.	1.	0.	0.	0.	0.	2.
9	3.	2.	6.	0.	0.	0.	1.	1.	0.	0.
10	0.	0.	0.	0.	0.	0.	4.	0.	0.	0.
11	4.	13.	5.	1.	7.	4.	15.	38.	37.	19.
12	6.	2.	2.	7.	1.	1.	4.	50.	9.	2.
13	0.	4.	2.	5.	3.	13.	3.	2.	3.	3.
14	693.	255.	364.	518.	504.	459.	467.	423.	289.	0.
T	722.	290.	400.	570.	573.	518.	561.	673.	652.	481.

I	EXPORTING REGION 5				CALCUTTA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	284.	426.	317.	574.	569.	636.	439.	384.	288.	690.
2	229.	376.	230.	230.	260.	184.	91.	115.	48.	28.
3	19.	20.	154.	191.	190.	325.	304.	181.	73.	75.
4	16.	4.	45.	40.	117.	134.	143.	123.	123.	73.
6	45.	19.	111.	132.	142.	217.	244.	264.	121.	126.
7	2.	7.	6.	5.	9.	26.	18.	9.	4.	7.
8	1.	0.	16.	4.	10.	14.	7.	0.	2.	1.
9	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
10	11.	4.	8.	5.	4.	4.	0.	6.	17.	0.
11	1.	0.	0.	0.	4.	0.	1.	0.	0.	1.
12	42.	3.	2.	0.	0.	0.	4.	5.	19.	76.
13	0.	0.	6.	0.	0.	0.	0.	0.	0.	0.
14	27.	2.	27.	24.	30.	22.	8.	2.	5.	2.
15	29.	1.	8.	18.	11.	1.	9.	7.	5.	20.
T	711.	866.	934.	1228.	1352.	1567.	1273.	1100.	710.	1104.

(41) **Table 12 : Gram and Pulses**
(In Thousand Maunds)

	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	1.	1.	0.	1.	4.	11.	2.	9.	42.
2	154.	80.	132.	38.	83.	72.	73.	91.	72.	92.
3	434.	319.	274.	57.	116.	293.	140.	283.	158.	159.
4	95.	97.	130.	112.	148.	256.	198.	134.	135.	60.
5	1518.	1245.	959.	552.	607.	1328.	791.	1065.	648.	1136.
6	276.	438.	873.	484.	249.	1158.	1166.	1185.	1136.	1740.
8	23.	69.	127.	40.	56.	134.	121.	162.	210.	86.
9	23.	27.	81.	30.	20.	17.	31.	40.	47.	25.
10	46.	107.	231.	144.	76.	82.	89.	298.	372.	172.
11	832.	1069.	1807.	1348.	1165.	1705.	1467.	1802.	825.	1284.
12	3462.	2381.	3066.	1767.	1978.	2999.	2137.	1761.	2001.	1078.
13	26.	34.	104.	118.	89.	204.	103.	351.	208.	547.
14	1816.	1793.	2307.	2526.	2794.	3406.	3718.	3279.	1996.	2336.
15	342.	530.	713.	633.	574.	793.	784.	637.	316.	437.
T	9053.	8196.	10810.	7854.	7964.	12459.	10834.	11097.	8139.	9200.

	EXPORTING REGION 8				NORTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	4.	6.	6.	0.	0.	21.	24.	3.	50.	134.
2	103.	346.	104.	53.	79.	98.	76.	224.	305.	276.
3	127.	1617.	362.	23.	86.	279.	438.	1424.	1579.	1186.
4	11.	22.	14.	16.	13.	42.	60.	55.	73.	128.
5	603.	1225.	373.	311.	255.	307.	297.	810.	1149.	975.
6	217.	379.	256.	230.	1185.	2239.	2939.	3307.	1723.	2092.
7	15.	113.	69.	181.	99.	277.	241.	636.	420.	1065.
9	77.	166.	64.	6.	130.	221.	335.	127.	102.	219.
10	162.	242.	595.	574.	342.	220.	196.	150.	176.	95.
11	367.	768.	616.	574.	604.	971.	920.	942.	1017.	1881.
12	174.	787.	193.	87.	215.	500.	713.	333.	680.	850.
13	1.	37.	176.	27.	49.	170.	87.	198.	170.	784.
14	407.	1221.	964.	1293.	3347.	2831.	4025.	4773.	5266.	6374.
15	141.	350.	279.	373.	905.	954.	806.	1081.	649.	636.
T	2415.	7287.	4076.	3755.	7317.	9138.	11164.	14069.	13369.	16702.

	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	256.	290.	232.	98.	63.	137.	93.	188.	337.	625.
2	584.	557.	260.	296.	203.	316.	392.	325.	321.	420.
3	2867.	2083.	1489.	903.	786.	1773.	1313.	2192.	1821.	1025.
4	63.	112.	68.	75.	66.	76.	69.	89.	218.	220.
5	1895.	1557.	929.	647.	976.	1640.	509.	1503.	1410.	1828.
7	177.	252.	101.	118.	74.	78.	138.	186.	393.	643.
8	144.	71.	225.	108.	149.	103.	59.	69.	51.	39.
9	48.	35.	59.	58.	102.	43.	75.	87.	89.	76.
10	116.	43.	96.	119.	165.	61.	51.	20.	18.	35.
11	352.	463.	550.	492.	376.	396.	520.	504.	658.	1067.
12	706.	714.	696.	853.	416.	615.	403.	557.	842.	1061.
13	6.	9.	32.	24.	5.	67.	51.	56.	72.	433.
14	1126.	1195.	1356.	1752.	1681.	1711.	1635.	2469.	2299.	2946.
15	342.	486.	363.	731.	792.	427.	381.	719.	552.	784.
T	8688.	7874.	6462.	6282.	5863.	7449.	5696.	8969.	9088.	11209.

(continued)

Table 12 : (continued)

	EXPORTING REGION 9				RAJASTHAN						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	6.	0.	0.	0.	0.	1.	4.	1.	24.	89.	
2	12.	4.	0.	0.	1.	10.	11.	44.	69.	98.	
3	10.	38.	9.	0.	1.	105.	77.	279.	253.	234.	
4	0.	0.	0.	1.	0.	1.	8.	5.	16.	12.	
5	50.	62.	9.	3.	17.	85.	144.	300.	258.	451.	
6	164.	56.	68.	194.	193.	986.	1118.	1530.	1179.	1270.	
7	15.	13.	64.	17.	11.	63.	67.	114.	200.	295.	
8	123.	44.	16.	46.	66.	167.	200.	229.	271.	311.	
10	42.	28.	57.	129.	153.	404.	243.	287.	305.	515.	
11	301.	130.	164.	402.	340.	744.	976.	1365.	1312.	1836.	
12	93.	142.	18.	210.	290.	423.	362.	440.	531.	403.	
13	0.	0.	0.	0.	3.	54.	25.	47.	32.	166.	
14	118.	42.	30.	130.	346.	1529.	2119.	2177.	753.	2963.	
15	21.	9.	3.	22.	61.	442.	527.	504.	108.	519.	
T	962.	574.	442.	1161.	1489.	5020.	5886.	7327.	5319.	9167.	

	EXPORTING REGION 13				HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	1.	0.	1.	0.	0.	0.	0.	0.	4.	0.	
3	0.	0.	0.	1.	0.	0.	3.	2.	2.	1.	
4	0.	0.	0.	0.	0.	7.	1.	1.	5.	4.	
5	0.	190.	42.	129.	33.	88.	164.	40.	193.	178.	
6	0.	37.	35.	48.	26.	59.	14.	52.	189.	174.	
7	0.	3.	0.	3.	2.	3.	0.	2.	12.	6.	
8	0.	34.	8.	6.	2.	0.	0.	3.	7.	3.	
9	0.	1.	2.	2.	0.	0.	0.	0.	2.	0.	
10	0.	10.	5.	8.	6.	1.	1.	17.	54.	0.	
11	24.	88.	127.	79.	104.	122.	59.	166.	168.	113.	
12	17.	48.	74.	42.	423.	517.	322.	383.	239.	133.	
14	460.	960.	1340.	975.	1806.	1888.	1093.	1705.	1614.	1331.	
15	133.	252.	236.	167.	260.	279.	124.	272.	247.	293.	
T	638.	1628.	1876.	1464.	2666.	2970.	1786.	2648.	2742.	2241.	

	EXPORTING REGION 4				ORISSA						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	8.	0.	0.	0.	0.	0.	0.	0.	
2	15.	12.	17.	39.	22.	22.	28.	42.	24.	60.	
3	37.	116.	182.	3.	10.	5.	6.	14.	32.	28.	
5	320.	274.	454.	197.	81.	61.	54.	123.	107.	57.	
6	0.	1.	18.	1.	0.	2.	11.	14.	10.	6.	
7	6.	17.	5.	3.	10.	3.	7.	2.	34.	24.	
8	0.	0.	0.	0.	0.	0.	4.	1.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	1.	0.	2.	0.	
11	0.	1.	1.	10.	3.	6.	1.	1.	12.	5.	
12	45.	9.	35.	7.	1.	0.	1.	1.	0.	2.	
13	0.	0.	0.	1.	0.	0.	0.	0.	2.	2.	
14	264.	275.	372.	402.	407.	359.	222.	185.	441.	416.	
15	165.	142.	185.	150.	55.	94.	118.	42.	163.	131.	
T	855.	851.	1281.	817.	592.	555.	458.	427.	834.	735.	

(42)

Table 13 : Rice in Husk

		EXPORTING REGION 2			WEST BENGAL					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	70.	40.	25.	7.	38.	45.	1475.	2569.	0.	0.
3	541.	181.	105.	218.	237.	1426.	731.	1156.	56.	50.
4	0.	5.	0.	0.	0.	36.	217.	66.	15.	19.
5	21586.	15748.	30711.	39303.	25486.	7944.	4601.	1999.	386.	604.
6	81.	102.	96.	0.	53.	65.	47.	46.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	4.	14.	10.	4.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	4.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	5.	6.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	5.	0.	0.	10.	0.
13	0.	0.	0.	0.	25.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	14.	0.	10.	4.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	22079.	16079.	30939.	39622.	25880.	9544.	7094.	5845.	468.	674.

		EXPORTING REGION 4			ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	14.	116.	214.	8675.	6355.	3538.	1072.	1270.	17539.
3	0.	2.	0.	0.	636.	954.	910.	100.	80.	336.
5	49.	22.	0.	7069.	4387.	2133.	1781.	3877.	23.	12870.
6	0.	0.	0.	0.	0.	40.	51.	0.	0.	0.
7	0.	0.	0.	4.	197.	345.	532.	15.	47.	20.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	70.	357.	6.	0.
12	0.	0.	0.	0.	0.	0.	0.	71.	0.	0.
13	0.	0.	0.	2533.	6796.	0.	5.	137.	0.	0.
14	282.	131.	290.	1089.	4908.	1732.	8635.	658.	11.	23.
15	0.	5.	16.	4.	696.	1.	40.	0.	0.	0.
T	332.	175.	423.	10921.	26298.	11564.	15566.	6290.	1445.	30791.

		EXPORTING REGION 7			CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2.	0.	0.	8.	2608.	1301.	1306.	392.	1.	2447.
3	0.	2.	0.	0.	625.	3227.	611.	339.	18.	0.
4	0.	0.	5.	0.	72.	1178.	1044.	14.	4.	0.
5	5.	0.	1.	0.	163.	65.	832.	1032.	192.	5942.
6	5.	0.	109.	80.	48.	447.	426.	451.	45.	39.
8	0.	0.	0.	0.	0.	44.	0.	1.	0.	0.
9	5.	5.	0.	131.	92.	108.	9.	12.	13.	16.
10	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.
11	14.	1.	58.	4.	134.	139.	1078.	2286.	417.	127.
12	0.	0.	0.	0.	5.	1051.	111.	664.	60.	158.
13	0.	6.	44.	0.	27.	0.	0.	71.	0.	0.
14	0.	23.	889.	31.	887.	1762.	4730.	88.	36.	101.
15	0.	0.	0.	0.	82.	14.	31.	0.	11.	0.
T	32.	42.	1110.	256.	4747.	9342.	10183.	5354.	802.	8832.

(continued)

Table 13 : (continued)

	EXPORTING REGION 6						UTTAR PRADESH				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	1.	0.	0.	0.	185.	0.	0.	0.	
2	102.	22.	0.	9.	17.	2308.	2364.	562.	179.	5.	
3	70.	708.	63.	101.	89.	2198.	3852.	2412.	765.	20.	
4	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.	
5	47.	0.	0.	413.	20.	305.	2071.	1303.	1353.	4.	
7	0.	0.	1.	6.	15.	46.	5.	85.	4.	47.	
8	0.	5.	4.	0.	20.	180.	77.	18.	5.	0.	
9	0.	43.	0.	4.	175.	217.	91.	2.	1.	30.	
10	12.	0.	0.	0.	13.	5.	2.	32.	140.	2.	
11	0.	0.	0.	0.	134.	0.	64.	1889.	43.	11.	
12	1.	0.	10.	0.	25.	0.	4.	0.	73.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	5.	0.	0.	0.	412.	214.	423.	5.	28.	30.	
15	0.	2.	0.	0.	251.	15.	39.	0.	0.	0.	
T	241.	783.	82.	535.	1175.	5494.	9186.	6312.	2595.	154.	

	EXPORTING REGION 8						NORTHERN REGION				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	26.	0.	0.	0.	0.	
2	0.	0.	1.	0.	0.	0.	0.	63.	0.	0.	
3	0.	0.	0.	0.	0.	20.	5.	16.	5.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	387.	0.	394.	0.	2.	14.	15.	0.	0.	
6	3.	0.	0.	0.	275.	566.	4991.	664.	69.	12.	
7	0.	0.	75.	0.	0.	8.	7.	28.	0.	0.	
9	0.	0.	0.	0.	107.	171.	222.	20.	7.	10.	
10	13.	31.	0.	25.	5.	4.	2.	7.	271.	103.	
11	0.	0.	0.	0.	0.	0.	15.	11.	0.	0.	
12	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	4.	11.	0.	0.	
14	0.	0.	0.	0.	0.	0.	321.	0.	10.	18.	
15	0.	0.	0.	0.	0.	0.	13.	0.	4.	0.	
T	27.	418.	78.	420.	388.	800.	5599.	839.	370.	144.	

	EXPORTING REGION 13						HYDERABAD				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	9.	0.	0.	
3	0.	0.	0.	0.	0.	0.	35.	35.	5.	0.	
4	0.	0.	0.	0.	0.	0.	79.	1491.	0.	0.	
5	0.	0.	0.	0.	0.	6.	0.	9.	0.	0.	
6	3.	0.	0.	0.	0.	16.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	12.	0.	0.	19.	
8	0.	0.	0.	0.	0.	393.	107.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	17.	16.	6.	7.	171.	204.	216.	656.	101.	79.	
12	0.	0.	0.	0.	0.	33.	93.	18.	70.	43.	
14	0.	0.	2.	0.	885.	4277.	6555.	2080.	22216.	33651.	
15	0.	0.	0.	0.	189.	201.	62.	0.	1989.	566.	
T	20.	16.	8.	7.	1246.	5132.	7162.	4302.	24383.	34359.	

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Table 14 : Rice Not in Husk**(In Thousand Maunds)**

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	9.	21.	0.	0.	0.
2	5.	15.	2.	45.	185.	139.	516.	312.	15.	1071.
3	23.	293.	22.	75.	976.	2031.	2101.	1658.	52.	27.
4	0.	2.	1.	0.	68.	430.	335.	30.	3.	23.
5	4.	0.	27.	890.	209.	104.	842.	612.	2037.	7178.
6	7.	1.	6.	6.	185.	527.	477.	1186.	79.	5.
8	0.	0.	0.	2.	50.	62.	75.	8.	0.	2.
9	12.	5.	8.	8.	60.	153.	99.	92.	125.	48.
10	0.	0.	0.	12.	12.	22.	66.	29.	1.	0.
11	218.	41.	264.	173.	664.	499.	1219.	2830.	1514.	4385.
12	339.	88.	945.	1610.	1059.	482.	698.	278.	2205.	3423.
13	0.	73.	265.	94.	72.	1.	50.	39.	11.	5.
14	1528.	96.	2000.	1197.	694.	116.	336.	23.	12.	164.
15	77.	64.	514.	72.	45.	7.	14.	1.	0.	0.
T	2218.	683.	4060.	4189.	4285.	4594.	6856.	7103.	6058.	16336.

I	EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	5.	12.	0.	0.	0.	0.	0.	9.	0.
2	72.	80.	143.	131.	248.	490.	339.	136.	65.	556.
3	569.	357.	300.	278.	275.	625.	744.	272.	264.	134.
5	7.	1.	722.	1009.	656.	618.	1012.	1117.	461.	3010.
6	3.	0.	24.	2.	0.	5.	11.	35.	2.	0.
7	7.	2.	7.	3.	76.	39.	14.	5.	5.	8.
8	0.	0.	2.	0.	0.	1.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	2.	2.	0.	2.	0.
10	0.	0.	31.	0.	0.	0.	1.	0.	0.	0.
11	0.	2.	8.	2.	2.	5.	6.	14.	4.	61.
12	6.	2.	0.	0.	34.	104.	92.	143.	39.	5.
13	0.	27.	123.	128.	380.	0.	0.	0.	84.	240.
14	643.	300.	1353.	3607.	1708.	74.	4.	15.	5.	0.
15	74.	29.	74.	212.	98.	0.	0.	0.	0.	0.
T	1386.	810.	2805.	5378.	3482.	1966.	2230.	1741.	945.	4017.

I	EXPORTING REGION 2				WEST BENGAL					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	3.	16.	0.	1.	0.	42.	47.	245.	190.	4.
3	29.	55.	17.	56.	399.	1013.	851.	872.	129.	84.
4	2.	0.	1.	3.	1.	21.	17.	2.	1.	0.
5	3897.	4228.	3569.	2051.	2764.	2213.	2179.	2420.	2557.	2817.
6	3.	24.	0.	0.	113.	188.	9.	12.	2.	0.
7	0.	0.	0.	4.	3.	3.	1.	0.	0.	0.
8	0.	0.	0.	0.	12.	31.	0.	0.	2.	3.
9	0.	0.	0.	0.	33.	3.	0.	0.	0.	0.
10	0.	0.	0.	0.	50.	32.	7.	0.	0.	32.
11	2.	0.	0.	1.	6.	9.	1.	3.	4.	0.
12	21.	2.	0.	0.	181.	162.	54.	68.	0.	0.
13	0.	0.	0.	0.	18.	0.	0.	2.	1.	1.
14	45.	30.	1.	2.	103.	14.	0.	1.	1.	0.
15	68.	0.	0.	2.	88.	1.	1.	0.	5.	0.
T	4073.	4357.	3589.	2124.	3779.	3739.	3171.	3629.	2897.	2945.

(continued)

Table 14 : (continued)

		EXPORTING REGION 8			NORTHERN REGION						
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	6.	0.	0.	0.	0.	8.	0.	0.	0.	0.	
2	0.	9.	19.	21.	1.	2.	6.	2.	0.	0.	
3	97.	370.	94.	1.	0.	7.	24.	36.	1.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	12.	62.	0.	0.	0.	25.	17.	28.	81.	41.	
6	5.	7.	10.	3.	52.	137.	322.	234.	29.	583.	
7	2.	0.	5.	0.	11.	7.	21.	50.	2.	0.	
9	30.	3.	22.	6.	145.	201.	247.	98.	4.	10.	
10	127.	146.	204.	91.	292.	21.	20.	76.	503.	679.	
11	179.	177.	367.	142.	104.	82.	268.	213.	133.	259.	
12	481.	263.	159.	1338.	239.	155.	77.	336.	1217.	1150.	
13	0.	0.	58.	1.	6.	6.	8.	8.	0.	4.	
14	1.	0.	135.	10.	6.	3.	21.	5.	0.	10.	
15	62.	0.	498.	9.	4.	6.	15.	7.	2.	1.	
T	1005.	1041.	1576.	1626.	865.	666.	1051.	1097.	1977.	2742.	

		EXPORTING REGION 14			SOUTHERN REGION						
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	2.	19.	0.	5.	64.	
2	0.	0.	0.	0.	3.	181.	142.	107.	1.	8.	
3	0.	0.	5.	0.	329.	210.	97.	162.	442.	56.	
4	0.	3.	0.	0.	0.	99.	145.	67.	39.	2.	
5	1.	0.	0.	36.	34.	272.	1101.	751.	658.	184.	
6	0.	0.	0.	0.	1.	145.	84.	71.	292.	22.	
7	2.	4.	1.	1.	432.	294.	46.	45.	32.	41.	
8	0.	0.	0.	0.	0.	6.	266.	3.	3.	0.	
9	0.	0.	0.	0.	5.	38.	15.	9.	0.	0.	
10	0.	0.	0.	0.	1.	12.	103.	12.	24.	0.	
11	19.	15.	13.	15.	1390.	2959.	1847.	2317.	1104.	868.	
12	8.	0.	25.	17.	1004.	1657.	962.	1630.	1158.	523.	
13	4.	16.	25.	5.	492.	27.	34.	757.	1904.	907.	
15	2945.	2765.	4068.	3889.	2316.	951.	785.	457.	840.	1426.	
T	2981.	2805.	4140.	3966.	6014.	6858.	5652.	6394.	6508.	4108.	

		EXPORTING REGION 13			HYDERABAD						
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	12.	11.	0.	0.	
3	4.	0.	0.	0.	0.	0.	0.	5.	10.	0.	
4	0.	0.	0.	0.	0.	0.	49.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	69.	14.	5.	310.	
6	0.	0.	0.	0.	5.	15.	0.	7.	287.	77.	
7	0.	0.	0.	0.	23.	184.	29.	46.	18.	2.	
8	0.	0.	0.	0.	1.	41.	17.	6.	69.	0.	
9	0.	0.	0.	0.	0.	67.	6.	15.	4.	0.	
10	0.	0.	0.	0.	2.	11.	0.	0.	0.	10.	
11	0.	0.	1.	2.	228.	643.	232.	266.	376.	323.	
12	1.	0.	0.	14.	169.	408.	115.	61.	272.	145.	
14	0.	0.	2.	1.	243.	934.	698.	442.	1827.	2808.	
15	0.	0.	0.	0.	25.	40.	36.	4.	99.	136.	
T	7.	1.	4.	19.	700.	2346.	1270.	883.	2973.	3814.	

(44)

Table 15 : Wheat**(In Thousand Maunds)**

	EXPORTING REGION 12					BOMBAY				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	25.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	2.	3.	26.	0.
3	0.	137.	20.	0.	7.	3.	9.	885.	2221.	161.
4	0.	0.	0.	1.	0.	1.	1.	3.	0.	0.
5	2.	13.	0.	0.	1.	429.	0.	0.	0.	29.
6	2167.	3413.	2399.	1573.	2.	5.	3220.	7431.	7740.	7723.
7	376.	503.	437.	524.	1.	53.	869.	1614.	3431.	3248.
8	511.	1616.	34.	2.	0.	112.	2159.	1981.	3680.	2116.
9	146.	1245.	509.	164.	4.	2.	403.	720.	1241.	557.
10	1696.	2950.	886.	945.	1.	54.	2948.	2764.	2250.	4217.
11	5258.	11838.	3658.	3877.	217.	655.	1245.	3734.	2905.	8229.
13	1049.	744.	303.	1294.	5.	15.	124.	760.	78.	380.
14	0.	3.	5.	2.	25.	75.	71.	26.	1.	8.
15	0.	2.	2.	0.	1.	58.	20.	0.	2.	2.
T	11209.	22469.	8258.	8388.	269.	1467.	11101.	19926.	23580.	26675.

	EXPORTING REGION 5					CALCUTTA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	6.	1094.	466.	1.	45.	225.	300.	385.	752.	1108.
2	243.	1505.	2604.	2148.	630.	335.	298.	2817.	2805.	5703.
3	2320.	7889.	1708.	2311.	631.	360.	807.	3499.	4559.	4159.
4	135.	209.	70.	126.	115.	45.	204.	176.	255.	526.
6	1526.	2277.	2693.	1942.	32.	148.	1550.	1001.	3141.	5779.
7	116.	13.	0.	1.	0.	8.	0.	1.	0.	3.
8	249.	223.	690.	6.	0.	194.	399.	5.	461.	21.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	105.	1115.	1.	0.	0.	0.	112.	0.	187.	910.
11	0.	0.	0.	3.	0.	0.	0.	0.	0.	2.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	6.	0.	0.	0.	0.	0.	0.	0.	0.	11.
14	0.	0.	0.	1.	2.	0.	4.	0.	0.	0.
15	0.	1.	0.	0.	0.	0.	0.	2.	0.	0.
T	4708.	14331.	8237.	6544.	1459.	1321.	3677.	7892.	12165.	18225.

	EXPORTING REGION 15					MADRAS				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	18.	4.
3	0.	0.	7.	0.	0.	0.	0.	3.	389.	8.
4	0.	0.	0.	0.	0.	1.	1.	1.	26.	6.
5	0.	0.	0.	0.	0.	276.	0.	0.	209.	617.
6	0.	0.	0.	8.	0.	0.	7.	114.	604.	27.
7	19.	2.	0.	0.	0.	0.	0.	1.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	177.	0.	0.	0.	93.	29.	134.
12	0.	0.	0.	0.	0.	2.	0.	0.	1.	0.
13	404.	783.	318.	452.	1.	2.	21.	522.	412.	761.
14	3989.	3675.	2970.	2421.	133.	95.	405.	2141.	1893.	3325.
T	4413.	4462.	3296.	3061.	135.	378.	436.	2878.	3585.	4886.

(continued)

Table 15 : (continued)

	EXPORTING REGION 8				NORTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	1.	1.	0.	2.	0.	
2	0.	0.	0.	0.	0.	54.	63.	62.	0.	2.	
3	440.	228.	29.	9.	2.	190.	268.	385.	27.	8.	
4	0.	0.	0.	2.	2.	5.	10.	11.	0.	0.	
5	981.	5.	0.	0.	17.	262.	95.	83.	0.	0.	
6	182.	3.	276.	66.	33.	278.	1289.	400.	501.	26.	
7	3.	0.	548.	0.	17.	71.	249.	365.	180.	8.	
9	115.	0.	100.	0.	12.	292.	292.	284.	135.	28.	
10	1755.	331.	1749.	1320.	1988.	1043.	252.	1893.	2386.	391.	
11	110.	0.	27.	39.	40.	508.	656.	975.	67.	133.	
12	83.	0.	68.	0.	38.	1008.	1004.	43.	13.	1.	
13	0.	0.	0.	0.	12.	32.	13.	40.	1.	0.	
14	0.	0.	0.	0.	0.	120.	83.	30.	1.	0.	
15	0.	0.	0.	0.	0.	137.	57.	8.	0.	0.	
T	5673.	568.	2801.	1439.	2168.	4007.	4338.	4585.	3317.	601.	

	EXPORTING REGION 6				UTTAR PRADESH						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	1.	4.	4.	0.	0.	0.	
2	1.	7.	0.	0.	214.	109.	104.	40.	73.	2.	
3	74.	66.	18.	13.	131.	1056.	909.	464.	1915.	341.	
4	0.	0.	0.	0.	3.	21.	28.	20.	1.	0.	
5	1.	3.	4.	4.	1887.	1602.	480.	152.	1.	0.	
7	2.	41.	44.	13.	8.	60.	179.	109.	28.	24.	
8	2.	0.	1.	91.	38.	37.	32.	9.	8.	167.	
9	83.	6.	0.	4.	2.	70.	96.	37.	3.	1.	
10	7.	0.	1.	654.	306.	533.	39.	85.	0.	635.	
11	9.	1.	5.	2.	240.	627.	288.	261.	18.	32.	
12	17.	2.	39.	107.	261.	843.	339.	16.	2.	1.	
13	0.	0.	0.	0.	1.	31.	31.	3.	0.	0.	
14	0.	3.	1.	0.	1.	156.	100.	41.	1.	0.	
15	0.	0.	0.	0.	1.	30.	22.	7.	0.	0.	
T	202.	133.	117.	899.	3102.	5187.	2656.	1252.	2055.	1212.	

	EXPORTING REGION 7				CENTRAL REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	1.	0.	19.	7.	2.	23.	0.	
3	292.	110.	1.	1.	1.	72.	31.	29.	525.	0.	
4	0.	0.	2.	0.	0.	59.	19.	12.	3.	0.	
5	0.	12.	1.	0.	0.	210.	85.	12.	0.	124.	
6	15.	11.	41.	10.	11.	565.	289.	191.	137.	519.	
8	0.	0.	92.	20.	17.	1.	14.	1.	1.	42.	
9	58.	83.	52.	4.	4.	29.	113.	427.	28.	31.	
10	67.	0.	0.	33.	79.	33.	42.	0.	0.	40.	
11	47.	150.	56.	16.	709.	1290.	1341.	2725.	1447.	557.	
12	1.	5.	277.	213.	287.	2023.	377.	3.	273.	369.	
13	0.	0.	5.	0.	138.	205.	135.	66.	7.	0.	
14	12.	1.	1.	1.	43.	117.	98.	111.	15.	2.	
15	0.	0.	0.	0.	26.	25.	19.	35.	0.	0.	
T	546.	375.	535.	302.	1320.	4653.	2576.	3619.	2464.	1689.	

(45) **Table 16 : Wheat Flour**

		EXPORTING REGION 5					CALCUTTA				
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	5646.	11005.	3423.	1778.	3670.	4527.	6014.	3949.	2360.	2458.	
2	12656.	22760.	13699.	8616.	2296.	1893.	1511.	4998.	7558.	9834.	
3	548.	640.	739.	1775.	1150.	979.	1798.	1103.	491.	1067.	
4	106.	82.	229.	567.	324.	533.	1008.	341.	644.	1136.	
6	265.	271.	189.	330.	66.	12.	24.	8.	5.	0.	
7	13.	7.	33.	81.	27.	5.	5.	1.	0.	8.	
8	92.	93.	13.	209.	4.	0.	0.	0.	0.	0.	
9	0.	0.	0.	5.	0.	0.	0.	0.	0.	0.	
10	217.	345.	54.	482.	463.	44.	84.	0.	0.	0.	
11	0.	12.	4.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	5.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	31.	49.	381.	409.	285.	537.	97.	80.	8.	
15	0.	16.	1.	75.	298.	117.	104.	13.	0.	0.	
T	19547.	35267.	18437.	14303.	8710.	8404.	11089.	10516.	11140.	14513.	

		EXPORTING REGION 12					BOMBAY				
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	28.	65.	15.	39.	5.	30.	0.	0.	0.	18.	
3	101.	58.	93.	118.	394.	407.	178.	28.	4.	26.	
4	0.	3.	0.	10.	15.	6.	20.	0.	0.	0.	
5	44.	118.	127.	127.	6.	10.	1.	0.	1.	58.	
6	613.	335.	347.	1008.	222.	117.	37.	58.	300.	545.	
7	141.	150.	313.	408.	356.	139.	221.	136.	960.	714.	
8	122.	134.	68.	37.	5.	0.	4.	0.	0.	0.	
9	252.	203.	299.	208.	128.	52.	99.	9.	33.	82.	
10	2238.	1410.	983.	335.	9.	34.	63.	0.	11.	24.	
11	1825.	2338.	3015.	3689.	3036.	3022.	2958.	2790.	3097.	3830.	
13	25.	77.	240.	534.	523.	817.	811.	317.	318.	979.	
14	203.	232.	479.	1232.	2930.	3285.	2824.	3092.	1845.	1919.	
15	130.	12.	554.	568.	1152.	2127.	1563.	510.	38.	65.	
T	5726.	5140.	6540.	8319.	8788.	10051.	8785.	6945.	6610.	8266.	

		EXPORTING REGION 8					NORTHERN REGION				
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	22.	0.	0.	33.	27.	
2	5.	0.	0.	186.	4.	37.	60.	11.	10.	14.	
3	2659.	1360.	163.	16.	0.	104.	90.	144.	28.	16.	
4	0.	0.	0.	0.	0.	0.	9.	10.	5.	4.	
5	0.	6.	0.	218.	10.	9.	50.	21.	20.	0.	
6	74.	65.	120.	57.	36.	810.	2410.	619.	32.	11.	
7	0.	0.	11.	0.	0.	56.	63.	121.	0.	17.	
9	1353.	0.	9.	5.	30.	241.	351.	128.	37.	24.	
10	4784.	1218.	3443.	4508.	4606.	3360.	971.	1268.	857.	43.	
11	0.	0.	1.	0.	78.	229.	234.	399.	45.	10.	
12	125.	0.	0.	27.	0.	92.	521.	135.	1.	19.	
13	0.	0.	0.	0.	0.	0.	21.	89.	4.	5.	
14	0.	0.	0.	0.	0.	152.	252.	1392.	768.	213.	
15	5.	0.	0.	0.	4.	356.	252.	878.	165.	57.	
T	9007.	2651.	3750.	5020.	4772.	5474.	5291.	5221.	2012.	465.	

(continued)

Table 16 : (continued)

I	EXPORTING REGION 15					MADRAS				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	55.	147.
3	0.	0.	0.	0.	0.	0.	0.	9.	413.	1129.
4	0.	0.	0.	0.	0.	32.	31.	53.	398.	126.
5	0.	0.	0.	0.	0.	5.	0.	0.	0.	4.
6	0.	0.	0.	4.	0.	1.	0.	0.	0.	0.
7	0.	0.	1.	0.	0.	0.	4.	11.	4.	19.
8	0.	0.	0.	0.	0.	0.	0.	19.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	1.	2.	1.	1.	5.	0.	125.
12	0.	0.	0.	4.	0.	0.	9.	4.	0.	0.
13	1.	0.	0.	8.	1.	48.	17.	39.	227.	291.
14	2990.	841.	2827.	2286.	586.	994.	1239.	888.	2298.	5453.
T	2992.	841.	2829.	2305.	590.	1083.	1304.	1031.	3399.	7297.

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	4.	0.	0.	5.	2.	5.	0.	0.	0.	0.
3	0.	26.	1.	18.	15.	66.	96.	20.	5.	11.
4	0.	0.	1.	24.	33.	388.	277.	91.	14.	17.
5	0.	0.	0.	8.	0.	0.	0.	1.	0.	1.
6	0.	0.	9.	26.	0.	61.	385.	78.	14.	11.
8	0.	0.	0.	0.	0.	4.	0.	0.	0.	0.
9	14.	4.	3.	5.	32.	117.	445.	642.	597.	700.
10	0.	0.	0.	4.	0.	0.	66.	19.	42.	9.
11	2.	18.	5.	90.	228.	567.	503.	936.	373.	77.
12	1.	3.	0.	89.	11.	416.	402.	10.	0.	5.
13	0.	0.	0.	0.	48.	116.	306.	533.	132.	322.
14	0.	5.	16.	44.	425.	739.	1599.	1917.	458.	438.
15	0.	0.	0.	0.	165.	11.	20.	1588.	69.	5.
T	22.	59.	38.	318.	962.	2495.	4104.	5840.	1707.	1602.

I	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	140.	3.	14.	114.	5.	27.	24.	15.	0.	0.
2	28.	11.	25.	66.	90.	525.	461.	162.	14.	4.
3	49.	19.	75.	868.	500.	3947.	3567.	2759.	80.	42.
4	0.	0.	0.	4.	9.	68.	116.	85.	11.	4.
5	3.	7.	2.	69.	54.	211.	16.	48.	0.	0.
7	0.	10.	42.	112.	164.	423.	374.	244.	40.	38.
8	0.	0.	7.	190.	132.	115.	22.	6.	0.	0.
9	0.	0.	29.	120.	60.	357.	662.	133.	9.	14.
10	0.	0.	0.	86.	49.	369.	253.	6.	0.	12.
11	2.	4.	20.	17.	9.	217.	39.	29.	5.	32.
12	1.	0.	8.	32.	0.	240.	114.	61.	0.	5.
13	20.	0.	0.	0.	0.	20.	45.	2.	0.	0.
14	0.	0.	0.	23.	55.	294.	308.	520.	61.	15.
15	0.	0.	0.	28.	97.	114.	145.	87.	0.	0.
T	248.	57.	225.	1737.	1229.	6934.	6151.	4164.	224.	172.

(46)

Table 17 : Jowar

	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	15.	3.	1.	71.	0.	0.	134.	1.
3	2290.	146.	1.	13.	227.	769.	369.	89.	5465.	251.
4	0.	0.	0.	0.	2.	0.	2.	0.	0.	14.
5	10.	5.	0.	15.	38.	122.	103.	38.	82.	104.
6	45.	5.	95.	432.	889.	1967.	835.	1819.	21202.	1918.
8	0.	146.	0.	88.	221.	310.	468.	742.	1091.	713.
9	1098.	687.	2021.	67.	49.	73.	203.	311.	1394.	197.
10	18.	60.	36.	10.	193.	139.	44.	414.	2607.	277.
11	2210.	1066.	8141.	15536.	20235.	16581.	16512.	35640.	23399.	17082.
12	7.	11.	54.	6971.	5928.	2647.	1650.	2120.	1352.	718.
13	26.	0.	2347.	1216.	7590.	1141.	1497.	4721.	777.	2043.
14	477.	0.	5064.	13169.	5210.	3036.	389.	1205.	163.	816.
15	5.	0.	457.	196.	316.	78.	11.	21.	0.	38.
T	6192.	2129.	18237.	37720.	40906.	26941.	22088.	47125.	57671.	24177.

	EXPORTING REGION 9				RAJASTHAN					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	5.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
3	54.	47.	2.	0.	45.	496.	117.	8.	328.	13.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	7.	5.	0.	0.	0.	20.	0.	10.	0.
6	0.	0.	0.	748.	954.	1439.	416.	405.	1727.	490.
7	115.	159.	237.	88.	5.	370.	24.	22.	389.	676.
8	9.	52.	20.	0.	417.	1151.	652.	323.	458.	496.
10	0.	0.	0.	6.	213.	436.	78.	30.	228.	282.
11	200.	130.	646.	3530.	8003.	11107.	2844.	6300.	4393.	7449.
12	75.	0.	2.	2224.	2471.	887.	486.	231.	64.	462.
13	0.	0.	10.	21.	184.	15.	0.	13.	6.	16.
14	0.	0.	14.	358.	2708.	1897.	74.	105.	624.	411.
15	0.	0.	0.	16.	41.	14.	0.	0.	0.	0.
T	455.	397.	941.	6994.	15050.	17817.	4714.	7443.	8234.	10300.

	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	29.	0.	0.	0.	0.
2	0.	8.	0.	5.	0.	0.	0.	0.	19.	1.
3	64.	313.	165.	50.	59.	2261.	645.	366.	1961.	398.
4	0.	0.	0.	37.	0.	0.	0.	0.	0.	0.
5	5.	4.	0.	0.	6.	42.	2.	0.	2.	7.
7	77.	111.	34.	13.	30.	473.	150.	94.	218.	1821.
8	26.	270.	936.	8.	199.	855.	339.	416.	72.	703.
9	1059.	47.	43.	8.	1.	41.	122.	91.	69.	126.
10	5.	13.	0.	6.	143.	69.	125.	142.	28.	336.
11	52.	90.	125.	223.	898.	126.	1933.	1751.	362.	10585.
12	967.	0.	44.	75.	798.	1430.	822.	234.	68.	583.
13	5.	0.	0.	4.	538.	37.	10.	107.	1.	2305.
14	0.	25.	88.	129.	936.	834.	16.	177.	21.	472.
15	0.	5.	5.	0.	268.	19.	0.	0.	5.	55.
T	2264.	893.	1445.	564.	3881.	6223.	4167.	3380.	2832.	17397.

(continued)

Table 17 : (continued)

		EXPORTING REGION 5				CALCUTTA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	1405.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	1431.	10.	1.	6.	0.	12.	0.	0.	0.
3	4175.	18877.	413.	5.	7.	11.	0.	0.	0.	2.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	345.	314.	0.	0.	0.	25.	8.	0.	348.	5.
7	0.	0.	0.	0.	8.	0.	0.	0.	0.	0.
8	54.	0.	0.	0.	0.	0.	0.	3.	0.	0.
9	0.	0.	0.	5.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.
14	0.	10.	31.	14.	0.	0.	0.	0.	0.	0.
15	0.	5.	3.	9.	0.	0.	0.	0.	0.	0.
T	4575.	22044.	460.	39.	23.	38.	20.	3.	349.	8.

		EXPORTING REGION 12				BOMBAY				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	4.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	1585.	1824.	556.	18.	0.	4.	5.	57.	66695.	0.
7	628.	1491.	6.	17.	7.	0.	27.	17.	0.	394.
8	0.	43.	22.	0.	0.	13.	6.	0.	0.	0.
9	1136.	3745.	215.	0.	0.	0.	0.	10.	0.	0.
10	0.	46.	0.	0.	0.	0.	0.	0.	0.	0.
11	17001.	39544.	31511.	9310.	1931.	1174.	337.	273.	334.	237.
13	3554.	1097.	32.	0.	296.	11.	0.	4.	0.	11.
14	0.	0.	32.	23.	30.	0.	5.	6.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	23906.	47798.	32376.	9369.	2267.	1204.	382.	369.	67030.	644.

		EXPORTING REGION 15				MADRAS				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	1825.	750.	0.	0.	0.	9.	0.	0.	0.	55.
14	11690.	25101.	37096.	14006.	352.	148.	5.	6.	0.	0.
T	13516.	25851.	37096.	14006.	353.	159.	5.	6.	0.	55.

(47)

Table 18 : Maize

	EXPORTING REGION 7				CENTRAL REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
1	0.	0.	0.	1.	0.	4.	0.	13.	300.	1.	
2	7.	7.	527.	18.	757.	1512.	805.	905.	4673.	2559.	
3	0.	0.	0.	0.	0.	0.	7.	0.	0.	1.	
4	0.	5.	1.	6.	22.	91.	47.	23.	192.	96.	
5	37.	2.	15.	43.	241.	557.	136.	66.	2847.	225.	
6	0.	10.	0.	402.	2058.	236.	120.	0.	271.	29.	
8	181.	139.	155.	35.	41.	116.	89.	73.	17.	9.	
9	0.	0.	0.	19.	121.	15.	3.	7.	983.	9.	
10	2.	27.	358.	1065.	2556.	8636.	2936.	6167.	1779.	1276.	
11	4.	0.	0.	3.	31.	389.	64.	8.	60.	2.	
12	0.	0.	0.	0.	10.	0.	0.	0.	0.	140.	
13	0.	0.	1.	0.	0.	5.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	233.	192.	1061.	1595.	5840.	11566.	4212.	7266.	11126.	4351.	

	EXPORTING REGION 9				RAJASTHAN						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
1	0.	0.	0.	0.	0.	0.	0.	0.	254.	5.	
2	0.	0.	0.	0.	1777.	4078.	747.	271.	4679.	1968.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	37.	4.	27.	56.	
5	0.	0.	0.	1449.	578.	500.	239.	62.	1042.	572.	
6	76.	11.	62.	9.	5.	6.	28.	183.	98.	1299.	
7	0.	0.	107.	774.	3815.	2125.	542.	19.	392.	466.	
8	0.	0.	2.	485.	2158.	30.	111.	41.	1109.	780.	
10	0.	64.	301.	1085.	2935.	7066.	2272.	3586.	1844.	4281.	
11	0.	0.	0.	26.	33.	0.	12.	38.	0.	5.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	33.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	76.	76.	473.	3831.	11305.	13807.	3993.	4208.	9449.	9470.	

	EXPORTING REGION 12				BOMBAY						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	95.	129.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	0.	1232.	0.	76.	0.	1.	0.	0.	1327.	374.	
7	0.	497.	0.	209.	1.	0.	5.	0.	0.	538.	
8	0.	1.	0.	362.	21.	0.	0.	0.	2092.	1773.	
9	0.	175.	0.	0.	0.	0.	0.	0.	0.	5.	
10	0.	0.	0.	5.	0.	5.	0.	0.	0.	306.	
11	275.	4628.	107.	8272.	23.	31.	2008.	8373.	877.	7451.	
12	0.	93.	0.	0.	0.	3.	0.	0.	0.	629.	
13	0.	0.	0.	0.	2.	5.	5.	0.	2.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	275.	6628.	108.	8926.	50.	47.	2019.	8375.	4397.	11209.	

(continued)

Table 18 : (continued)

I	EXPORTING REGION 6					UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	3.	0.	0.	25.	13.	5.	2.	
2	2.	0.	0.	0.	0.	3.	92.	12.	86.	4.	
3	36.	4.	72.	596.	1857.	4169.	4812.	2991.	2946.	5949.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	6.	1.	10.	0.	43.	43.	56.	31.	146.	
7	0.	4.	1.	17.	1.	0.	66.	13.	11.	742.	
8	88.	98.	1.	194.	5631.	1080.	526.	295.	288.	111.	
9	3.	0.	5.	0.	10.	1.	733.	12.	0.	13.	
10	0.	0.	0.	6.	97.	10.	34.	0.	15.	36.	
11	0.	0.	41.	9.	0.	16.	2702.	241.	50.	2309.	
12	15.	0.	0.	0.	5.	0.	71.	11.	4.	21.	
13	0.	0.	0.	0.	0.	0.	0.	0.	6.	11.	
14	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	145.	138.	124.	840.	7604.	5326.	9110.	3649.	3447.	9341.	

I	EXPORTING REGION 8					NORTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	5.	0.	31.	0.	0.	0.	0.	
2	0.	0.	0.	118.	0.	0.	10.	0.	146.	6.	
3	0.	0.	11.	0.	133.	58.	206.	619.	1536.	197.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	4.	0.	0.	36.	52.	0.	13.	167.	216.	74.	
6	3.	0.	5.	88.	4.	31.	1739.	1272.	4720.	1884.	
7	2.	0.	0.	37.	29.	37.	494.	3.	32.	23.	
9	0.	356.	849.	3.	6.	12.	1222.	79.	96.	113.	
10	0.	0.	5.	7.	10.	7.	145.	41.	317.	110.	
11	22.	0.	18.	79.	0.	6.	1503.	898.	22.	101.	
12	6.	0.	0.	0.	230.	90.	68.	47.	5.	17.	
13	0.	0.	4.	0.	0.	0.	0.	0.	0.	322.	
14	0.	0.	0.	0.	2.	0.	0.	5.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	40.	356.	895.	376.	470.	276.	5404.	3134.	7094.	2850.	

I	EXPORTING REGION 1					ASSAM					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
2	0.	2.	107.	47.	12.	200.	361.	169.	49.	14.	
3	18.	42.	26.	2.	0.	191.	119.	318.	496.	2346.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	92.	11.	0.	32.	0.	23.	0.	0.	14.	5.	
6	2.	0.	0.	0.	0.	0.	9.	136.	14.	13.	
7	0.	0.	0.	0.	0.	4.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	112.	56.	135.	83.	12.	420.	490.	624.	575.	2350.	

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Table 19 : Other Grains

I	EXPORTING REGION 8				NORTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	9.	5.	0.	41.	10.
2	75.	11.	0.	27.	271.	21.	36.	156.	170.	34.
3	49.	80.	102.	21.	39.	249.	321.	844.	1239.	815.
4	0.	0.	0.	0.	0.	0.	8.	0.	5.	0.
5	156.	56.	0.	54.	16.	415.	156.	515.	632.	650.
6	2624.	270.	882.	1555.	3706.	6200.	11195.	8406.	9314.	7316.
7	12.	154.	138.	277.	59.	148.	131.	459.	382.	258.
9	1584.	139.	789.	136.	979.	3102.	6331.	8933.	4848.	6266.
10	189.	602.	1642.	349.	615.	1252.	892.	472.	707.	590.
11	4549.	3260.	1912.	6120.	5387.	10064.	14739.	7599.	3961.	8360.
12	874.	991.	341.	3287.	1349.	1555.	3163.	904.	676.	1047.
13	0.	0.	32.	0.	0.	0.	6.	140.	6.	28.
14	892.	527.	12.	23.	118.	26.	69.	48.	61.	43.
15	0.	120.	0.	11.	11.	7.	15.	5.	0.	0.
T	11010.	6214.	5854.	11863.	12557.	23053.	37074.	28488.	22047.	25424.

I	EXPORTING REGION 9				RAJASTHAN					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	96.	0.	0.	27.	23.
2	0.	0.	0.	0.	0.	22.	5.	49.	49.	6.
3	5.	8.	0.	0.	53.	193.	96.	183.	437.	338.
4	0.	0.	0.	0.	0.	0.	0.	0.	6.	6.
5	0.	3.	0.	0.	5.	130.	121.	250.	381.	192.
6	43.	27.	646.	1509.	3707.	5921.	3088.	3699.	9060.	5457.
7	65.	45.	187.	38.	36.	87.	73.	171.	843.	166.
8	148.	273.	61.	196.	807.	1113.	2558.	1237.	1599.	1681.
10	49.	39.	14.	812.	950.	2073.	1111.	167.	815.	673.
11	962.	1531.	666.	4157.	9606.	15627.	19358.	12903.	9986.	8250.
12	113.	246.	41.	2418.	1532.	2139.	3374.	1631.	2146.	4701.
13	0.	0.	0.	0.	0.	32.	0.	38.	5.	11.
14	201.	22.	0.	24.	119.	27.	94.	88.	207.	346.
15	0.	0.	0.	0.	5.	0.	10.	0.	11.	18.
T	1590.	2200.	1620.	9158.	16824.	27467.	29894.	20421.	25578.	21874.

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	5.	2.	0.	0.	16.	2.
2	6.	9.	15.	22.	55.	17.	27.	34.	33.	9.
3	269.	909.	166.	43.	126.	367.	272.	370.	214.	221.
4	44.	73.	77.	89.	87.	60.	58.	30.	34.	42.
5	132.	36.	198.	48.	149.	278.	156.	206.	151.	164.
6	184.	180.	217.	152.	258.	1943.	1804.	3862.	2715.	2282.
8	6.	16.	7.	0.	389.	173.	23.	17.	83.	20.
9	126.	104.	243.	39.	210.	164.	480.	252.	541.	122.
10	135.	9.	24.	13.	133.	66.	64.	69.	288.	104.
11	488.	3578.	2789.	3177.	3518.	5373.	5222.	10302.	10517.	7036.
12	925.	995.	1651.	1216.	1893.	2066.	1937.	1077.	1110.	4516.
13	27.	10.	9.	16.	20.	28.	28.	55.	5.	52.
14	3028.	1622.	384.	376.	528.	441.	825.	36.	83.	52.
15	2.	7.	19.	215.	141.	138.	78.	1.	1.	4.
T	5378.	7554.	5805.	5413.	7521.	11124.	10980.	16317.	15798.	14633.

(continued)

Table 19 : (continued)

	EXPORTING REGION 6				UTTAR PRADESH						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	35.	18.	11.	2.	5.	249.	3.	4.	166.	34.	
2	170.	154.	3.	37.	239.	651.	143.	67.	207.	82.	
3	11314.	8888.	2334.	229.	1210.	6222.	2011.	3810.	7102.	4543.	
4	0.	1.	0.	0.	0.	0.	0.	9.	5.	6.	
5	579.	450.	218.	392.	310.	1601.	152.	95.	146.	206.	
7	50.	83.	132.	117.	99.	64.	171.	168.	35.	148.	
8	43.	50.	275.	17.	3726.	279.	145.	205.	68.	127.	
9	318.	235.	140.	110.	1455.	578.	1231.	2498.	1058.	387.	
10	104.	71.	66.	3.	879.	127.	55.	40.	16.	235.	
11	310.	980.	1691.	4150.	9230.	9649.	9640.	18400.	6918.	26137.	
12	606.	745.	306.	2765.	4642.	3359.	4406.	3973.	1815.	4202.	
13	10.	0.	10.	25.	5.	26.	31.	0.	0.	12.	
14	3195.	1913.	238.	145.	164.	98.	176.	272.	259.	290.	
15	41.	50.	15.	49.	21.	38.	82.	84.	94.	41.	
T	16780.	13646.	5447.	8046.	21992.	22948.	18251.	29633.	17896.	36454.	

	EXPORTING REGION 2				WEST BENGAL						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	4.	0.	21.	0.	12.	19.	0.	
3	189.	83.	561.	1347.	216.	709.	297.	151.	49.	91.	
4	0.	3.	7.	3.	13.	1.	1.	2.	8.	0.	
5	3905.	3117.	4043.	2420.	2985.	3429.	1380.	503.	1170.	967.	
6	61.	2.	14.	8.	1.	86.	7.	8.	25.	333.	
7	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	
8	0.	0.	0.	0.	0.	0.	9.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	5.	9.	0.	0.	0.	5.	5.	
12	6.	0.	5.	0.	0.	5.	0.	2.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	4.	31.	15.	202.	215.	49.	5.	3.	0.	0.	
15	0.	1.	9.	43.	109.	4.	6.	0.	1.	5.	
T	4168.	3239.	4657.	4034.	3551.	4307.	1708.	693.	1284.	1404.	

	EXPORTING REGION 4				ORISSA						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	1.	1.	10.	6.	135.	33.	1.	17.	
3	15.	12.	0.	29.	10.	21.	14.	40.	15.	12.	
5	0.	1.	5.	21.	280.	13.	6.	5.	2.	12.	
6	0.	0.	14.	0.	0.	45.	19.	0.	64.	64.	
7	2.	5.	54.	14.	121.	42.	69.	48.	6.	6.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	1.	0.	0.	0.	0.	0.	22.	0.	
11	34.	76.	169.	189.	0.	5.	16.	0.	0.	6.	
12	252.	341.	481.	344.	5.	5.	0.	0.	16.	14.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	701.	16.	691.	1861.	569.	24.	342.	111.	43.	3074.	
15	0.	0.	34.	63.	83.	12.	0.	0.	112.	402.	
T	1006.	454.	1455.	2526.	1080.	176.	604.	239.	284.	3611.	

(51)

Table 20 : Oilseed - Cotton

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	13.	0.	6.	0.	0.	0.	0.	0.	0.
3	4.	1.	7.	11.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	10.	0.	0.	0.	0.
5	1.	0.	0.	0.	0.	4.	0.	0.	0.	1.
6	1809.	5470.	4668.	4203.	4942.	2043.	3023.	3104.	2977.	260.
8	1635.	12725.	21434.	16224.	11857.	3003.	7436.	10237.	15373.	1039.
9	1044.	4504.	6309.	4613.	3151.	3854.	5474.	5150.	6786.	1640.
10	548.	2530.	1535.	1001.	651.	116.	351.	1071.	1107.	64.
11	450.	1045.	4675.	4556.	3258.	6088.	7764.	10650.	8521.	3456.
12	3973.	7144.	3605.	3298.	2442.	1567.	1095.	855.	555.	445.
13	0.	0.	0.	0.	6.	4.	0.	10.	1.	0.
14	71.	146.	51.	735.	127.	372.	321.	313.	79.	30.
15	0.	4.	0.	0.	0.	0.	0.	0.	0.	0.
T	9538.	33587.	42287.	34651.	26439.	17066.	25468.	31394.	35402.	6939.

I	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	56.	44.	267.	717.	545.	2264.	971.	1423.	977.	386.
7	41.	18.	687.	265.	160.	265.	884.	1020.	692.	1599.
8	592.	116.	773.	2009.	5827.	6872.	7258.	6923.	6991.	7754.
9	1209.	386.	910.	5047.	6511.	10308.	8797.	14096.	9213.	11753.
10	17.	44.	269.	269.	171.	409.	371.	1005.	466.	370.
12	3049.	2763.	5532.	6663.	6781.	8969.	5597.	5995.	4571.	3858.
13	5.	78.	61.	88.	21.	10.	39.	59.	42.	89.
14	68.	132.	2491.	1474.	2308.	3967.	5283.	4195.	2723.	3309.
15	4.	0.	21.	0.	4.	0.	37.	0.	438.	879.
T	5045.	3592.	11015.	16536.	22331.	33068.	29242.	34720.	26115.	30002.

I	EXPORTING REGION 13				HYDERABAD					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	4.	0.	5.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.
6	844.	809.	858.	231.	402.	241.	443.	212.	310.	4.
7	0.	11.	0.	2.	40.	41.	441.	112.	50.	382.
8	1338.	2991.	3600.	767.	1011.	570.	1697.	2720.	4681.	657.
9	1405.	1039.	1896.	434.	547.	269.	734.	1116.	1736.	735.
10	328.	471.	185.	21.	95.	0.	23.	20.	95.	5.
11	453.	194.	869.	1047.	942.	1687.	1474.	2032.	715.	3156.
12	3911.	1749.	1416.	383.	3813.	4764.	2874.	2048.	269.	1745.
14	1113.	1312.	1311.	793.	478.	984.	525.	1179.	0.	761.
15	53.	12.	0.	4.	12.	0.	1.	0.	596.	30.
T	9451.	8596.	10137.	3694.	7344.	8559.	8216.	9443.	8516.	7478.

(continued)

Table 20 : (continued)

I	EXPORTING REGION 1					ASSAM				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
2	0.	0.	0.	0.	0.	20.	35.	46.	48.	0.
3	0.	0.	1.	48.	0.	0.	0.	0.	0.	4.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	79.	6.	8.	17.	42.	161.	154.	37.	23.	15.
6	106.	96.	95.	5.	38.	99.	32.	60.	80.	150.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	16.	54.	57.	119.	191.	266.	362.	448.	751.	208.
9	30.	144.	75.	40.	81.	35.	52.	8.	22.	13.
10	20.	21.	28.	9.	4.	14.	27.	9.	92.	27.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	4.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	253.	322.	272.	241.	358.	597.	664.	611.	1018.	420.

I	EXPORTING REGION 3					BIHAR				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.
2	0.	2.	35.	8.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	9.	60.	51.	1.	43.	3.	7.	3.	0.	0.
6	1.	9.	45.	28.	14.	121.	62.	18.	22.	13.
7	0.	0.	0.	0.	0.	0.	0.	0.	5.	0.
8	5.	0.	15.	95.	63.	36.	222.	15.	93.	41.
9	1.	4.	22.	8.	3.	4.	0.	16.	0.	321.
10	4.	0.	0.	1.	0.	0.	3.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	9.	37.	114.	0.	199.	217.	4.	42.	10.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	23.	87.	209.	257.	124.	365.	514.	58.	166.	393.

I	EXPORTING REGION 5					CALCUTTA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	14.	0.	0.	2.	2.	0.	0.	1.	0.	0.
4	4.	3.	0.	0.	0.	0.	0.	0.	0.	0.
6	103.	37.	62.	31.	105.	97.	42.	65.	59.	25.
7	0.	0.	0.	0.	4.	0.	0.	0.	0.	0.
8	124.	410.	174.	196.	129.	202.	296.	192.	289.	86.
9	9.	53.	0.	4.	4.	16.	0.	0.	0.	0.
10	4.	4.	27.	0.	0.	0.	21.	9.	0.	0.
11	45.	0.	4.	5.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	306.	510.	269.	242.	245.	320.	360.	271.	349.	112.

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Table 21 : Oilseed - Groundnut

	EXPORTING REGION 11				WESTERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	11.	5.	0.	1.	0.	0.	0.	21.	36.	
2	25.	9.	7.	0.	0.	0.	2.	0.	8.	0.	
3	2.	5.	3.	2.	0.	2.	18.	5.	6.	12.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.	
5	0.	23.	0.	86.	14.	0.	0.	621.	1110.	1268.	
6	29.	9.	17.	264.	305.	411.	1940.	1335.	2455.	723.	
7	2186.	820.	139.	3014.	3069.	1478.	1899.	7852.	6542.	4028.	
8	13.	2.	0.	105.	11.	119.	340.	193.	350.	1106.	
9	43.	36.	88.	12.	51.	515.	474.	270.	264.	57.	
10	9.	6.	7.	52.	47.	213.	243.	38.	427.	16.	
12	23814.	20989.	22684.	13350.	22879.	18526.	24163.	23246.	29654.	23237.	
13	447.	27.	94.	608.	295.	365.	366.	948.	282.	105.	
14	420.	3199.	1462.	1433.	1623.	365.	1787.	1458.	1197.	1139.	
15	3.	16.	122.	94.	0.	23.	221.	114.	72.	150.	
T	26996.	25156.	24635.	19025.	28300.	22023.	31458.	36085.	42392.	31886.	

	EXPORTING REGION 14				SOUTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	6.	0.	2.	0.	
2	28.	0.	5.	15.	0.	4.	2.	18.	8.	3.	
3	5.	0.	24.	0.	0.	0.	15.	0.	5.	0.	
4	49.	0.	39.	10.	57.	25.	1.	18.	26.	23.	
5	1154.	389.	113.	306.	148.	288.	113.	277.	940.	419.	
6	0.	5.	27.	4.	1.	30.	4.	0.	2.	0.	
7	345.	1169.	4.	116.	12.	18.	1303.	348.	319.	52.	
8	0.	0.	3.	6.	0.	0.	0.	0.	0.	15.	
9	0.	3.	2.	2.	2.	1.	13.	0.	0.	0.	
10	10.	0.	30.	0.	1.	0.	0.	0.	11.	0.	
11	0.	57.	33.	270.	161.	96.	21.	10.	72.	38.	
12	3.	612.	797.	952.	809.	453.	3038.	1109.	2383.	496.	
13	36.	174.	664.	254.	120.	0.	186.	2121.	3758.	1779.	
15	8672.	6432.	6323.	1962.	6836.	8168.	3321.	2241.	2284.	1441.	
T	10422.	8844.	8070.	3900.	8153.	9089.	8029.	6145.	9816.	4269.	

	EXPORTING REGION 13				HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	11.	0.	0.	0.	0.	3.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	2.	5.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	5.	0.	
5	45.	32.	5.	2.	0.	8.	10.	11.	25.	5.	
6	3.	0.	35.	15.	18.	10.	0.	0.	7.	3.	
7	62.	224.	147.	52.	60.	281.	77.	63.	278.	125.	
8	0.	5.	4.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	8.	0.	0.	0.	0.	0.	0.	0.	
10	0.	88.	0.	0.	0.	0.	0.	0.	0.	0.	
11	265.	661.	745.	646.	524.	677.	752.	474.	707.	846.	
12	1166.	2622.	5526.	1321.	6128.	8261.	4034.	3626.	3420.	2965.	
14	896.	1388.	1674.	239.	636.	1151.	994.	1837.	1068.	449.	
15	13.	0.	286.	53.	778.	275.	14.	0.	0.	79.	
T	2453.	5035.	8434.	2332.	8147.	10666.	5889.	6019.	5513.	4475.	

(continued)

Table 21 : (continued)

		EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	7.	13.	0.	70.	0.	0.	0.	0.	0.	12.	
3	7.	30.	12.	2.	4.	2.	3.	0.	0.	2.	
5	143.	101.	150.	136.	113.	74.	68.	97.	150.	257.	
6	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	
7	6.	5.	1.	3.	0.	1.	0.	0.	0.	6.	
8	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	4.	0.	
12	0.	0.	0.	0.	0.	5.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	58.	60.	20.	16.	0.	12.	0.	11.	3.	11.	
15	5.	0.	0.	0.	0.	0.	0.	1.	6.	0.	
T	229.	210.	185.	228.	119.	101.	71.	110.	165.	290.	

		EXPORTING REGION 8				NORTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	4.	0.	0.	13.	3.	
2	50.	5.	42.	2.	4.	0.	10.	12.	21.	28.	
3	145.	37.	22.	5.	0.	4.	28.	26.	63.	27.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	102.	3.	104.	0.	3.	0.	13.	28.	54.	153.	
6	634.	51.	820.	1036.	1571.	503.	589.	314.	292.	180.	
7	30.	0.	12.	9.	5.	13.	9.	21.	69.	0.	
9	32.	4.	18.	20.	16.	51.	54.	24.	50.	63.	
10	40.	22.	14.	123.	50.	61.	16.	5.	0.	94.	
11	0.	5.	16.	11.	5.	6.	0.	0.	0.	0.	
12	19.	38.	34.	12.	15.	4.	5.	0.	0.	10.	
13	0.	0.	10.	0.	0.	0.	0.	0.	10.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	1056.	168.	1095.	1222.	1672.	650.	727.	433.	577.	561.	

		EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	152.	184.	138.	14.	17.	46.	13.	24.	104.	134.	
2	347.	258.	166.	36.	24.	194.	138.	99.	168.	203.	
3	665.	574.	358.	77.	35.	303.	302.	379.	508.	528.	
4	0.	0.	0.	0.	0.	2.	0.	0.	17.	0.	
5	2882.	827.	820.	34.	9.	719.	231.	693.	1760.	865.	
7	175.	82.	70.	72.	56.	74.	231.	152.	111.	347.	
8	245.	1345.	200.	133.	92.	377.	1062.	936.	264.	540.	
9	38.	57.	77.	52.	21.	459.	306.	105.	28.	88.	
10	61.	163.	174.	233.	185.	194.	85.	129.	41.	10.	
11	222.	61.	43.	42.	14.	10.	8.	46.	17.	155.	
12	132.	54.	758.	70.	81.	43.	500.	1129.	570.	890.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	13.	
14	0.	33.	13.	5.	9.	0.	15.	20.	4.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	4924.	3688.	2823.	775.	548.	2426.	2897.	3718.	3599.	3786.	

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Table 22 : Oilseed - Rape and Mustard

EXPORTING REGION 6		UTTAR PRADESH									
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	257.	1.	1.	338.	13.	45.	0.	0.	14.	7.	
2	4802.	4438.	7117.	4932.	1313.	2916.	812.	558.	1978.	2456.	
3	6289.	4961.	4244.	3261.	3257.	3666.	1447.	858.	1346.	1023.	
4	147.	87.	126.	57.	15.	65.	5.	0.	32.	27.	
5	21878.	15517.	19039.	17111.	13159.	10033.	4830.	6029.	10444.	16810.	
7	22.	31.	12.	21.	4.	13.	10.	13.	27.	22.	
8	228.	192.	246.	175.	113.	92.	21.	19.	53.	17.	
9	20.	10.	8.	14.	3.	10.	16.	10.	17.	41.	
10	232.	168.	583.	685.	209.	2.	15.	1.	0.	103.	
11	38.	5.	4.	0.	9.	19.	11.	7.	11.	18.	
12	104.	0.	18.	15.	8.	69.	9.	10.	6.	7.	
13	0.	0.	0.	0.	0.	0.	0.	6.	10.	0.	
14	14.	0.	7.	10.	14.	0.	0.	1.	64.	0.	
15	19.	11.	0.	0.	0.	0.	0.	4.	6.	5.	
T	34055.	25427.	31423.	26625.	18122.	16936.	7181.	7522.	14013.	20540.	

EXPORTING REGION 7		CENTRAL REGION									
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	1986.	2156.	2167.	1441.	1114.	837.	2112.	870.	1015.	2290.	
3	457.	624.	337.	257.	148.	242.	359.	261.	151.	297.	
4	18.	26.	35.	26.	14.	37.	24.	19.	20.	19.	
5	2518.	2679.	1301.	1001.	1001.	801.	1771.	1635.	1130.	2463.	
6	316.	579.	357.	389.	260.	837.	1891.	1514.	766.	463.	
8	19.	23.	20.	23.	10.	17.	43.	21.	9.	11.	
9	4.	4.	9.	13.	0.	7.	5.	23.	38.	6.	
10	5.	4.	4.	8.	1.	1.	1.	10.	11.	0.	
11	89.	52.	29.	37.	53.	28.	73.	31.	36.	33.	
12	154.	326.	69.	92.	127.	80.	98.	33.	105.	33.	
13	0.	2.	2.	1.	50.	0.	1.	1.	4.	5.	
14	36.	15.	14.	8.	28.	66.	86.	103.	68.	18.	
15	65.	17.	19.	6.	24.	18.	80.	49.	6.	24.	
T	5672.	6512.	4368.	3309.	2836.	2976.	6550.	4576.	3364.	5669.	

EXPORTING REGION 8		NORTHERN REGION									
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	16.	0.	0.	0.	0.	3.	0.	0.	0.	5.	
2	2672.	3661.	1901.	849.	2016.	2968.	1277.	866.	2626.	1397.	
3	1113.	1212.	262.	127.	763.	1028.	986.	658.	441.	236.	
4	97.	11.	6.	0.	0.	10.	0.	0.	33.	12.	
5	6223.	8990.	4209.	1920.	4565.	8619.	4457.	3219.	8344.	5984.	
6	2246.	2576.	1049.	1965.	4237.	3277.	4326.	4629.	2287.	1202.	
7	7.	0.	0.	0.	1.	54.	46.	12.	178.	47.	
9	4.	3.	2.	0.	2.	21.	60.	28.	58.	66.	
10	72.	142.	127.	165.	221.	91.	250.	417.	498.	434.	
11	25.	16.	2.	1.	0.	0.	0.	0.	0.	0.	
12	19.	0.	0.	3.	5.	17.	0.	0.	0.	3.	
13	0.	0.	9.	0.	0.	0.	0.	0.	0.	0.	
14	10.	11.	3.	0.	34.	25.	1.	29.	88.	19.	
15	18.	0.	0.	0.	0.	0.	4.	15.	66.	9.	
T	12526.	16624.	7576.	5034.	11848.	16120.	11412.	9877.	14625.	9420.	

(continued)

Table 22 : (continued)

I	EXPORTING REGION 9				RAJASTHAN						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	29.	15.	0.	0.	3.	0.	0.	0.	10.	0.	
2	2694.	2402.	992.	232.	158.	1111.	880.	885.	2252.	2350.	
3	362.	742.	164.	0.	30.	394.	571.	523.	1093.	633.	
4	4.	39.	0.	5.	0.	24.	0.	0.	39.	42.	
5	1905.	8417.	2608.	0.	209.	3230.	3686.	5276.	6751.	9643.	
6	618.	792.	203.	516.	490.	1925.	3614.	2488.	1768.	703.	
7	8.	17.	15.	2.	2.	14.	19.	31.	20.	34.	
8	237.	682.	419.	309.	62.	341.	400.	1223.	341.	370.	
10	33.	17.	53.	59.	42.	273.	435.	428.	526.	759.	
11	49.	10.	5.	29.	5.	13.	4.	23.	21.	15.	
12	196.	39.	29.	61.	67.	44.	87.	101.	222.	61.	
13	0.	0.	0.	0.	0.	2.	2.	5.	0.	10.	
14	9.	0.	0.	10.	18.	5.	17.	68.	74.	12.	
15	24.	0.	0.	26.	16.	20.	46.	116.	37.	53.	
T	6174.	13178.	4494.	1254.	1107.	7403.	9766.	11173.	13161.	14691.	

I	EXPORTING REGION 11				WESTERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	300.	
2	137.	405.	186.	354.	141.	14.	4.	29.	121.	72.	
3	87.	368.	9.	243.	14.	35.	126.	72.	41.	29.	
4	0.	15.	0.	9.	0.	0.	0.	18.	0.	31.	
5	622.	822.	103.	2017.	893.	2090.	2759.	1164.	496.	1876.	
6	7.	408.	55.	44.	31.	47.	474.	254.	38.	118.	
7	8.	8.	17.	9.	17.	9.	16.	13.	10.	12.	
8	1.	3.	0.	0.	0.	2.	8.	6.	7.	8.	
9	0.	4.	1.	3.	5.	11.	18.	12.	2.	47.	
10	3.	9.	4.	1.	1.	1.	4.	2.	0.	0.	
12	943.	1051.	1045.	793.	1113.	976.	998.	908.	762.	1108.	
13	0.	0.	8.	4.	0.	1.	2.	3.	9.	25.	
14	79.	38.	135.	54.	243.	518.	441.	650.	554.	528.	
15	101.	128.	379.	384.	351.	364.	262.	393.	215.	197.	
T	1993.	3262.	1947.	3921.	2814.	4073.	5117.	3530.	2261.	4355.	

I	EXPORTING REGION 1				ASSAM						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
2	20.	11.	39.	50.	37.	148.	765.	145.	18.	7.	
3	0.	51.	0.	8.	9.	61.	58.	21.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	8.	3.	18.	27.	20.	20.	140.	59.	136.	35.	
6	0.	5.	0.	0.	0.	0.	24.	8.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	5.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	34.	72.	58.	86.	66.	229.	989.	234.	154.	43.	

(54)

Table 23 : Oilseed - Castor

I	EXPORTING REGION 13				HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	2.	0.	0.	7.	0.	0.	0.	0.	0.	7.	
5	204.	264.	166.	77.	0.	9.	0.	4.	0.	0.	
6	39.	5.	7.	0.	0.	0.	0.	0.	0.	0.	
7	3.	67.	0.	7.	0.	5.	8.	0.	0.	2.	
8	0.	0.	0.	0.	0.	0.	0.	5.	0.	0.	
9	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	
10	44.	0.	0.	0.	0.	0.	55.	0.	0.	0.	
11	154.	72.	25.	105.	15.	6.	8.	0.	16.	11.	
12	10777.	2850.	488.	199.	2897.	3113.	3358.	1366.	906.	1156.	
14	275.	705.	719.	120.	191.	42.	143.	81.	108.	115.	
15	0.	94.	0.	10.	4.	0.	9.	0.	8.	3.	
T	11507.	4061.	1410.	527.	3111.	3177.	3584.	1458.	1040.	1296.	

I	EXPORTING REGION 11				WESTERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	4.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	0.	23.	18.	52.	0.	10.	9.	5.	17.	21.	
7	3.	5.	6.	47.	16.	0.	0.	0.	8.	1.	
8	0.	0.	0.	18.	0.	7.	0.	82.	0.	5.	
9	42.	0.	36.	15.	129.	138.	395.	333.	22.	170.	
10	0.	1.	0.	0.	0.	0.	0.	0.	5.	0.	
12	2609.	938.	1041.	2532.	2470.	1345.	2794.	2904.	875.	1607.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	18.	58.	112.	33.	47.	30.	22.	73.	57.	6.	
15	0.	0.	2.	117.	0.	0.	0.	0.	5.	6.	
T	2673.	1032.	1217.	2818.	2663.	1534.	3221.	3400.	991.	1819.	

I	EXPORTING REGION 3				BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	175.	88.	172.	146.	171.	128.	85.	41.	36.	49.	
4	0.	0.	0.	5.	0.	0.	0.	0.	3.	0.	
5	3288.	736.	824.	237.	298.	927.	469.	598.	670.	2154.	
6	32.	174.	570.	61.	36.	481.	83.	157.	7.	138.	
7	0.	0.	2.	0.	0.	0.	0.	4.	20.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	15.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	1.	0.	0.	0.	0.	0.	0.	5.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	4.	941.	388.	146.	147.	1235.	894.	1635.	2288.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	
T	3497.	1005.	2511.	838.	653.	1685.	1873.	1696.	2394.	4634.	

(continued)

Table 23 : (continued)

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	4.	0.	1.	0.	0.	0.	0.	0.	5.	0.
4	2.	5.	0.	2.	2.	3.	1.	4.	1.	3.
5	0.	14.	0.	0.	0.	0.	0.	0.	0.	5.
6	43.	17.	9.	16.	60.	30.	89.	44.	64.	36.
8	0.	0.	18.	18.	0.	4.	0.	0.	0.	0.
9	8.	61.	84.	39.	62.	21.	41.	29.	5.	7.
10	6.	0.	26.	0.	22.	0.	0.	0.	0.	0.
11	99.	53.	57.	46.	17.	102.	103.	156.	26.	138.
12	318.	228.	279.	172.	177.	170.	240.	387.	184.	272.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	1.	4.	5.	0.	0.	0.	0.	9.	4.
15	0.	0.	0.	28.	0.	0.	0.	0.	0.	0.
T	484.	383.	482.	329.	343.	332.	476.	623.	298.	470.

I	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
2	13.	4.	4.	0.	4.	4.	1.	0.	0.	0.
3	30.	19.	7.	4.	0.	15.	30.	15.	9.	8.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1051.	116.	14.	205.	16.	25.	5.	11.	5.	38.
7	7.	9.	0.	4.	6.	14.	38.	238.	499.	379.
8	22.	10.	0.	0.	0.	54.	0.	5.	0.	4.
9	1.	13.	0.	0.	4.	0.	0.	0.	0.	2.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	1.	5.	0.	28.	3.	0.	0.	0.	0.	0.
12	1413.	35.	912.	394.	127.	102.	573.	1064.	308.	905.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	2543.	215.	945.	639.	163.	218.	650.	1336.	824.	1340.

I	EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.
3	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
5	4.	14.	33.	5.	0.	0.	0.	0.	0.	1.
6	0.	0.	0.	4.	0.	0.	0.	0.	0.	0.
7	4.	2.	2.	1.	0.	0.	0.	1.	0.	0.
8	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	31.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	236.	329.	14.	21.	54.	106.	106.	21.	15.	32.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	245.	347.	84.	34.	56.	107.	114.	22.	15.	33.

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Table 24 : Oilseed - Til (or Jinjlee) and Linseed

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	217.	157.	104.	52.	169.	183.	93.	40.	89.	53.
3	96.	324.	57.	105.	120.	142.	109.	55.	60.	51.
4	1.	3.	16.	14.	4.	18.	2.	8.	3.	5.
5	1797.	1830.	326.	370.	385.	1355.	658.	507.	124.	475.
6	1213.	1862.	760.	1263.	1591.	2265.	2266.	3848.	2119.	3082.
8	176.	392.	274.	286.	514.	214.	191.	442.	407.	415.
9	272.	1028.	1790.	514.	410.	433.	219.	356.	706.	240.
10	40.	202.	312.	108.	289.	266.	148.	290.	686.	226.
11	425.	1043.	972.	1005.	629.	588.	406.	434.	338.	570.
12	6557.	1802.	3284.	1021.	773.	2527.	1106.	786.	643.	1223.
13	0.	0.	0.	6.	0.	0.	1.	0.	23.	10.
14	1526.	690.	748.	1777.	1649.	996.	2375.	3012.	2308.	2156.
15	396.	535.	747.	1113.	817.	853.	905.	918.	496.	882.
T	12722.	9873.	9397.	7639.	7357.	9847.	8486.	10700.	8009.	9393.

I	EXPORTING REGION 13				HYDERABAD					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	27.	15.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	16.	4.	10.	125.	31.	5.	48.	10.	214.
6	0.	50.	0.	5.	0.	0.	0.	32.	40.	3.
7	54.	330.	86.	327.	500.	547.	595.	795.	1409.	547.
8	0.	0.	0.	0.	8.	0.	0.	0.	0.	0.
9	5.	17.	10.	0.	0.	0.	0.	0.	6.	0.
10	0.	1.	26.	0.	9.	0.	0.	0.	0.	0.
11	40.	183.	144.	220.	41.	90.	62.	65.	82.	128.
12	4372.	1908.	752.	567.	1672.	2130.	1545.	3721.	1460.	1969.
14	1217.	1974.	4443.	2458.	1275.	1192.	839.	1189.	886.	1017.
15	758.	997.	2159.	589.	434.	294.	125.	359.	299.	304.
T	6449.	5481.	7627.	4179.	4068.	4312.	3194.	6213.	4196.	4186.

I	EXPORTING REGION 3				BIHAR					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	14.	0.	1.
2	850.	832.	787.	334.	294.	1267.	615.	199.	72.	265.
4	9.	2.	4.	12.	1.	0.	0.	0.	0.	0.
5	6676.	3548.	5569.	3630.	3310.	6223.	4762.	1612.	3777.	9057.
6	144.	102.	219.	751.	193.	272.	289.	229.	96.	104.
7	0.	0.	7.	1351.	1.	45.	11.	5.	2.	5.
8	0.	0.	6.	14.	0.	82.	0.	1.	23.	0.
9	5.	1.	10.	3.	0.	0.	3.	0.	0.	0.
10	5.	3.	13.	0.	0.	14.	0.	0.	10.	0.
11	19.	6.	0.	0.	0.	0.	0.	0.	0.	0.
12	23.	0.	10.	110.	1.	0.	73.	12.	11.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	2.	0.	4.	4.	0.	9.	4.	3.	0.	10.
15	0.	0.	19.	18.	19.	0.	4.	0.	0.	0.
T	7737.	4498.	6652.	6232.	3823.	7914.	5764.	2078.	3993.	9446.

(continued)

Table 24 : (continued)

		EXPORTING REGION 6				UTTAR PRADESH				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	14.	12.
2	324.	250.	150.	86.	154.	617.	238.	42.	115.	280.
3	473.	353.	455.	431.	373.	931.	770.	635.	854.	1035.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	2560.	1549.	1626.	574.	1147.	1819.	615.	448.	793.	1762.
7	99.	114.	565.	973.	141.	546.	256.	96.	238.	962.
8	589.	393.	248.	776.	1170.	150.	237.	274.	451.	559.
9	47.	741.	1363.	150.	101.	167.	86.	99.	412.	197.
10	189.	292.	430.	346.	351.	133.	137.	180.	264.	176.
11	9.	29.	18.	68.	77.	35.	0.	13.	3.	52.
12	2349.	459.	492.	604.	235.	721.	733.	125.	137.	626.
13	0.	0.	0.	0.	0.	0.	0.	1.	0.	6.
14	190.	131.	33.	291.	628.	422.	592.	184.	644.	1349.
15	73.	0.	21.	269.	541.	264.	104.	86.	62.	200.
T	6907.	4316.	5405.	4571.	4921.	5810.	3774.	2188.	3992.	7222.

		EXPORTING REGION 11				WESTERN REGION				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	14.	0.	0.	0.	0.	4.	0.	0.	0.	0.
3	4.	3.	1.	14.	0.	0.	0.	0.	0.	4.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1.	0.	0.	29.	4.	4.	0.	27.	31.	44.
6	1.	24.	36.	15.	21.	14.	15.	46.	63.	19.
7	50.	34.	106.	148.	288.	37.	108.	133.	223.	76.
8	23.	42.	20.	39.	141.	143.	24.	106.	181.	76.
9	135.	268.	741.	265.	443.	302.	152.	157.	700.	69.
10	27.	24.	18.	31.	270.	53.	63.	69.	155.	34.
12	2500.	1214.	1395.	986.	1199.	1368.	1043.	1266.	1016.	729.
13	0.	2.	6.	7.	4.	7.	1.	19.	18.	2.
14	347.	476.	455.	325.	736.	702.	503.	458.	2237.	486.
15	30.	31.	39.	38.	380.	94.	155.	42.	428.	92.
T	3137.	2124.	2823.	1902.	3491.	2733.	2068.	2329.	5057.	1637.

		EXPORTING REGION 4				ORISSA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	9.	4.	6.	8.	3.	1.	0.	4.	6.	0.
3	3.	8.	43.	11.	8.	3.	3.	0.	0.	0.
5	86.	124.	143.	88.	131.	200.	146.	33.	68.	130.
6	6.	0.	5.	0.	0.	0.	5.	0.	0.	4.
7	171.	183.	232.	120.	235.	259.	163.	226.	195.	237.
8	0.	0.	1.	0.	1.	0.	10.	0.	0.	0.
9	0.	34.	16.	2.	0.	6.	4.	0.	0.	0.
10	0.	5.	6.	0.	0.	1.	5.	11.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	26.	32.	44.	0.	0.	0.	4.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	409.	199.	438.	325.	176.	101.	79.	39.	187.	141.
15	236.	216.	464.	543.	294.	516.	216.	90.	206.	50.
T	949.	811.	1404.	1101.	850.	1091.	639.	506.	665.	573.

(61)

Table 25 : Ghee

I	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	24.	34.	13.	14.	8.	1.	5.	6.	13.	21.
3	74.	64.	58.	67.	52.	108.	46.	34.	54.	66.
4	52.	69.	71.	36.	24.	37.	40.	33.	28.	9.
5	282.	226.	134.	179.	195.	289.	348.	352.	223.	196.
6	8.	0.	1.	0.	1.	10.	16.	46.	43.	67.
7	1.	6.	9.	12.	8.	13.	15.	20.	41.	84.
8	0.	0.	0.	0.	0.	6.	2.	9.	4.	10.
9	0.	0.	0.	0.	0.	0.	0.	0.	7.	59.
10	4.	2.	20.	19.	8.	49.	8.	103.	223.	50.
11	11.	19.	17.	14.	19.	9.	2.	13.	7.	7.
12	26.	8.	4.	3.	2.	4.	1.	8.	0.	0.
13	0.	0.	0.	0.	0.	4.	0.	0.	0.	0.
15	34.	21.	8.	7.	0.	2.	0.	0.	0.	0.
T	521.	452.	339.	355.	326.	537.	488.	630.	648.	574.

I	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	2.	1.	0.	0.	0.	0.	0.	0.	0.	1.
2	1.	1.	1.	8.	1.	7.	2.	1.	0.	0.
3	13.	6.	11.	26.	3.	4.	6.	1.	1.	8.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	151.	164.	140.	119.	184.	254.	46.	157.	144.	139.
7	0.	1.	4.	0.	0.	3.	3.	3.	16.	5.
8	12.	2.	2.	2.	8.	5.	14.	28.	7.	2.
9	0.	0.	1.	0.	0.	0.	0.	0.	2.	19.
10	48.	2.	2.	0.	0.	1.	0.	0.	0.	0.
11	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.
12	17.	2.	8.	14.	7.	6.	10.	14.	1.	1.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	9.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	250.	196.	175.	174.	208.	284.	86.	207.	175.	178.

I	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	2.	10.	5.	10.	4.	5.	1.	3.	0.	13.
6	0.	13.	3.	0.	0.	13.	0.	0.	1.	0.
7	1.	0.	13.	0.	1.	0.	2.	0.	2.	6.
8	15.	6.	0.	1.	0.	2.	1.	0.	7.	1.
9	5.	14.	3.	7.	2.	1.	3.	0.	40.	19.
10	15.	137.	3.	0.	0.	1.	0.	16.	43.	0.
12	70.	47.	30.	78.	54.	65.	76.	59.	67.	22.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	3.	0.	0.	0.	4.	0.	2.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	112.	239.	61.	99.	63.	94.	86.	82.	164.	64.

(continued)

Table 25 : (continued)

	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.
3	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	1.	0.	0.	6.	0.	0.	0.	0.	0.	0.
5	2.	3.	5.	27.	0.	0.	0.	1.	2.	2.
6	2.	2.	4.	3.	0.	20.	17.	19.	11.	2.
8	2.	35.	2.	0.	0.	1.	0.	0.	2.	4.
9	17.	4.	8.	1.	1.	5.	8.	0.	0.	3.
10	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	6.	3.	11.	0.	2.	1.	5.	1.	0.	0.
12	8.	1.	1.	24.	0.	0.	8.	3.	4.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	4.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	47.	58.	34.	63.	6.	29.	40.	25.	23.	15.

	EXPORTING REGION 15				MADRAS					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	7.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
13	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.
14	3.	19.	5.	7.	4.	24.	2.	1.	0.	0.
T	4.	19.	6.	18.	5.	25.	3.	2.	1.	1.

Table 27 : Oil - Groundnut

(63)

WESTERN REGION

EXPORTING REGION 11										
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	1.	4.	0.	0.	1.	0.	19.	0.	4.	28.
2	96.	77.	24.	20.	5.	30.	330.	123.	311.	536.
3	287.	229.	134.	72.	136.	847.	864.	1068.	833.	997.
4	0.	3.	0.	6.	7.	5.	6.	0.	7.	0.
5	100.	25.	75.	91.	34.	41.	139.	231.	277.	619.
6	2874.	1807.	2451.	2055.	2383.	3138.	4116.	4903.	5609.	8979.
7	220.	622.	497.	303.	367.	455.	457.	1200.	2195.	1704.
8	456.	134.	20.	8.	37.	56.	259.	62.	758.	347.
9	391.	569.	267.	354.	291.	1762.	2612.	3815.	2917.	2184.
10	1754.	1401.	1890.	4775.	6963.	6798.	8028.	12748.	10487.	11275.
12	5224.	2804.	4156.	1534.	7273.	5372.	1841.	1698.	3760.	6220.
13	1.	15.	22.	23.	44.	14.	1.	6.	4.	21.
14	0.	0.	12.	2.	75.	62.	42.	29.	8.	64.
15	0.	3.	0.	4.	0.	0.	0.	0.	4.	0.
T	11411.	7700.	9555.	9201.	17624.	18585.	18720.	25889.	27180.	32979.

SOUTHERN REGION

EXPORTING REGION 14										
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	1743.	0.	0.	0.	0.	8.	5.	0.	4.
2	2215.	0.	2160.	1001.	967.	1431.	1041.	1464.	1109.	1414.
3	1231.	1010.	511.	174.	310.	550.	355.	622.	1245.	644.
4	997.	978.	662.	466.	673.	781.	732.	859.	981.	1028.
5	2235.	1694.	2341.	1177.	1708.	1884.	2912.	2773.	3531.	3192.
6	1567.	336.	787.	232.	569.	579.	802.	1132.	433.	400.
7	1059.	1218.	1049.	905.	587.	1324.	1630.	2039.	1677.	2050.
8	5.	248.	39.	0.	7.	17.	10.	9.	107.	2.
9	0.	11.	0.	0.	0.	0.	0.	0.	0.	30.
10	1023.	1099.	646.	77.	41.	103.	669.	205.	73.	42.
11	1949.	3091.	2268.	2587.	1551.	1741.	554.	892.	387.	209.
12	3490.	4162.	1286.	412.	619.	626.	637.	640.	334.	219.
13	10.	20.	144.	140.	39.	32.	53.	64.	81.	108.
15	11552.	5988.	6664.	1385.	5871.	4915.	312.	29.	62.	481.
T	27338.	21603.	18563.	8561.	12947.	13989.	9720.	10740.	10026.	9820.

HYDERABAD

EXPORTING REGION 13										
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.
2	252.	147.	683.	273.	170.	622.	516.	477.	563.	1402.
3	216.	312.	203.	83.	102.	306.	253.	249.	216.	134.
4	36.	88.	113.	86.	83.	83.	96.	43.	146.	46.
5	745.	420.	513.	243.	129.	461.	339.	446.	929.	1869.
6	1430.	930.	1282.	447.	730.	949.	1169.	1793.	869.	540.
7	710.	1141.	615.	624.	721.	985.	997.	721.	773.	400.
8	14.	163.	3.	0.	0.	2.	24.	17.	165.	0.
9	35.	0.	3.	0.	2.	4.	0.	0.	0.	0.
10	776.	271.	584.	240.	198.	345.	133.	198.	43.	70.
11	2336.	1648.	2426.	1186.	1108.	1106.	494.	296.	260.	170.
12	5725.	4440.	5202.	2962.	5266.	5762.	2591.	2172.	922.	773.
14	159.	137.	99.	114.	137.	62.	45.	32.	29.	36.
15	355.	38.	420.	31.	95.	58.	0.	0.	4.	8.
T	12797.	9749.	12159.	6295.	8746.	10750.	6666.	6450.	4923.	5560.

(continued)

Table 27 : (continued)**NORTHERN REGION**

I	EXPORTING REGION 8									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	1.	0.	0.	3.	4.
2	13.	0.	0.	2.	8.	0.	0.	4.	7.	0.
3	2.	4.	2.	2.	4.	0.	10.	3.	31.	20.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	25.	0.	15.	8.	14.	54.	8.	24.	18.	0.
6	442.	379.	502.	502.	450.	1075.	438.	525.	343.	1097.
7	0.	10.	1.	6.	0.	2.	8.	4.	0.	0.
9	1.	0.	2.	8.	0.	4.	17.	10.	1.	11.
10	96.	54.	322.	129.	97.	171.	114.	215.	197.	356.
11	4.	5.	0.	3.	0.	8.	0.	0.	4.	0.
12	19.	0.	0.	0.	0.	2.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	105.
14	0.	5.	0.	0.	0.	0.	0.	0.	4.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	605.	460.	846.	665.	575.	1321.	598.	788.	612.	1594.

MADRAS

I	EXPORTING REGION 15									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	5.	2.	0.	142.	56.	122.	229.	77.
3	11.	2.	0.	0.	0.	0.	0.	12.	21.	10.
4	7.	71.	3.	4.	2.	0.	0.	2.	21.	9.
5	42.	89.	0.	0.	4.	67.	129.	1604.	226.	138.
6	2.	16.	10.	39.	0.	0.	0.	15.	0.	0.
7	0.	22.	0.	5.	0.	2.	2.	0.	10.	10.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	7.	22.	7.	8.	0.	0.	0.	0.	0.	0.
11	16.	8.	0.	12.	0.	0.	0.	0.	10.	0.
12	58.	370.	2.	120.	0.	0.	0.	13.	4.	0.
13	8.	7.	4.	4.	0.	3.	5.	56.	3.	2.
14	260.	372.	324.	734.	279.	143.	223.	101.	67.	87.
T	416.	983.	358.	933.	287.	359.	417.	1929.	595.	335.

Table 28 : Oil - Castor

(64)

WESTERN REGION

I	EXPORTING REGION 11									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	38.	0.	4.	27.	13.	0.	0.	4.
4	0.	0.	0.	2.	0.	0.	0.	0.	0.	2.
5	0.	2.	0.	0.	4.	0.	0.	0.	0.	0.
6	0.	733.	7.	0.	0.	18.	0.	6.	11.	18.
7	14.	27.	28.	33.	42.	78.	39.	46.	42.	20.
8	4.	0.	3.	0.	0.	0.	3.	1.	0.	2.
9	19.	11.	18.	19.	42.	48.	30.	37.	34.	32.
10	2.	13.	4.	15.	3.	4.	3.	3.	12.	10.
12	2621.	2745.	3136.	1847.	4230.	5227.	5307.	3874.	2588.	3774.
13	0.	1.	0.	1.	0.	0.	0.	2.	3.	1.
14	3.	4.	7.	8.	9.	16.	3.	0.	0.	0.
15	0.	0.	0.	70.	0.	9.	0.	0.	0.	0.
T	2666.	3541.	3247.	2001.	4337.	5432.	5402.	3973.	2694.	3668.

HYDERABAD

I	EXPORTING REGION 13									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	2.	0.	2.	0.	7.	5.	0.	0.	0.
3	4.	35.	7.	0.	5.	2.	1.	0.	0.	4.
4	155.	145.	51.	97.	163.	101.	93.	68.	104.	41.
5	134.	228.	27.	58.	82.	15.	5.	8.	0.	0.
6	2.	1.	2.	8.	23.	0.	0.	0.	0.	1.
7	46.	56.	16.	46.	43.	63.	69.	80.	88.	131.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
10	26.	2.	0.	0.	5.	0.	0.	0.	0.	0.
11	12.	6.	10.	23.	41.	25.	7.	2.	3.	2.
12	787.	333.	0.	0.	657.	1209.	1637.	971.	596.	1855.
14	186.	139.	100.	133.	144.	82.	95.	78.	86.	98.
15	22.	5.	58.	5.	45.	30.	12.	47.	11.	18.
T	1380.	957.	274.	377.	1211.	1541.	1928.	1257.	891.	2152.

UTTAR PRADESH

I	EXPORTING REGION 6									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	28.	0.	0.	9.	12.	10.	7.	7.	0.
2	32.	3.	6.	2.	15.	19.	29.	7.	5.	2.
3	45.	40.	20.	18.	26.	37.	48.	27.	22.	41.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	140.	121.	662.	302.	47.	599.	61.	58.	3.	113.
7	4.	21.	19.	10.	13.	42.	16.	24.	9.	28.
8	33.	27.	25.	38.	54.	41.	22.	142.	2.	11.
9	3.	5.	13.	7.	6.	19.	20.	27.	46.	27.
10	70.	17.	44.	60.	144.	86.	40.	26.	5.	0.
11	0.	7.	5.	8.	0.	0.	2.	4.	6.	0.
12	103.	42.	354.	46.	15.	91.	140.	283.	21.	84.
13	2.	0.	0.	0.	0.	0.	0.	2.	0.	1.
14	9.	43.	0.	0.	0.	0.	0.	2.	0.	1.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	445.	359.	1153.	495.	332.	950.	392.	614.	130.	321.

(65)

Table 29 : Oil - Others

	EXPORTING REGION 6					UTTAR PRADESH				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	465.	655.	365.	519.	220.	337.	93.	391.	825.	689.
2	1056.	948.	870.	930.	399.	1220.	1042.	681.	806.	1247.
3	3288.	4632.	4274.	3769.	2289.	3831.	2831.	3283.	2998.	3119.
4	208.	605.	871.	702.	308.	198.	422.	186.	270.	581.
5	2134.	2087.	3171.	1999.	1591.	3180.	1272.	1292.	2085.	2317.
7	127.	120.	180.	212.	51.	116.	61.	83.	64.	58.
8	260.	429.	346.	305.	352.	1244.	1027.	1070.	981.	169.
9	55.	41.	68.	64.	39.	117.	51.	55.	84.	83.
10	253.	448.	464.	621.	347.	634.	505.	574.	171.	166.
11	78.	98.	261.	375.	286.	405.	216.	341.	309.	397.
12	37.	378.	613.	149.	153.	885.	333.	120.	114.	296.
13	0.	0.	1.	1.	3.	5.	0.	2.	2.	1.
14	97.	18.	17.	52.	11.	9.	13.	8.	3.	5.
15	1.	11.	1.	9.	6.	6.	0.	5.	7.	0.
T	8064.	10477.	11510.	9713.	6063.	12193.	7872.	8096.	8725.	9134.

	EXPORTING REGION 7					CENTRAL REGION				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	57.	0.	0.	2.	0.	0.	0.	0.	0.
2	55.	118.	54.	165.	148.	133.	39.	49.	97.	108.
3	51.	15.	38.	366.	276.	344.	61.	82.	74.	64.
4	46.	36.	79.	143.	102.	128.	161.	69.	34.	123.
5	212.	189.	31.	62.	61.	487.	179.	162.	166.	111.
6	405.	427.	305.	527.	493.	714.	350.	870.	949.	986.
8	124.	45.	14.	49.	79.	30.	76.	174.	57.	61.
9	33.	68.	121.	81.	43.	111.	166.	41.	86.	30.
10	374.	250.	127.	188.	304.	48.	109.	489.	490.	381.
11	72.	185.	221.	273.	158.	193.	95.	79.	76.	200.
12	1964.	3115.	2452.	1338.	1813.	6138.	3999.	2343.	1592.	1795.
13	7.	14.	0.	20.	0.	17.	5.	1.	4.	2.
14	2.	1.	29.	152.	31.	28.	37.	75.	82.	38.
15	0.	0.	0.	11.	0.	0.	0.	0.	0.	0.
T	3350.	4525.	3476.	3380.	3516.	8378.	5282.	4440.	3712.	3904.

	EXPORTING REGION 9					RAJASTHAN				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	17.	21.	0.	5.	34.	31.	4.	1.	55.	5.
2	50.	81.	6.	42.	97.	39.	30.	19.	67.	29.
3	23.	95.	103.	6.	80.	271.	58.	127.	38.	33.
4	0.	14.	2.	0.	0.	0.	5.	0.	0.	5.
5	69.	62.	28.	0.	9.	84.	12.	10.	19.	41.
6	295.	195.	21.	88.	79.	284.	94.	66.	86.	84.
7	35.	23.	16.	87.	7.	27.	9.	24.	6.	12.
8	72.	39.	30.	71.	43.	21.	54.	137.	24.	90.
10	110.	220.	15.	138.	62.	246.	147.	242.	70.	151.
11	67.	40.	197.	87.	60.	21.	54.	22.	41.	14.
12	368.	560.	168.	220.	453.	1255.	876.	925.	779.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	4.	5.	0.	0.	0.
15	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	1112.	1355.	591.	748.	928.	2289.	1353.	1577.	1189.	470.

(continued)

Table 29 : (continued)

I	EXPORTING REGION 13				HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	
2	9.	2.	0.	14.	2.	82.	0.	0.	0.	0.	
3	1.	0.	0.	3.	10.	19.	0.	0.	4.	0.	
4	3.	2.	8.	0.	4.	0.	0.	0.	0.	0.	
5	58.	17.	3.	0.	13.	12.	7.	4.	0.	17.	
6	6.	3.	0.	17.	8.	83.	0.	2.	40.	2.	
7	9.	17.	8.	51.	33.	65.	22.	5.	14.	9.	
8	7.	4.	18.	8.	0.	2.	2.	2.	4.	4.	
9	0.	0.	3.	0.	0.	1.	0.	0.	0.	0.	
10	51.	17.	5.	2.	62.	23.	5.	4.	0.	5.	
11	249.	263.	64.	303.	227.	320.	127.	69.	170.	54.	
12	140.	505.	19.	49.	616.	1127.	372.	305.	658.	241.	
14	23.	114.	108.	108.	71.	117.	41.	52.	1.	19.	
15	0.	2.	0.	3.	0.	0.	3.	4.	0.	0.	
T	560.	951.	241.	564.	1051.	1856.	584.	451.	893.	346.	

I	EXPORTING REGION 14				SOUTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	13.	0.	1.	0.	0.	0.	
2	6.	23.	2.	60.	24.	38.	0.	0.	21.	5.	
3	64.	18.	21.	83.	107.	35.	5.	3.	23.	3.	
4	9.	40.	64.	62.	3.	6.	44.	21.	24.	24.	
5	28.	8.	13.	19.	42.	15.	3.	6.	25.	17.	
6	19.	43.	0.	24.	19.	186.	18.	128.	19.	40.	
7	6.	15.	5.	49.	31.	70.	69.	44.	102.	19.	
8	13.	11.	63.	134.	62.	20.	121.	12.	109.	40.	
9	0.	0.	0.	0.	3.	10.	0.	0.	0.	0.	
10	81.	68.	33.	7.	15.	40.	0.	2.	23.	12.	
11	27.	93.	25.	50.	44.	25.	39.	28.	47.	42.	
12	0.	173.	0.	7.	16.	156.	35.	43.	95.	108.	
13	40.	18.	66.	40.	124.	232.	118.	157.	185.	154.	
15	141.	54.	97.	169.	94.	50.	127.	22.	16.	68.	
T	441.	569.	395.	710.	602.	888.	584.	470.	694.	538.	

I	EXPORTING REGION 15				MADRAS						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	
3	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	2.	3.	0.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	4.	7.	0.	
7	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	5.	0.	0.	0.	0.	0.	0.	0.	
9	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	5.	17.	10.	2.	0.	0.	0.	2.	0.	0.	
11	3.	0.	0.	0.	0.	0.	0.	0.	20.	0.	
12	0.	0.	0.	0.	0.	18.	0.	0.	0.	0.	
13	5.	45.	0.	38.	0.	2.	0.	11.	5.	16.	
14	329.	375.	295.	223.	99.	102.	71.	55.	36.	16.	
T	344.	439.	315.	270.	99.	127.	75.	74.	69.	37.	

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Table 30 : Hemp (Indian) and Other Fibres

	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
2	21.	127.	362.	127.	4.	50.	47.	94.	87.	484.
3	5.	16.	40.	6.	2.	19.	70.	4.	15.	24.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	4010.	4237.	2032.	1945.	1872.	3238.	692.	1526.	1417.	1499.
7	50.	45.	6.	24.	18.	13.	11.	7.	28.	10.
8	302.	203.	236.	208.	128.	109.	186.	151.	204.	180.
9	30.	100.	121.	117.	144.	85.	132.	129.	133.	122.
10	6.	8.	91.	102.	87.	31.	131.	111.	99.	60.
11	6.	42.	22.	7.	2.	10.	1.	14.	0.	1.
12	1.	13.	13.	7.	26.	21.	37.	8.	4.	2.
13	0.	0.	4.	0.	0.	0.	0.	0.	0.	15.
14	7.	8.	48.	2.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	4.	0.	0.	0.	0.	0.	0.
T	4443.	4803.	2980.	2555.	2287.	3582.	1310.	2048.	1992.	2400.

	EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1380.	1248.	1115.	46.	177.	15.	32.	13.	66.	56.
3	29.	12.	2.	0.	8.	0.	0.	12.	0.	1.
5	226.	121.	377.	153.	224.	36.	244.	240.	110.	137.
6	0.	3.	0.	0.	7.	5.	10.	0.	0.	0.
7	2.	16.	0.	0.	10.	2.	19.	3.	1.	0.
8	0.	0.	6.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	294.	262.	535.	167.	301.	215.	262.	106.	68.	247.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	1933.	1664.	2038.	369.	730.	276.	569.	376.	247.	444.

	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	85.	58.	29.	0.	7.	0.	2.	0.	0.	3.
3	0.	0.	0.	0.	7.	0.	0.	0.	0.	2.
4	3.	0.	0.	0.	10.	0.	0.	0.	0.	0.
5	403.	309.	358.	715.	414.	414.	659.	314.	316.	450.
6	12.	40.	29.	80.	245.	89.	280.	102.	15.	23.
8	1.	1.	17.	8.	6.	0.	8.	10.	4.	2.
9	135.	9.	43.	18.	13.	2.	11.	17.	11.	5.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	65.	42.	31.	11.	133.	55.	57.	85.	32.	35.
12	6.	47.	18.	12.	2.	24.	90.	7.	0.	0.
13	0.	0.	0.	2.	0.	0.	0.	0.	1.	1.
14	99.	116.	149.	404.	404.	178.	226.	85.	124.	156.
15	0.	0.	0.	0.	9.	0.	0.	0.	0.	0.
T	815.	626.	676.	1256.	1256.	764.	1336.	625.	507.	681.

(continued)

Table 10 : (continued)

I	EXPORTING REGION 12				BOMBAY						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	7.	5.	0.	3.	0.	0.	0.	0.	
6	2.	4.	6.	1.	0.	1.	0.	11.	1.	0.	
7	55.	19.	28.	20.	15.	16.	13.	8.	6.	2.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	11.	4.	16.	11.	14.	13.	10.	16.	15.	9.	
10	0.	0.	0.	0.	0.	4.	0.	0.	0.	0.	
11	318.	377.	385.	396.	371.	356.	262.	323.	342.	363.	
13	8.	7.	2.	0.	0.	2.	0.	0.	0.	0.	
14	0.	2.	31.	59.	46.	0.	0.	0.	3.	0.	
15	0.	0.	50.	0.	0.	0.	0.	0.	0.	0.	
T	397.	416.	531.	495.	450.	399.	287.	361.	369.	377.	

I	EXPORTING REGION 3				BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	
2	359.	345.	504.	9.	65.	181.	42.	35.	70.	159.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	101.	151.	42.	8.	46.	21.	5.	5.	24.	37.	
6	31.	121.	65.	10.	168.	165.	177.	71.	29.	86.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	5.	0.	0.	0.	0.	4.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	
14	7.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	500.	619.	613.	34.	280.	368.	226.	112.	132.	285.	

I	EXPORTING REGION 15				MADRAS						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	1.	2.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	3.	2.	0.	0.	0.	0.	0.	0.	0.	0.	
14	93.	732.	26.	149.	52.	8.	12.	0.	0.	0.	
T	97.	736.	29.	153.	53.	8.	12.	1.	1.	0.	

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Table 31 : Raw Wool

I	EXPORTING REGION 9				RAJASTHAN						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	115.	45.	23.	37.	72.	101.	55.	112.	113.	37.	
7	1.	10.	1.	0.	0.	0.	9.	1.	2.	0.	
8	266.	159.	164.	130.	151.	128.	156.	130.	120.	96.	
10	20.	34.	114.	89.	144.	135.	108.	79.	28.	25.	
11	583.	53.	327.	296.	224.	179.	51.	48.	64.	18.	
12	744.	777.	1862.	1120.	1285.	1967.	1877.	1979.	1426.	1306.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	4.	5.	5.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	1745.	1086.	2499.	1674.	1879.	2513.	2258.	2350.	1756.	1484.	

I	EXPORTING REGION 13				HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	20.	29.	34.	39.	15.	52.	11.	25.	25.	32.	
7	2.	4.	0.	4.	2.	0.	3.	6.	3.	2.	
8	35.	29.	34.	27.	21.	55.	77.	64.	50.	87.	
9	0.	1.	0.	0.	0.	0.	2.	1.	3.	0.	
10	20.	0.	0.	1.	0.	0.	0.	1.	3.	0.	
11	0.	0.	4.	0.	2.	2.	2.	0.	5.	11.	
12	243.	26.	80.	40.	58.	68.	47.	41.	32.	27.	
14	54.	61.	65.	15.	41.	56.	54.	46.	16.	8.	
15	4.	0.	0.	0.	0.	0.	0.	3.	0.	12.	
T	381.	153.	221.	129.	141.	237.	200.	190.	142.	183.	

I	EXPORTING REGION 5				CALCUTTA						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	6.	0.	0.	0.	0.	4.	0.	0.	
2	51.	0.	3.	0.	0.	0.	0.	1.	0.	1.	
3	1.	2.	11.	0.	2.	3.	5.	3.	2.	3.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	136.	190.	80.	213.	115.	147.	72.	226.	131.	117.	
7	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	
8	56.	114.	65.	167.	38.	178.	88.	214.	146.	88.	
9	2.	0.	0.	0.	0.	0.	0.	0.	0.	1.	
10	0.	1.	4.	1.	0.	3.	1.	14.	8.	27.	
11	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.	
12	1.	0.	16.	2.	0.	0.	0.	1.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	250.	311.	192.	387.	159.	332.	170.	468.	291.	241.	

(continued)

Table 11 : (continued)

I	EXPORTING REGION 2				WEST BENGAL						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	2.	3.	5.	1.	1.	1.	1.	1.	1.	2.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	375.	197.	117.	0.	127.	296.	166.	108.	80.	18.	
6	99.	43.	24.	11.	21.	13.	6.	18.	6.	9.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	169.	82.	60.	104.	10.	36.	38.	48.	30.	38.	
9	1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	
10	0.	0.	0.	2.	0.	0.	3.	1.	4.	1.	
11	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	
12	41.	24.	11.	5.	0.	17.	1.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	688.	351.	218.	125.	161.	365.	218.	179.	124.	73.	

I	EXPORTING REGION 14				SOUTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	9.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	6.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	
6	3.	3.	2.	13.	22.	19.	35.	52.	47.	90.	
7	0.	0.	0.	0.	5.	0.	0.	0.	0.	0.	
8	337.	56.	54.	128.	136.	139.	130.	101.	66.	102.	
9	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	9.	0.	4.	6.	17.	0.	0.	2.	6.	1.	
11	3.	2.	15.	38.	4.	9.	4.	11.	40.	239.	
12	43.	18.	41.	32.	32.	31.	21.	44.	29.	61.	
13	4.	2.	0.	4.	3.	2.	2.	2.	4.	5.	
15	107.	52.	16.	0.	15.	18.	20.	17.	3.	33.	
T	510.	138.	153.	227.	239.	220.	216.	233.	199.	533.	

I	EXPORTING REGION 10				DELHI						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	2.	5.	
3	0.	5.	4.	0.	1.	0.	2.	1.	5.	10.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	1.	0.	0.	6.	7.	
6	5.	6.	8.	34.	9.	9.	4.	9.	34.	22.	
7	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	
8	7.	2.	0.	22.	1.	0.	1.	2.	22.	3.	
9	41.	14.	27.	17.	10.	44.	15.	14.	24.	24.	
11	28.	4.	51.	208.	238.	39.	43.	44.	13.	92.	
12	1.	9.	141.	145.	273.	817.	426.	491.	260.	319.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	
14	0.	0.	0.	2.	0.	0.	0.	0.	1.	0.	
15	0.	0.	0.	0.	0.	0.	0.	2.	0.	9.	
T	86.	43.	235.	433.	535.	914.	495.	568.	370.	497.	

(75)

Table 32 : Raw Cotton (Lint)

	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	145.	260.	407.	410.	255.	212.	202.	225.	105.	140.
3	122.	185.	64.	206.	50.	61.	26.	66.	171.	140.
4	182.	33.	321.	258.	85.	30.	45.	176.	327.	155.
5	892.	2249.	1683.	1832.	885.	1337.	665.	1670.	1497.	1681.
6	5407.	5828.	4589.	3782.	3470.	1621.	3612.	4794.	3814.	3045.
8	131.	194.	293.	152.	30.	13.	17.	44.	71.	62.
9	838.	945.	504.	674.	617.	869.	511.	448.	212.	246.
10	932.	712.	670.	113.	36.	202.	16.	694.	548.	145.
11	2759.	4982.	3274.	3015.	2725.	3010.	4580.	3288.	4337.	4009.
12	7877.	16144.	17194.	20627.	19689.	13630.	18786.	9002.	6078.	2813.
13	4.	0.	0.	25.	368.	426.	464.	284.	126.	95.
14	3328.	2185.	2544.	4529.	3486.	3989.	6907.	8623.	9496.	3224.
15	0.	0.	4.	163.	48.	70.	592.	252.	22.	290.
T	22623.	33724.	31555.	35791.	31749.	25477.	36428.	29572.	26810.	16050.

	EXPORTING REGION 8				NORTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	9.	39.	72.	49.	98.	201.	202.	161.	149.	115.
3	75.	98.	149.	145.	67.	123.	69.	25.	84.	17.
4	0.	0.	62.	140.	133.	65.	4.	21.	85.	113.
5	407.	623.	1079.	1477.	662.	2079.	1176.	676.	1529.	714.
6	3556.	4237.	5053.	7051.	8491.	5548.	7667.	4738.	5440.	3823.
7	441.	436.	607.	733.	106.	1415.	704.	721.	414.	916.
9	237.	536.	378.	451.	355.	415.	493.	241.	360.	435.
10	1168.	1914.	580.	1192.	1026.	603.	752.	33.	64.	93.
11	275.	282.	414.	703.	386.	1240.	1353.	219.	495.	408.
12	7784.	6479.	12137.	7783.	6606.	9546.	7701.	3544.	8032.	5687.
13	0.	0.	0.	0.	0.	0.	11.	0.	0.	13.
14	9.	0.	0.	0.	0.	3082.	3158.	1399.	1264.	1805.
15	0.	0.	0.	0.	0.	378.	416.	192.	251.	475.
T	13964.	14647.	20535.	19727.	17935.	24701.	23712.	11973.	18173.	14620.

	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	154.	56.	18.	14.	4.	67.	51.	45.	64.	215.
3	51.	26.	4.	2.	3.	0.	6.	8.	107.	77.
4	4.	94.	84.	139.	129.	51.	2.	153.	140.	213.
5	178.	85.	46.	27.	65.	257.	133.	188.	475.	467.
6	4624.	2369.	2650.	3045.	3554.	3358.	1668.	2420.	3006.	2910.
7	2040.	785.	921.	1915.	2185.	2278.	3173.	2935.	3305.	3454.
8	27.	14.	32.	50.	0.	106.	47.	32.	158.	193.
9	641.	294.	396.	304.	640.	670.	807.	961.	801.	1269.
10	1051.	428.	731.	445.	485.	1934.	616.	3002.	2346.	596.
12	14725.	13063.	23158.	34769.	41595.	29126.	24837.	23264.	35554.	14040.
13	84.	22.	29.	7.	45.	46.	118.	370.	0.	263.
14	1783.	1688.	2083.	2677.	2587.	2362.	2486.	885.	2711.	3069.
15	249.	676.	260.	422.	223.	451.	411.	331.	285.	240.
T	25618.	19605.	30419.	43821.	51522.	40709.	34361.	34602.	48959.	27011.

(continued)

Table 32 : (continued)

	EXPORTING REGION 13									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	4.	14.	0.	7.	4.	4.	0.	4.	4.
3	0.	0.	0.	0.	0.	0.	0.	10.	87.	14.
4	175.	76.	71.	0.	0.	0.	0.	0.	0.	52.
5	105.	154.	100.	17.	4.	16.	35.	41.	34.	36.
6	465.	811.	148.	14.	81.	153.	62.	132.	183.	106.
7	850.	41.	20.	110.	71.	87.	43.	2.	16.	54.
8	0.	2.	7.	0.	0.	1.	19.	0.	0.	0.
9	4.	24.	3.	5.	0.	10.	0.	0.	0.	0.
10	33.	84.	0.	0.	3.	0.	0.	0.	10.	0.
11	1460.	1173.	692.	1027.	538.	845.	385.	590.	405.	418.
12	3963.	1579.	716.	262.	843.	1814.	2201.	2794.	2037.	1620.
14	2931.	1828.	3315.	1999.	3111.	2680.	2647.	2777.	1959.	2800.
15	691.	1483.	1375.	709.	1021.	921.	929.	662.	873.	692.
T	10681.	7265.	6466.	4147.	5683.	6536.	6328.	7012.	5612.	5801.

	EXPORTING REGION 9									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	12.	3.	0.	0.	34.	53.	0.	7.	1.	2.
3	0.	0.	4.	2.	4.	11.	0.	6.	0.	2.
4	0.	0.	0.	0.	0.	19.	0.	0.	0.	9.
5	31.	8.	41.	63.	83.	86.	196.	141.	106.	38.
6	384.	143.	253.	510.	447.	450.	522.	564.	304.	419.
7	278.	94.	139.	169.	89.	195.	357.	426.	325.	571.
8	69.	12.	16.	0.	39.	95.	59.	58.	35.	51.
10	205.	73.	154.	271.	124.	181.	234.	180.	39.	45.
11	50.	65.	29.	399.	60.	124.	356.	296.	89.	289.
12	2271.	784.	3720.	3291.	2011.	2769.	3211.	4278.	2637.	2866.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	3.	5.	0.	249.	121.	514.	132.	277.	141.	244.
15	0.	0.	0.	0.	0.	58.	219.	100.	25.	263.
T	3306.	1189.	4360.	4958.	3017.	4561.	5288.	6339.	3709.	4804.

	EXPORTING REGION 1									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	37.	8.	12.	5.	0.
2	0.	5.	0.	0.	0.	1.	15.	0.	2.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	251.	172.	126.	290.	484.	354.	391.	633.	188.	271.
6	0.	0.	4.	0.	0.	0.	3.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	251.	177.	131.	290.	484.	394.	419.	646.	197.	279.

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Table 33 : Raw Jute

	EXPORTING REGION 3					BIHAR				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	3.	1.	0.	0.	0.	0.	13.	4.
2	11529.	6290.	6244.	7360.	5512.	12876.	15493.	15447.	32338.	45289.
4	38.	0.	12.	0.	5.	30908.	0.	0.	0.	0.
5	17257.	35994.	31705.	6698.	11602.	516.	29910.	27323.	38551.	44739.
6	1320.	4493.	3336.	538.	379.	810.	853.	770.	520.	5264.
7	56.	4.	28.	33.	69.	0.	5.	0.	118.	183.
8	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	1.	0.	0.	0.	0.	4.	0.	1.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	6.	12.	39.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	111.	0.	89.	15.	3.	0.	0.	6.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	30204.	46783.	41443.	14633.	17660.	45139.	46279.	43581.	71542.	95487.

	EXPORTING REGION 1					ASSAM				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	937.	960.	885.	452.	179.	3988.	1942.	3697.	5632.	4811.
3	88.	110.	383.	444.	115.	7.	0.	92.	141.	7.
4	52.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	34557.	30682.	27097.	27709.	22104.	20504.	21243.	29356.	38994.	21335.
6	283.	485.	246.	38.	1.	54.	3.	130.	1.	377.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	17.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	35919.	32260.	28613.	28645.	22401.	24554.	23188.	33277.	44769.	26531.

	EXPORTING REGION 4					ORISSA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1483.	2782.	1734.	1467.	4238.	1838.	1864.	3031.	2031.	1793.
3	0.	0.	14.	27.	21.	0.	0.	0.	6.	0.
5	1229.	2802.	2115.	2542.	2339.	1025.	1175.	1302.	1778.	633.
6	0.	4.	0.	0.	0.	0.	0.	0.	2.	0.
7	218.	357.	271.	131.	408.	352.	205.	167.	143.	105.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	2.	0.	0.	0.	0.	0.	2.	2.
12	0.	0.	0.	46.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.
14	2582.	1281.	1357.	1870.	1966.	875.	685.	1233.	2911.	2263.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	5514.	7228.	5495.	6087.	8975.	4091.	3932.	5738.	6877.	4799.

(continued)

Table 31 : (continued)

I	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	6333.	5055.	5175.	2051.	4295.	1613.	2879.	4227.	2846.	1902.
3	0.	0.	4.	4.	0.	0.	2.	0.	0.	0.
4	19.	0.	1.	51.	71.	7.	1.	0.	0.	0.
5	4403.	3985.	4328.	961.	936.	876.	1341.	2195.	1049.	295.
6	3.	0.	0.	0.	0.	0.	0.	1.	0.	0.
7	151.	50.	52.	17.	10.	39.	284.	195.	40.	158.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	7.	8.	20.	0.	8.	7.	3.	83.	56.
12	6.	0.	0.	0.	3.	7.	2.	10.	8.	1.
13	0.	0.	0.	3.	0.	0.	2.	0.	3.	4.
15	0.	9.	6.	0.	0.	23.	0.	0.	0.	0.
T	10919.	9109.	9579.	3108.	5318.	2576.	4523.	6634.	4030.	2418.

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Table 34 : Coal and Coke**(In Ten Thousand Maunds)**

		EXPORTING REGION 3				BIHAR				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	15.	8.	8.	2.	0.	12.	2.	3.	1.	0.
1	5534.	5813.	5823.	4659.	5156.	4644.	4689.	4975.	6819.	6682.
2	459.	414.	546.	773.	937.	907.	809.	960.	1600.	1900.
4	3478.	5455.	5205.	3847.	4146.	2599.	3148.	2428.	2754.	2322.
5	6468.	5596.	5595.	4624.	5101.	7491.	7054.	6655.	7815.	7831.
6	609.	529.	470.	498.	999.	1073.	1500.	1312.	1865.	2410.
7	2986.	2365.	2602.	3164.	2977.	4786.	3573.	2771.	3525.	3555.
8	699.	795.	705.	657.	1318.	1533.	1820.	2104.	2010.	1530.
9	1185.	956.	1079.	1196.	1482.	1277.	1908.	1629.	1696.	1198.
10	1587.	1591.	2126.	1728.	2200.	2574.	2836.	3945.	3434.	2362.
11	348.	422.	461.	456.	355.	242.	260.	605.	617.	454.
12	5.	33.	57.	78.	77.	94.	181.	438.	323.	209.
13	1052.	1362.	1419.	1291.	1222.	1421.	1178.	2468.	1968.	1863.
14	126.	66.	99.	195.	168.	180.	207.	307.	242.	223.
15										
T	24557.	25412.	26202.	23174.	26144.	28841.	29173.	30607.	34675.	32545.

		EXPORTING REGION 2				BENGOAL				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	72.	7.	3.	6.	1.	29.	37.	25.	9.	17.
1	3604.	3568.	3432.	3311.	3241.	3628.	2869.	3482.	3335.	3382.
2	22.	36.	71.	1.	0.	1.	0.	1.	31.	57.
3	7896.	10528.	8938.	8553.	9448.	9038.	9309.	9715.	9540.	9010.
4	1839.	1645.	1514.	1906.	1674.	2092.	2139.	2364.	2867.	3718.
5	253.	279.	374.	420.	207.	92.	221.	442.	597.	761.
6	486.	581.	527.	882.	678.	635.	713.	938.	1065.	1254.
7	289.	262.	274.	457.	570.	577.	645.	785.	1093.	1286.
8	326.	333.	450.	458.	593.	563.	497.	443.	733.	619.
9	394.	429.	547.	691.	797.	1066.	910.	1482.	2745.	2300.
10	195.	239.	154.	157.	132.	11.	63.	232.	347.	414.
11	11.	20.	93.	101.	128.	17.	52.	192.	193.	139.
12	252.	358.	182.	172.	150.	185.	92.	89.	280.	507.
13	7.	6.	2.	0.	0.	4.	20.	33.	37.	25.
14										
15										
T	15653.	18296.	16568.	17124.	17626.	17943.	17576.	20229.	22879.	23497.

		EXPORTING REGION 7				CENTRAL REGION				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	1.	3.	0.	0.	0.	0.	10.
3	118.	220.	88.	119.	93.	72.	85.	59.	84.	110.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	26.	12.	3.	10.	50.	17.	4.	1.	1.	25.
6	0.	3.	4.	0.	2.	0.	2.	1.	3.	3.
7	-244.	119.	79.	117.	164.	89.	86.	93.	86.	131.
8	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
9	3539.	2305.	2430.	3401.	3639.	4345.	3872.	5324.	5311.	5316.
10	142.	81.	47.	159.	193.	86.	76.	198.	206.	187.
11	43.	59.	154.	139.	115.	269.	238.	399.	333.	429.
12	536.	807.	697.	516.	325.	388.	415.	566.	500.	502.
13	36.	27.	37.	34.	31.	30.	66.	136.	124.	217.
14										
15										
T	4689.	3639.	3542.	4500.	4619.	5300.	4847.	6781.	6652.	6934.

(continued)

Table 34 : (continued)

I	EXPORTING REGION 13				HYDERABAD					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	12.	0.	1.	7.	0.	0.	0.	0.	3.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	36.	28.	2.	64.	95.	56.	64.	73.	58.	68.
12	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
14	1360.	1409.	1430.	1061.	1360.	960.	916.	1847.	2486.	2231.
15	311.	295.	380.	278.	206.	241.	304.	385.	508.	582.
T	1707.	1745.	1814.	1405.	1670.	1258.	1285.	2306.	3054.	2887.

I	EXPORTING REGION 15				MADRAS					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	28.	0.	4.	5.	0.	0.	0.	0.	0.	5.
14	718.	463.	804.	842.	698.	873.	668.	712.	522.	562.
T	747.	463.	808.	848.	698.	873.	669.	712.	522.	569.

(82)

Table 35 : Manganese Ore**(In Thousand Maunds)**

	EXPORTING REGION 7				CENTRAL REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	126.	236.	66.	0.	5.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	
5	12.	0.	0.	21.	0.	123.	0.	0.	0.	317.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	4.	29.	0.	
11	0.	0.	1.	0.	0.	0.	0.	8.	0.	0.	
12	1286.	5239.	7220.	9010.	4674.	3235.	1361.	9476.	3759.	2255.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	13915.	11127.	14985.	13476.	11377.	10331.	8438.	12545.	5657.	6327.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	15216.	16494.	22443.	22574.	16053.	13696.	9800.	22036.	9447.	8904.	

	EXPORTING REGION 11				WESTERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	2.	0.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	1278.	2314.	3830.	4173.	3585.	3876.	5062.	8846.	5404.	3827.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	1278.	2314.	3830.	4173.	3586.	3880.	5065.	8846.	5405.	3827.	

	EXPORTING REGION 3				BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	413.	771.	814.	876.	888.	577.	907.	4237.	1900.	1044.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	293.	
5	250.	545.	2680.	5638.	2840.	1068.	1503.	798.	111.	3881.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	4.	3.	23.	0.	2.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	669.	1321.	3517.	6515.	3731.	1645.	2411.	5036.	2013.	5220.	

(continued)

Table 35 : (continued)

	EXPORTING REGION				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	1.	4.	0.	0.	0.	12.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	134.	36.	106.	134.	122.	125.	200.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	103.	430.	62.	210.	471.	483.	607.	325.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	0.	0.	103.	564.	99.	321.	605.	605.	732.	538.

(In Thousand Maunds)

	EXPORTING REGION 12				BOMBAY					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	2.	0.	0.	0.	0.	0.	0.	4.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	1.	0.	3.	1.	0.	4.	0.	0.
5	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	751.	1008.	1183.	1332.	1376.	1682.	1159.	779.	637.	954.
7	1491.	1674.	1637.	1821.	1852.	1861.	1708.	1706.	1664.	2093.
8	906.	1099.	999.	1077.	1065.	1119.	754.	340.	246.	320.
9	331.	332.	241.	212.	247.	297.	190.	234.	251.	279.
10	170.	175.	190.	159.	184.	265.	330.	206.	88.	351.
11	2290.	2345.	2470.	2729.	3258.	3639.	3129.	2897.	3154.	3075.
13	507.	269.	482.	415.	592.	726.	569.	385.	543.	618.
14	215.	8.	39.	18.	12.	8.	52.	4.	4.	0.
15	0.	0.	11.	0.	1.	23.	0.	0.	0.	1.
T	6668.	6915.	7259.	7767.	8593.	9626.	7895.	6560.	6591.	7701.

	EXPORTING REGION 2				WEST BENGAL					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	4.	0.	0.	12.	1.	5.	1.	0.
3	1575.	1921.	1821.	1702.	1839.	2319.	2527.	2426.	2514.	3113.
4	405.	584.	467.	529.	471.	242.	233.	311.	217.	293.
5	684.	829.	827.	994.	381.	275.	149.	237.	101.	25.
6	1792.	2123.	1538.	1598.	1795.	2388.	2421.	2896.	2650.	3122.
7	232.	296.	232.	219.	206.	89.	90.	121.	72.	108.
8	55.	8.	5.	5.	20.	2.	9.	12.	32.	4.
9	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.
10	10.	15.	4.	7.	2.	6.	10.	1.	62.	133.
11	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	42.	42.	77.	77.	54.	54.	65.	15.	4.	12.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	4801.	5824.	4980.	5138.	4774.	5391.	5511.	6029.	5658.	6814.

	EXPORTING REGION 15				MADRAS					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	11.	24.	8.	0.	0.	4.	6.	0.	5.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	6.	1.	8.	0.	0.	0.	1.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	3.	9.	1.	4.	2.	1.	0.	26.	0.	3.
12	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.
13	452.	623.	196.	182.	155.	354.	129.	167.	54.	17.
14	2967.	3123.	2781.	2487.	2585.	3030.	1831.	2119.	2695.	2899.
T	3435.	3787.	2989.	2684.	2743.	3390.	1968.	2316.	2756.	2920.

(continued)

Table 36 : (continued)

	EXPORTING REGION 5				CALCUTTA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	96.	38.	13.	6.	4.	5.	5.	5.	19.	22.
2	110.	141.	152.	191.	180.	267.	201.	242.	247.	344.
3	300.	267.	321.	412.	525.	472.	730.	918.	576.	687.
4	29.	24.	25.	112.	101.	115.	163.	169.	126.	147.
6	218.	202.	343.	390.	297.	299.	431.	668.	475.	528.
7	24.	43.	33.	101.	87.	187.	162.	112.	96.	52.
8	33.	3.	1.	1.	1.	3.	13.	0.	0.	1.
9	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	29.	24.	12.	9.	14.	9.	5.	1.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	2.	2.	0.	0.	0.	0.	0.	0.
14	0.	0.	4.	2.	2.	0.	4.	3.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	847.	747.	912.	1231.	1216.	1361.	1718.	2123.	1542.	1784.

	EXPORTING REGION 1				ASSAM					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
2	243.	158.	20.	62.	65.	122.	201.	53.	22.	18.
3	117.	50.	11.	50.	17.	69.	195.	56.	80.	32.
4	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.
5	1.	0.	0.	19.	1.	3.	188.	0.	23.	0.
6	9.	10.	9.	5.	1.	4.	17.	12.	44.	13.
7	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	100.
10	1.	0.	0.	0.	0.	0.	5.	0.	0.	0.
11	5.	2.	1.	0.	0.	1.	5.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	3.	1.	1.	3.	2.	1.	1.	2.	0.	1.
15	2.	1.	0.	0.	0.	0.	0.	0.	0.	0.
T	386.	224.	45.	145.	88.	203.	614.	126.	174.	166.

	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
2	2.	0.	0.	0.	0.	0.	0.	1.	0.	0.
3	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.
4	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	8.	22.	32.	41.	17.	164.	612.	263.	492.	891.
7	7.	26.	14.	10.	54.	303.	586.	821.	952.	1098.
8	13.	42.	48.	86.	108.	436.	1215.	630.	351.	819.
9	112.	187.	171.	259.	365.	550.	690.	928.	832.	994.
10	1.	2.	12.	2.	16.	100.	702.	1895.	803.	748.
12	4.	2.	6.	4.	8.	12.	6.	20.	21.	14.
13	40.	106.	118.	225.	237.	310.	548.	611.	777.	937.
14	124.	246.	181.	269.	150.	13.	5.	7.	8.	1.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	315.	636.	585.	902.	959.	1895.	4366.	5179.	4240.	5507.

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Table 37 : Cement**(In Thousand Maunds)**

		EXPORTING REGION 3			BIHAR					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	208.	236.	119.	17.	93.	425.	205.	72.	721.	566.
2	4468.	4096.	4560.	4747.	5763.	5005.	6326.	7601.	9657.	10712.
4	1021.	1054.	448.	723.	887.	905.	1635.	1114.	1044.	2126.
5	3180.	2654.	2510.	2947.	4141.	3836.	4371.	2274.	3188.	4761.
6	1242.	4157.	4486.	3743.	1820.	1404.	243.	699.	378.	269.
7	38.	14.	12.	12.	10.	27.	24.	5.	10.	11.
8	1.	431.	11.	261.	3.	12.	4.	3383.	4.	9.
9	0.	1.	0.	0.	0.	0.	7.	0.	0.	11.
10	97.	591.	906.	771.	89.	15.	19.	0.	0.	0.
11	0.	0.	4.	386.	0.	0.	0.	0.	10.	8.
12	0.	0.	0.	2.	1.	0.	0.	1.	6.	0.
13	0.	0.	3.	0.	0.	0.	0.	0.	1.	1.
14	0.	10.	4.	1.	8.	0.	4.	0.	1.	2.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	10258.	13248.	13070.	13616.	12819.	11632.	12842.	15154.	15024.	18481.

		EXPORTING REGION 9			RAJASTHAN					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
2	0.	0.	0.	0.	0.	26.	0.	0.	0.	0.
3	0.	0.	0.	6.	0.	230.	63.	4.	1.	9.
4	0.	0.	0.	0.	0.	4.	4.	0.	0.	0.
5	0.	0.	0.	0.	0.	25.	0.	0.	0.	0.
6	1112.	964.	1067.	1182.	3704.	3822.	2328.	6029.	6286.	7586.
7	347.	427.	421.	371.	745.	845.	715.	949.	1471.	2369.
8	261.	1169.	2488.	7562.	1578.	1097.	1438.	3522.	3714.	5261.
10	841.	687.	1382.	955.	2976.	2469.	3977.	8006.	3802.	4439.
11	2381.	1865.	687.	139.	748.	725.	28.	23.	27.	605.
12	42.	29.	96.	4.	262.	93.	22.	1.	3.	374.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	62.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	4986.	5143.	6144.	10283.	10014.	9341.	8581.	18536.	15308.	20647.

		EXPORTING REGION 7			CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	23.	0.	0.	0.	24.	1.	0.	0.	0.
2	98.	187.	72.	46.	14.	67.	6.	0.	7.	0.
3	226.	235.	156.	201.	161.	366.	15.	4.	4.	20.
4	8.	27.	27.	11.	33.	73.	1.	3.	3.	1.
5	94.	51.	132.	82.	93.	477.	14.	1.	0.	0.
6	3605.	2865.	2359.	2880.	2651.	3217.	3176.	2489.	2851.	5328.
8	138.	251.	399.	172.	32.	80.	13.	8.	2.	7.
9	4.	6.	14.	15.	18.	67.	26.	35.	26.	34.
10	239.	324.	320.	352.	206.	120.	71.	21.	61.	49.
11	2210.	2802.	2572.	1734.	925.	291.	15.	52.	81.	253.
12	592.	84.	69.	36.	191.	46.	11.	23.	40.	972.
13	1.	0.	9.	8.	11.	2.	1.	15.	10.	11.
14	69.	260.	88.	8.	125.	39.	12.	1.	1.	3.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	7289.	7122.	6224.	5549.	4465.	4876.	3368.	2657.	3091.	6685.

(continued)

Table 37 : (continued)

I	EXPORTING REGION 13						HYDERABAD				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	3.	0.	5.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	
7	0.	0.	0.	15.	10.	6.	371.	1521.	1391.	1818.	
8	0.	0.	0.	0.	0.	0.	0.	1.	2.	1.	
9	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	
10	0.	0.	0.	0.	0.	1.	0.	0.	3.	4.	
11	1874.	1616.	1649.	3053.	3422.	4786.	4554.	3995.	5258.	7095.	
12	248.	362.	116.	375.	437.	646.	406.	78.	609.	1627.	
14	498.	445.	456.	443.	803.	1094.	1088.	1001.	938.	1333.	
15	1.	0.	0.	0.	0.	0.	0.	0.	98.	563.	
T	2623.	2424.	2223.	3886.	4673.	6536.	6425.	6598.	8309.	12445.	

I	EXPORTING REGION 14						SOUTHERN REGION				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	5.	13.	0.	0.	0.	0.	
2	0.	16.	0.	43.	34.	25.	0.	0.	0.	1.	
3	0.	0.	1.	153.	159.	30.	1.	15.	0.	0.	
4	116.	204.	34.	214.	160.	164.	28.	20.	665.	739.	
5	0.	0.	137.	489.	407.	216.	0.	0.	0.	0.	
6	0.	0.	0.	32.	289.	76.	5.	17.	1.	0.	
7	1.	0.	0.	41.	118.	15.	6.	37.	477.	785.	
8	0.	0.	0.	126.	29.	0.	0.	0.	0.	0.	
9	0.	0.	0.	1.	6.	0.	0.	0.	6.	3.	
10	0.	0.	0.	0.	10.	0.	0.	0.	0.	0.	
11	180.	400.	484.	493.	320.	157.	37.	104.	19.	59.	
12	0.	3.	0.	162.	44.	1.	8.	3.	0.	194.	
13	274.	218.	287.	382.	282.	128.	53.	440.	290.	620.	
15	1609.	1752.	1593.	1539.	1521.	2316.	2472.	2727.	2527.	3391.	
T	2183.	2597.	2589.	3681.	3390.	3146.	2615.	3376.	3988.	5798.	

I	EXPORTING REGION 4						ORISSA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	6.	1.	0.	0.	2.	0.	
2	24.	52.	231.	332.	360.	199.	333.	448.	586.	874.	
3	16.	13.	184.	208.	211.	519.	462.	646.	253.	485.	
5	0.	461.	797.	442.	640.	358.	362.	605.	471.	1302.	
6	1.	0.	1.	74.	1.	0.	0.	0.	0.	0.	
7	1.	3.	107.	104.	134.	129.	281.	869.	987.	921.	
8	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	2.	9.	15.	1.	5.	12.	2.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	44.	534.	1330.	1178.	1355.	1213.	1452.	2572.	2302.	3584.	

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Table 36 : Glass

I	EXPORTING REGION 6					UTTAR PRADESH				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	1.	0.	3.	0.	0.	2.	0.	2.	0.	3.
2	63.	21.	12.	12.	9.	10.	8.	15.	13.	22.
3	739.	697.	475.	452.	328.	411.	423.	246.	192.	298.
4	26.	28.	27.	19.	7.	6.	8.	8.	9.	14.
5	292.	465.	223.	137.	113.	142.	57.	73.	47.	51.
7	370.	303.	272.	275.	280.	357.	377.	638.	581.	471.
8	529.	367.	397.	538.	670.	1133.	1080.	1070.	1249.	1055.
9	73.	102.	103.	187.	220.	303.	376.	590.	452.	406.
10	878.	614.	685.	906.	990.	1036.	902.	874.	801.	698.
11	410.	329.	401.	542.	630.	610.	803.	1049.	988.	805.
12	214.	177.	153.	214.	190.	146.	140.	497.	421.	264.
13	131.	101.	94.	131.	120.	139.	66.	67.	65.	49.
14	323.	325.	275.	352.	350.	386.	483.	487.	484.	362.
15	307.	287.	188.	188.	273.	294.	225.	284.	285.	243.
T	4362.	3821.	3316.	3959.	4185.	4982.	4957.	5905.	5595.	4747.

I	EXPORTING REGION 5					CALCUTTA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	131.	201.	82.	47.	42.	132.	186.	119.	98.	79.
2	125.	86.	75.	108.	66.	154.	45.	47.	68.	111.
3	200.	235.	289.	396.	322.	423.	385.	332.	244.	301.
4	37.	48.	61.	65.	94.	58.	74.	79.	58.	71.
6	116.	113.	103.	141.	160.	118.	99.	116.	108.	92.
7	17.	20.	24.	43.	65.	41.	69.	77.	82.	55.
8	34.	62.	46.	84.	124.	34.	21.	56.	254.	66.
9	5.	1.	5.	17.	27.	27.	35.	26.	41.	42.
10	201.	110.	122.	200.	237.	154.	220.	164.	395.	161.
11	28.	42.	22.	28.	20.	54.	59.	46.	112.	98.
12	174.	155.	36.	104.	16.	167.	273.	588.	716.	271.
13	1.	0.	4.	22.	8.	53.	41.	13.	61.	34.
14	180.	309.	318.	449.	512.	645.	650.	654.	900.	558.
15	230.	305.	206.	241.	285.	0.	471.	595.	554.	381.
T	1486.	1693.	1400.	1950.	1984.	2063.	2633.	2917.	3697.	2325.

I	EXPORTING REGION 3					BIHAR				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	4.	2.	0.	0.	0.	0.	3.	1.	0.	0.
2	135.	166.	57.	49.	44.	110.	116.	73.	122.	46.
4	6.	11.	12.	18.	25.	32.	46.	29.	55.	37.
5	171.	152.	369.	556.	420.	450.	531.	395.	363.	468.
6	145.	174.	223.	166.	193.	147.	232.	182.	210.	149.
7	37.	28.	73.	150.	157.	206.	222.	344.	338.	265.
8	4.	1.	33.	15.	30.	16.	16.	51.	44.	87.
9	0.	0.	1.	3.	0.	1.	10.	17.	39.	38.
10	49.	98.	217.	221.	169.	92.	115.	369.	473.	464.
11	20.	3.	9.	47.	61.	37.	67.	237.	447.	370.
12	15.	2.	1.	10.	55.	38.	120.	649.	536.	284.
13	5.	0.	1.	5.	13.	54.	42.	37.	111.	169.
14	44.	111.	191.	305.	474.	543.	766.	730.	1030.	737.
15	60.	75.	161.	242.	189.	290.	431.	426.	496.	339.
T	697.	829.	1355.	1793.	1836.	2022.	2723.	3548.	4270.	3459.

(continued)

Table 38 : (continued)

I	EXPORTING REGION 2					BENGAL				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	3.	4.	0.	0.	0.	9.	30.	0.	4.	0.
3	89.	162.	89.	100.	105.	67.	168.	170.	107.	81.
4	8.	6.	5.	4.	14.	0.	5.	0.	3.	4.
5	13.	3.	10.	14.	9.	16.	6.	15.	9.	6.
6	66.	43.	31.	88.	71.	100.	233.	152.	203.	289.
7	26.	13.	6.	15.	18.	19.	38.	46.	95.	110.
8	17.	8.	2.	143.	177.	142.	165.	100.	627.	615.
9	2.	3.	2.	5.	11.	3.	7.	19.	69.	190.
10	8.	2.	14.	38.	155.	212.	439.	641.	435.	486.
11	3.	0.	4.	16.	95.	124.	143.	223.	102.	153.
12	30.	2.	6.	1.	225.	30.	88.	397.	370.	618.
13	41.	25.	1.	9.	12.	3.	7.	9.	11.	8.
14	37.	24.	42.	55.	126.	170.	161.	106.	194.	240.
15	173.	58.	62.	53.	169.	89.	114.	282.	390.	570.
T	523.	361.	280.	549.	1195.	989.	1611.	2169.	2626.	3374.

I	EXPORTING REGION 4					ORISSA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2.	3.	2.	10.	7.	5.	30.	5.	5.	17.
3	14.	10.	10.	12.	14.	4.	9.	11.	16.	18.
5	12.	14.	8.	67.	11.	15.	21.	18.	42.	71.
6	12.	19.	17.	10.	11.	7.	22.	13.	13.	49.
7	10.	22.	46.	22.	20.	16.	16.	51.	46.	35.
8	0.	1.	3.	0.	0.	0.	0.	36.	67.	333.
9	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.
10	0.	0.	0.	7.	11.	1.	8.	16.	26.	49.
11	2.	3.	3.	4.	10.	0.	2.	4.	9.	25.
12	56.	17.	0.	51.	22.	5.	0.	16.	17.	12.
13	0.	0.	0.	42.	27.	8.	3.	2.	7.	27.
14	141.	141.	164.	279.	230.	105.	303.	344.	417.	512.
15	136.	95.	107.	152.	221.	64.	187.	219.	201.	249.
T	390.	331.	367.	660.	591.	235.	607.	739.	872.	1405.

I	EXPORTING REGION 12					BOMBAY				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	11.	1.	0.	0.	0.	1.	0.	0.	0.	3.
3	4.	11.	7.	4.	7.	14.	9.	2.	1.	0.
4	1.	0.	1.	0.	0.	0.	0.	1.	4.	0.
5	39.	64.	33.	13.	12.	13.	5.	5.	17.	7.
6	53.	130.	93.	51.	55.	55.	41.	32.	20.	11.
7	123.	185.	160.	99.	146.	106.	110.	146.	119.	68.
8	36.	26.	19.	25.	24.	18.	7.	5.	37.	27.
9	31.	20.	67.	34.	58.	36.	22.	25.	11.	18.
10	61.	265.	153.	157.	102.	58.	54.	129.	89.	30.
11	395.	672.	473.	0.	583.	434.	433.	447.	404.	586.
13	131.	173.	95.	87.	63.	87.	58.	49.	66.	55.
14	87.	134.	85.	114.	123.	179.	205.	305.	297.	298.
15	267.	293.	139.	131.	170.	202.	211.	314.	178.	197.
T	1244.	1979.	1329.	1238.	1349.	1209.	1162.	1467.	1249.	1305.

(86) **Table 39 : Iron and Steel** (In Thousand Maunds)

		EXPORTING REGION 3				BIHAR				
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	198.	124.	41.	20.	5.	25.	54.	16.	50.	144.
2	1854.	1964.	2035.	1512.	1523.	957.	1299.	776.	841.	1046.
4	289.	237.	255.	310.	303.	335.	418.	772.	915.	1532.
5	3798.	3761.	4415.	4028.	4671.	3235.	4096.	3184.	3718.	4985.
6	2044.	2032.	1918.	1856.	2278.	1764.	1854.	787.	1331.	1009.
7	580.	652.	530.	621.	495.	936.	776.	1271.	1189.	1323.
8	1596.	1324.	1302.	1412.	1097.	978.	881.	1306.	1989.	2458.
9	286.	301.	288.	225.	313.	162.	182.	253.	178.	496.
10	672.	551.	496.	516.	573.	409.	852.	720.	944.	947.
11	586.	800.	865.	811.	712.	793.	713.	1097.	936.	1333.
12	2305.	2179.	1724.	1891.	1835.	1426.	1780.	3928.	2907.	4994.
13	324.	487.	214.	219.	126.	341.	252.	259.	282.	306.
14	1881.	2479.	2035.	1310.	1862.	1962.	1810.	1358.	1324.	1989.
15	1161.	1288.	1375.	1077.	958.	1052.	913.	766.	721.	1389.
T	17582.	18184.	17498.	15814.	16758.	14381.	15885.	16499.	17333.	23957.

		EXPORTING REGION 2				BENGAL				
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	33.	58.	41.	21.	6.	15.	36.	15.	63.	88.
3	999.	973.	962.	1056.	982.	1583.	1243.	1000.	1287.	1780.
4	236.	265.	137.	115.	151.	245.	451.	294.	270.	631.
5	2832.	20501.	3102.	2911.	4738.	3387.	3977.	2656.	3540.	4125.
6	966.	1420.	1721.	1163.	1840.	1598.	1885.	806.	1180.	1496.
7	304.	380.	245.	259.	465.	439.	436.	934.	1198.	1462.
8	484.	559.	623.	862.	1153.	848.	839.	878.	1198.	1404.
9	88.	63.	54.	52.	166.	87.	261.	272.	356.	553.
10	516.	420.	397.	423.	676.	423.	919.	542.	850.	830.
11	180.	201.	206.	101.	470.	469.	386.	776.	966.	904.
12	305.	410.	260.	233.	602.	834.	560.	1288.	1509.	2254.
13	146.	220.	25.	23.	46.	262.	107.	207.	304.	208.
14	869.	1003.	1250.	501.	794.	1207.	1353.	1102.	1203.	2131.
15	422.	438.	389.	300.	338.	394.	282.	517.	402.	699.
T	8388.	26916.	9419.	8029.	12433.	11798.	12741.	11295.	14333.	18573.

		EXPORTING REGION 5				CALCUTTA				
I	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	841.	747.	834.	670.	531.	668.	706.	289.	346.	1162.
2	2188.	1664.	2098.	3289.	2273.	2525.	4750.	4337.	3295.	2847.
3	1714.	1342.	1159.	1572.	1379.	2431.	3824.	4145.	3693.	2016.
4	258.	169.	96.	128.	327.	793.	1253.	1136.	1585.	1285.
6	1866.	1147.	756.	705.	743.	967.	2145.	1034.	1501.	755.
7	243.	142.	116.	121.	237.	407.	892.	1536.	1531.	1052.
8	284.	236.	144.	401.	286.	266.	458.	555.	287.	291.
9	25.	24.	16.	26.	44.	30.	75.	95.	80.	259.
10	327.	350.	245.	315.	418.	343.	799.	531.	353.	341.
11	56.	79.	39.	47.	49.	163.	173.	255.	396.	373.
12	80.	45.	37.	81.	9.	84.	154.	473.	441.	436.
13	11.	8.	10.	12.	11.	51.	60.	138.	142.	189.
14	652.	782.	507.	325.	507.	701.	1111.	844.	1048.	1166.
15	330.	327.	167.	147.	284.	392.	360.	516.	641.	740.
T	8881.	7068.	6231.	7845.	7105.	9825.	16767.	15889.	15345.	12926.

(continued)

Table 39 : (continued)

I	EXPORTING REGION 12		BOMBAY							
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	8.	0.	0.	0.	0.	0.	16.	1.	0.	0.
2	8.	8.	11.	30.	24.	9.	2.	1.	6.	26.
3	14.	31.	14.	16.	13.	6.	14.	15.	5.	66.
4	10.	4.	1.	0.	12.	8.	6.	2.	86.	11.
5	20.	27.	20.	23.	28.	30.	31.	11.	35.	16.
6	168.	103.	252.	159.	190.	398.	435.	448.	768.	230.
7	524.	406.	413.	500.	452.	601.	1253.	1258.	1639.	987.
8	439.	86.	147.	264.	261.	268.	637.	394.	448.	239.
9	222.	140.	141.	121.	139.	202.	425.	759.	464.	345.
10	119.	46.	40.	56.	129.	156.	543.	869.	461.	273.
11	1760.	1719.	1610.	1448.	1603.	2219.	3074.	3700.	3681.	2604.
13	146.	127.	142.	205.	283.	186.	322.	635.	441.	286.
14	247.	245.	239.	215.	462.	436.	641.	646.	438.	352.
15	184.	130.	69.	132.	117.	136.	161.	188.	89.	131.
T	3874.	3080.	3107.	3177.	3719.	4661.	7567.	8935.	8567.	5572.

I	EXPORTING REGION 15		MADRAS							
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	10.	8.	0.	0.
2	1.	5.	0.	0.	0.	0.	0.	0.	2.	0.
3	0.	0.	1.	0.	0.	1.	0.	1.	0.	1.
4	20.	20.	4.	0.	0.	0.	0.	0.	0.	2.
5	2.	3.	1.	0.	0.	1.	2.	11.	8.	7.
6	0.	0.	1.	1.	2.	9.	41.	14.	8.	7.
7	0.	2.	1.	3.	6.	14.	39.	31.	20.	11.
8	0.	1.	2.	3.	0.	2.	39.	16.	7.	11.
9	0.	0.	0.	0.	0.	1.	6.	10.	0.	0.
10	0.	0.	0.	1.	0.	2.	17.	69.	25.	15.
11	27.	14.	18.	17.	28.	22.	32.	100.	67.	20.
12	0.	3.	1.	12.	5.	8.	12.	55.	65.	221.
13	77.	63.	14.	27.	26.	56.	125.	117.	112.	124.
14	2673.	2296.	2243.	1521.	1440.	2927.	3907.	4236.	2663.	1889.
T	2805.	2413.	2290.	1590.	1511.	3048.	4236.	4674.	2982.	2314.

Table 40 : Salt**(In Thousand Maunds)**

(S7)

I	EXPORTING REGION 11				WESTERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	7.	0.	1.	1.	4.	1.	269.	547.	
2	2.	27.	38.	39.	39.	29.	20.	52.	121.	95.	
3	664.	935.	1171.	1003.	780.	1208.	976.	1284.	2349.	3203.	
4	75.	133.	202.	54.	59.	65.	90.	64.	254.	161.	
5	3.	0.	8.	1.	0.	0.	0.	5.	4.	3.	
6	2359.	3614.	4027.	5352.	4103.	4326.	5849.	6449.	5643.	7661.	
7	3814.	3675.	3754.	3614.	2996.	2770.	3344.	5290.	4077.	4268.	
8	330.	389.	473.	431.	447.	671.	1131.	1217.	1589.	1756.	
9	168.	199.	142.	112.	95.	97.	153.	194.	316.	300.	
10	1.	76.	12.	11.	7.	17.	177.	18.	37.	41.	
12	19.	166.	15.	11.	15.	10.	95.	20.	33.	69.	
13	1818.	1897.	1949.	1761.	1644.	1985.	1324.	1507.	1501.	1386.	
14	472.	418.	633.	444.	481.	487.	208.	214.	180.	188.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	5741.	11811.	12436.	12859.	10674.	11672.	13375.	16321.	16380.	19684.	

I	EXPORTING REGION 12				BOMBAY						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	1.	0.	0.	0.	0.	1.	0.	1.	3.	4.	
3	16.	4.	7.	0.	21.	17.	39.	38.	58.	35.	
4	5.	0.	3.	1.	12.	17.	5.	11.	19.	1.	
5	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	
6	51.	0.	0.	0.	1.	6.	8.	4.	12.	2.	
7	90.	60.	58.	59.	30.	51.	79.	67.	84.	42.	
8	0.	60.	49.	1.	2.	8.	3.	8.	3.	5.	
9	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	166.	140.	146.	141.	90.	92.	216.	155.	238.	300.	
13	33.	37.	38.	35.	160.	57.	66.	107.	77.	73.	
14	113.	56.	69.	50.	54.	42.	21.	22.	11.	18.	
15	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	
T	504.	361.	375.	340.	374.	296.	441.	420.	510.	487.	

I	EXPORTING REGION 5				CALCUTTA						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	2662.	877.	575.	472.	622.	1479.	1616.	966.	546.	337.	
2	2309.	1681.	1462.	1346.	1351.	1421.	953.	1059.	816.	1183.	
3	3415.	4106.	3905.	3595.	3433.	3694.	2723.	1705.	1642.	1814.	
4	31.	1.	15.	14.	17.	1.	2.	54.	26.	68.	
6	551.	1118.	398.	9.	55.	6.	1.	21.	1.	2.	
7	2.	7.	0.	4.	4.	2.	0.	82.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	9.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	8972.	7794.	6357.	5453.	5489.	6605.	5297.	3890.	3035.	3407.	

(continued)

Table 40 : (continued)

	EXPORTING REGION 9				RAJASTHAN						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	1.	0.	0.	21.	1.	
1	0.	0.	0.	0.	0.	0.	0.	0.	5.	0.	
2	40.	0.	4.	0.	0.	0.	0.	0.	246.	320.	
3	2647.	1478.	434.	126.	80.	313.	126.	118.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
6	4860.	4896.	1985.	1139.	632.	1831.	1197.	842.	1404.	2654.	
7	88.	45.	100.	125.	68.	102.	104.	22.	35.	22.	
8	1715.	2061.	2077.	1937.	1993.	1815.	1516.	1850.	1064.	1209.	
10	218.	285.	346.	606.	616.	569.	700.	1040.	911.	869.	
11	5.	2.	4.	0.	9.	7.	2.	4.	2.	20.	
12	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	8.	19.	3.	2.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	9576.	8771.	4952.	3936.	3400.	4651.	3668.	3882.	3693.	5100.	

	EXPORTING REGION 14				SOUTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	8.	0.	2.	16.	29.	6.	21.	77.	33.	107.	
3	114.	50.	94.	207.	272.	198.	180.	296.	397.	833.	
4	978.	1025.	1193.	1356.	1176.	1045.	1047.	1162.	1061.	1036.	
5	20.	0.	0.	1.	25.	3.	0.	14.	0.	0.	
6	1.	0.	0.	1.	1.	14.	8.	0.	4.	13.	
7	180.	105.	115.	156.	155.	129.	195.	284.	140.	298.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	2.	2.	10.	8.	13.	41.	292.	152.	123.	104.	
12	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	
13	559.	445.	512.	582.	535.	600.	429.	2082.	1223.	1330.	
15	1.	0.	0.	3.	1.	183.	5.	12.	9.	7.	
T	1868.	1632.	1928.	2334.	2212.	2223.	2184.	4086.	2993.	3731.	

	EXPORTING REGION 15				MADRAS						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	39.	7.	1.	
3	0.	0.	1.	0.	3.	3.	13.	370.	169.	127.	
4	0.	0.	0.	14.	0.	0.	0.	2.	1.	1.	
5	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	
7	0.	0.	0.	1.	0.	0.	4.	8.	2.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	4.	2.	1.	2.	1.	0.	7.	1.	0.	2.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	3.	4.	1.	5.	11.	6.	327.	128.	37.	54.	
14	353.	339.	178.	227.	238.	55.	66.	38.	33.	45.	
T	362.	346.	183.	251.	255.	65.	419.	590.	252.	236.	

(88)

Table 41 : Gunny Bags and Cloth

		EXPORTING REGION 5				CALCUTTA				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	677.	469.	404.	286.	276.	442.	343.	263.	166.	393.
2	851.	1439.	1862.	1379.	645.	395.	704.	911.	519.	642.
3	888.	927.	2189.	2305.	1580.	1520.	1878.	1250.	929.	1630.
4	320.	407.	906.	931.	686.	527.	628.	531.	826.	733.
6	2176.	2429.	3202.	2438.	1493.	3012.	2690.	3090.	2684.	2620.
7	963.	1228.	2597.	1943.	1157.	2492.	2706.	4121.	3613.	2592.
8	711.	1100.	2130.	1074.	801.	1353.	1248.	2320.	2037.	1368.
9	175.	155.	459.	400.	225.	966.	1199.	1328.	1873.	1291.
10	159.	171.	579.	598.	354.	2679.	694.	1216.	659.	320.
11	135.	209.	393.	284.	315.	550.	551.	1138.	1137.	742.
12	758.	1353.	2235.	379.	32.	2601.	1447.	1173.	209.	80.
13	14.	11.	213.	109.	18.	162.	191.	341.	765.	564.
14	361.	616.	1091.	352.	761.	1011.	837.	1489.	1597.	547.
15	26.	88.	91.	25.	99.	722.	1197.	688.	39.	37.
T	8221.	10606.	18356.	12510.	8447.	18438.	16320.	19867.	17059.	13566.

		EXPORTING REGION 2				BENGAL				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	42.	4.	4.	7.	0.	10.	7.	8.	22.	26.
3	780.	1047.	2124.	1440.	1540.	1698.	2562.	1624.	2478.	2954.
4	35.	17.	63.	71.	99.	63.	79.	28.	22.	100.
5	188.	161.	354.	518.	140.	218.	180.	0.	58.	50.
6	737.	330.	622.	461.	434.	1011.	654.	603.	495.	851.
7	420.	324.	766.	622.	759.	528.	526.	794.	855.	852.
8	789.	279.	613.	463.	395.	167.	251.	220.	174.	1340.
9	145.	20.	383.	234.	435.	730.	803.	210.	666.	1624.
10	24.	23.	14.	20.	59.	69.	40.	48.	27.	3001.
11	21.	13.	432.	266.	432.	300.	588.	731.	547.	447.
12	45.	1.	30.	23.	589.	11.	38.	41.	5.	2.
13	102.	326.	84.	9.	81.	106.	11.	467.	460.	1039.
14	252.	454.	411.	174.	84.	205.	175.	130.	204.	350.
15	10.	2.	6.	0.	2.	0.	4.	47.	7.	3.
T	3598.	3006.	5911.	4313.	5054.	5123.	5925.	4955.	6028.	12645.

		EXPORTING REGION 12				BOMBAY				
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
3	14.	9.	0.	0.	0.	0.	13.	0.	1.	0.
4	2.	4.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	2.	0.	14.	10.	13.	0.	0.	1.	0.
6	26.	24.	20.	7.	13.	223.	18.	100.	8.	4.
7	545.	711.	576.	454.	372.	446.	290.	300.	174.	166.
8	62.	33.	26.	9.	42.	2.	7.	4.	7.	19.
9	129.	58.	122.	283.	124.	122.	80.	87.	69.	43.
10	0.	8.	0.	0.	10.	1.	1.	2.	3.	8.
11	1960.	1133.	1769.	2219.	2007.	2456.	1997.	1693.	1896.	805.
13	390.	452.	683.	409.	347.	525.	504.	456.	439.	258.
14	50.	125.	92.	90.	113.	18.	154.	108.	70.	41.
15	1.	20.	1.	10.	10.	200.	4.	6.	0.	0.
T	3185.	2585.	3294.	3500.	3053.	4012.	3072.	2764.	2672.	1348.

(continued)

Table 41 : (continued)

I	EXPORTING REGION 15				MADRAS						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	2.	5.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	1.	1.	1.	0.	0.	0.	0.	0.	0.	17.	
5	0.	0.	0.	1.	0.	1.	2.	5.	2.	1.	
6	3.	1.	0.	0.	0.	2.	0.	0.	0.	0.	
7	3.	3.	7.	0.	0.	3.	3.	0.	5.	1.	
8	0.	13.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.	
11	44.	21.	65.	42.	40.	39.	32.	15.	3.	21.	
12	1.	0.	0.	5.	11.	1.	2.	3.	6.	0.	
13	53.	89.	50.	71.	40.	26.	16.	18.	16.	77.	
14	1954.	1900.	2008.	1538.	1578.	2199.	1476.	699.	688.	743.	
T	2063.	2032.	2133.	1660.	1674.	2276.	1536.	749.	732.	865.	

I	EXPORTING REGION 3				BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	115.	20.	158.	21.	5.	38.	50.	32.	126.	195.	
2	137.	376.	197.	173.	43.	113.	151.	175.	115.	161.	
4	14.	77.	28.	49.	117.	64.	99.	66.	212.	183.	
5	2494.	2914.	828.	98.	494.	896.	266.	256.	125.	149.	
6	1701.	1449.	1842.	963.	842.	3070.	950.	1718.	1056.	1090.	
7	76.	172.	209.	199.	330.	488.	315.	969.	1192.	1387.	
8	411.	308.	615.	434.	422.	566.	1025.	626.	1500.	2951.	
9	454.	334.	224.	271.	544.	956.	618.	938.	1287.	1001.	
10	66.	134.	81.	231.	274.	366.	280.	324.	224.	2188.	
11	31.	27.	100.	268.	381.	539.	548.	1170.	1168.	1644.	
12	69.	11.	0.	55.	20.	1.	47.	165.	162.	85.	
13	9.	4.	49.	1.	11.	0.	0.	3.	34.	19.	
14	63.	156.	160.	213.	304.	155.	144.	360.	183.	233.	
15	11.	0.	0.	0.	0.	0.	8.	8.	2.	0.	
T	5656.	5988.	4497.	2981.	3791.	7256.	4509.	6817.	7393.	11291.	

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Table 42 : Myrobalans

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	481.	849.	742.	720.	404.	1002.	1046.	601.	644.	511.
3	31.	91.	110.	25.	61.	31.	7.	75.	204.	48.
4	2.	57.	0.	7.	13.	13.	12.	5.	8.	5.
5	194.	498.	279.	169.	83.	18.	57.	21.	8.	6.
6	2087.	1406.	1837.	1239.	1449.	1741.	2775.	1740.	711.	1196.
8	214.	60.	97.	100.	67.	94.	54.	201.	17.	132.
9	7.	6.	7.	8.	10.	14.	11.	16.	13.	7.
10	105.	37.	68.	37.	5.	13.	2.	93.	58.	11.
11	12.	22.	23.	31.	65.	35.	48.	80.	35.	55.
12	735.	684.	98.	139.	179.	146.	113.	169.	170.	60.
13	19.	89.	32.	167.	19.	106.	112.	110.	148.	436.
14	2954.	4466.	2913.	2842.	3236.	2762.	2424.	2715.	3660.	3857.
15	2.	19.	0.	20.	3.	0.	5.	18.	14.	70.
T	6849.	8290.	6212.	5510.	5601.	5980.	6672.	5850.	5696.	6400.

I	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	14.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	2.	0.	0.	6.	0.	6.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	4.	9.	4.
8	1.	0.	0.	0.	0.	4.	0.	0.	0.	0.
9	0.	1.	3.	0.	0.	0.	0.	0.	0.	2.
10	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.
12	2082.	1397.	904.	509.	348.	932.	227.	19.	8.	45.
13	66.	12.	46.	39.	30.	111.	23.	51.	6.	7.
14	666.	548.	529.	673.	404.	594.	1060.	482.	474.	695.
15	92.	61.	185.	47.	75.	141.	140.	127.	42.	90.
T	2910.	2022.	1673.	1270.	859.	1792.	1453.	710.	542.	846.

I	EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	133.	84.	60.	47.	90.	112.	133.	53.	39.	27.
3	76.	40.	0.	4.	36.	12.	11.	0.	2.	0.
5	143.	150.	59.	73.	131.	119.	60.	30.	9.	13.
6	19.	18.	7.	5.	6.	4.	4.	0.	1.	0.
7	9.	91.	0.	0.	19.	8.	9.	0.	4.	2.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	1.	6.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	7.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	356.	523.	161.	276.	429.	612.	291.	213.	107.	139.
15	0.	0.	9.	0.	0.	0.	0.	4.	0.	0.
T	740.	918.	305.	407.	715.	870.	511.	301.	165.	182.

(continued)

Table 43 : Rubber Raw

		EXPORTING REGION 14									
		50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I											
1		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2		12.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4		129.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5		0.	1.	0.	0.	0.	0.	0.	1.	0.	0.
6		1.	0.	2.	8.	17.	3.	5.	18.	31.	13.
7		0.	0.	0.	1.	0.	1.	0.	0.	1.	1.
8		0.	1.	7.	6.	9.	5.	45.	74.	53.	114.
9		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10		0.	5.	6.	3.	7.	2.	10.	35.	49.	37.
11		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15		30.	6.	4.	1.	8.	9.	0.	21.	87.	68.
T		176.	14.	20.	20.	43.	23.	62.	152.	224.	236.

		EXPORTING REGION 5									
		50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I											
1		0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
2		20.	11.	163.	76.	139.	71.	9.	30.	25.	20.
3		1.	0.	0.	20.	2.	73.	15.	17.	0.	18.
4		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6		0.	0.	0.	89.	0.	0.	0.	5.	2.	0.
7		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8		0.	5.	0.	24.	4.	0.	0.	0.	0.	6.
9		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10		0.	0.	2.	4.	0.	0.	1.	17.	80.	0.
11		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12		0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
13		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T		22.	16.	168.	215.	147.	145.	28.	71.	109.	45.

		EXPORTING REGION 12									
		50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I											
1		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5		1.	6.	0.	0.	0.	0.	0.	0.	0.	0.
6		1.	0.	0.	1.	1.	0.	0.	0.	0.	0.
7		12.	59.	40.	9.	0.	0.	0.	0.	0.	0.
8		1.	0.	1.	1.	9.	0.	1.	0.	4.	7.
9		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10		0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
11		0.	0.	0.	2.	0.	0.	0.	34.	2.	0.
13		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T		16.	66.	43.	15.	14.	1.	1.	35.	7.	8.

Table 42 : (continued)

I	EXPORTING REGION 3			BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	138.	93.	3.	119.	40.	22.	14.	25.	9.	5.
4	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	213.	170.	159.	175.	46.	76.	50.	18.	56.	119.
6	17.	3.	4.	16.	10.	61.	30.	8.	0.	0.
7	0.	5.	1.	0.	0.	0.	0.	0.	0.	0.
8	6.	0.	0.	0.	1.	0.	0.	0.	0.	0.
9	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	3.	3.	12.	14.	6.	5.	1.	0.	0.	0.
11	0.	0.	0.	58.	0.	0.	0.	0.	0.	0.
12	0.	0.	4.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.
14	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	390.	276.	184.	385.	105.	165.	97.	52.	70.	125.

Table 43 : Rubber Raw

I	EXPORTING REGION 14									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	3.	7.	0.	0.	0.	0.	0.	0.	0.	0.
2	12.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	129.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.
6	1.	0.	2.	8.	17.	3.	5.	18.	31.	13.
7	0.	0.	0.	1.	0.	1.	0.	0.	1.	1.
8	0.	1.	7.	6.	9.	5.	45.	74.	53.	114.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	5.	6.	3.	7.	2.	10.	35.	49.	37.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	30.	6.	4.	1.	8.	9.	0.	21.	87.	68.
T	176.	14.	20.	20.	43.	23.	62.	152.	224.	236.

SOUTHERN REGION

I	EXPORTING REGION 5									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
2	20.	11.	163.	76.	139.	71.	9.	30.	25.	20.
3	1.	0.	0.	20.	2.	73.	15.	17.	0.	18.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	89.	0.	0.	0.	5.	2.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	5.	0.	24.	4.	0.	0.	0.	0.	6.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	2.	4.	0.	0.	1.	17.	80.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	22.	16.	168.	215.	147.	145.	28.	71.	109.	45.

CALCUTTA

I	EXPORTING REGION 12									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	1.	6.	0.	0.	0.	0.	0.	0.	0.	0.
6	1.	0.	0.	1.	1.	0.	0.	0.	0.	0.
7	12.	59.	40.	9.	0.	0.	0.	0.	0.	0.
8	1.	0.	1.	1.	9.	0.	1.	0.	4.	7.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
11	0.	0.	0.	2.	0.	0.	0.	34.	2.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	16.	66.	43.	15.	14.	1.	1.	35.	7.	0.

BOMBAY

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Table 44 : Coffee

I	EXPORTING REGION 14				SOUTHERN REGION						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	3.	5.	5.	0.	1.	3.	0.	0.	1.	3.	
4	7.	8.	4.	7.	22.	3.	0.	3.	2.	2.	
5	16.	19.	26.	17.	15.	34.	6.	30.	21.	30.	
6	5.	3.	4.	1.	2.	0.	2.	25.	13.	5.	
7	1.	3.	5.	4.	2.	8.	9.	10.	9.	6.	
8	0.	0.	0.	0.	0.	0.	1.	0.	4.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	7.	14.	30.	7.	6.	18.	4.	18.	6.	8.	
11	50.	40.	31.	42.	56.	52.	28.	28.	31.	15.	
12	19.	90.	30.	33.	33.	39.	20.	43.	46.	24.	
13	49.	39.	40.	33.	45.	91.	50.	38.	16.	22.	
15	645.	638.	632.	582.	521.	340.	266.	471.	336.	525.	
T	807.	864.	813.	731.	707.	593.	392.	672.	491.	646.	

I	EXPORTING REGION 12				BOMBAY						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	4.	0.	0.	0.	0.	0.	0.	0.	
5	3.	4.	5.	4.	6.	6.	3.	1.	5.	12.	
6	2.	1.	1.	4.	3.	3.	2.	2.	3.	2.	
7	8.	7.	4.	6.	12.	18.	15.	28.	14.	12.	
8	0.	0.	0.	0.	0.	0.	1.	1.	0.	12.	
9	0.	0.	0.	0.	1.	2.	3.	2.	3.	3.	
10	0.	3.	6.	0.	1.	9.	1.	5.	5.	2.	
11	34.	27.	33.	76.	74.	103.	78.	77.	63.	48.	
13	7.	7.	4.	4.	9.	14.	19.	14.	20.	18.	
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	
15	0.	0.	0.	16.	24.	22.	0.	35.	32.	59.	
T	60.	53.	60.	114.	135.	181.	126.	171.	150.	173.	

I	EXPORTING REGION 2				WEST BENGAL						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
3	0.	0.	11.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	0.	0.	0.	12.	0.	0.	0.	0.	0.	0.	
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
7	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
11	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.	
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	4.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	1.	5.	11.	14.	0.	4.	0.	0.	0.	0.	

(93) **Table 45 : Tea**

		ASSAM									
		EXPORTING REGION 1									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	23.	69.	1752.	37.	1446.	424.	140.	31.	109.	116.	
2	1.	0.	0.	0.	0.	1.	12.	0.	1.	6.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	34764.	31026.	26155.	25162.	21779.	39194.	31694.	20645.	17814.	34014.	
6	0.	0.	0.	0.	0.	0.	10.	0.	0.	13.	
7	0.	0.	0.	162.	0.	0.	0.	0.	0.	0.	
8	18.	107.	82.	72.	60.	67.	144.	165.	427.	463.	
9	0.	6.	0.	0.	0.	0.	0.	1.	9.	9.	
10	0.	0.	7.	6.	0.	0.	0.	0.	8.	46.	
11	4.	0.	0.	3.	2.	0.	4.	1.	65.	335.	
12	0.	0.	0.	7.	0.	0.	0.	1.	0.	11.	
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
14	0.	0.	0.	0.	0.	0.	0.	0.	5.	1.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	34812.	31210.	27997.	25452.	23289.	39688.	32007.	20847.	18444.	35016.	

		WEST BENGAL									
		EXPORTING REGION 2									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	76.	40.	23.	11.	1.	7.	0.	4.	11.	128.	
2	19.	5.	8.	34.	28.	20.	6.	3.	14.	3.	
3	6.	2.	2.	1.	7.	0.	0.	0.	0.	0.	
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
5	17499.	17241.	6702.	2679.	2608.	11362.	6277.	10337.	5726.	11263.	
6	0.	41.	2.	3.	2.	76.	34.	23.	20.	26.	
7	8.	0.	19.	2.	132.	0.	0.	0.	8.	0.	
8	318.	275.	437.	405.	249.	261.	384.	324.	544.	703.	
9	0.	2.	0.	4.	11.	29.	1.	4.	21.	1045.	
10	0.	12.	1.	3.	5.	2.	2.	5.	20.	25.	
11	188.	41.	57.	47.	264.	58.	40.	161.	25.	56.	
12	3.	46.	99.	7.	391.	9.	9.	7.	0.	0.	
13	814.	679.	336.	0.	95.	0.	0.	0.	0.	16.	
14	9.	4.	0.	0.	6.	0.	0.	0.	0.	0.	
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
T	16945.	18394.	7692.	3401.	3804.	11828.	6757.	10872.	6392.	13271.	

		SOUTHERN REGION									
		EXPORTING REGION 14									
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60	
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.	
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
4	0.	0.	1.	4.	17.	10.	9.	11.	11.	12.	
5	59.	163.	126.	110.	53.	14.	0.	0.	12.	24.	
6	0.	6.	9.	0.	0.	9.	0.	0.	4.	26.	
7	4.	9.	12.	9.	1.	5.	8.	4.	7.	28.	
8	0.	0.	1.	0.	9.	4.	2.	84.	110.	70.	
9	0.	0.	1.	0.	0.	3.	0.	0.	1.	4.	
10	56.	11.	1.	0.	2.	0.	0.	8.	3.	1.	
11	309.	631.	735.	827.	984.	1408.	1013.	1691.	1473.	1454.	
12	436.	358.	395.	391.	490.	379.	191.	343.	369.	371.	
13	134.	223.	242.	205.	282.	264.	187.	368.	234.	235.	
14	72.	94.	155.	151.	81.	87.	82.	79.	56.	24.	
T	1578.	1500.	1682.	1702.	1924.	2187.	1497.	2592.	2284.	2262.	

(94)

Table 46 : Tobacco Raw

I	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	66.	64.	75.	423.	183.	196.	30.	29.	64.	129.
3	245.	363.	231.	799.	444.	453.	340.	310.	412.	434.
4	2.	11.	31.	31.	2.	2.	17.	5.	32.	38.
5	257.	219.	210.	594.	282.	576.	277.	358.	1279.	1027.
6	603.	661.	494.	595.	471.	738.	850.	550.	830.	898.
7	1945.	2278.	1785.	2371.	1923.	2008.	1751.	3629.	4134.	3575.
8	45.	65.	43.	123.	41.	52.	41.	28.	42.	63.
9	428.	397.	398.	375.	324.	364.	360.	403.	371.	307.
10	121.	124.	61.	58.	49.	44.	28.	121.	96.	121.
12	1834.	3316.	1884.	2240.	1778.	1901.	1893.	2277.	1941.	2174.
13	49.	41.	183.	177.	202.	210.	196.	281.	203.	174.
14	227.	458.	638.	648.	726.	557.	340.	331.	187.	171.
15	91.	110.	58.	90.	148.	121.	58.	204.	63.	61.
T	5917.	8112.	6097.	8530.	6579.	7229.	6187.	8531.	9661.	9179.

I	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	404.	424.	221.	523.	122.	543.	393.	323.	630.	940.
3	429.	233.	60.	75.	126.	169.	200.	55.	54.	40.
4	236.	190.	130.	145.	44.	76.	10.	63.	39.	15.
5	996.	794.	792.	559.	503.	343.	212.	276.	964.	1137.
6	1100.	637.	822.	753.	804.	848.	1345.	1287.	1291.	853.
7	281.	365.	281.	227.	166.	169.	184.	239.	242.	276.
8	23.	14.	26.	43.	20.	77.	45.	39.	27.	23.
9	32.	15.	57.	64.	31.	29.	68.	63.	87.	117.
10	77.	17.	11.	7.	1.	13.	1.	17.	31.	0.
11	404.	587.	337.	481.	191.	288.	283.	357.	470.	835.
12	730.	458.	556.	900.	328.	879.	364.	1591.	575.	837.
13	1232.	1623.	529.	1336.	826.	835.	382.	510.	88.	92.
15	1129.	1790.	1079.	0.	1134.	293.	73.	196.	112.	565.
T	7079.	7153.	4907.	5877.	4302.	4569.	3569.	5023.	4617.	5737.

I	EXPORTING REGION 3				BINAR					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	197.	135.	164.	205.	187.	161.	45.	77.	16.	42.
2	649.	513.	364.	325.	216.	289.	335.	244.	252.	240.
4	42.	73.	19.	50.	27.	26.	33.	16.	37.	48.
5	1023.	923.	589.	326.	378.	392.	324.	274.	295.	349.
6	2175.	1403.	1824.	1719.	921.	3038.	2257.	5731.	1048.	1862.
7	96.	78.	62.	67.	59.	64.	66.	146.	155.	191.
8	0.	84.	4.	17.	5.	2.	7.	0.	5.	5.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	14.	11.	18.	22.	19.	13.	22.	6.	13.	3811.
11	0.	0.	8.	0.	6.	0.	0.	0.	2.	0.
12	0.	0.	2.	2.	0.	0.	0.	0.	0.	0.
13	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	12.	7.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	4206.	3225.	3071.	2744.	1822.	3988.	3093.	6498.	1827.	6551.

(95)

Table 47 : Fruits - Dried

	EXPORTING REGION 14				SOUTHERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	52.	66.	79.	50.	441.	372.	334.	363.	329.	491.
3	172.	151.	49.	53.	183.	102.	206.	229.	333.	337.
4	279.	234.	239.	233.	534.	601.	450.	486.	178.	708.
5	125.	137.	77.	77.	43.	95.	110.	90.	75.	105.
6	1590.	1329.	1428.	1479.	1163.	1151.	974.	971.	851.	880.
7	3895.	2989.	3641.	2960.	2525.	3107.	3131.	5206.	4068.	4515.
8	223.	163.	154.	121.	134.	140.	287.	96.	148.	122.
9	489.	270.	563.	585.	798.	805.	1205.	1062.	974.	1095.
10	770.	885.	1006.	862.	946.	888.	749.	842.	25.	243.
11	8248.	6013.	9712.	8439.	10932.	12777.	12862.	8347.	12069.	9185.
12	1686.	1200.	1426.	899.	1913.	573.	46.	407.	1603.	229.
13	3630.	3248.	2838.	3163.	2233.	1803.	1663.	1802.	1710.	1348.
15	7061.	3322.	3917.	3453.	3070.	3092.	985.	366.	425.	186.
T	28227.	20014.	25135.	22381.	24923.	25511.	23009.	20273.	22795.	19452.

	EXPORTING REGION 12				BOMBAY					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1.	1.	1.	3.	2.	9.	4.	1.	3.	0.
3	482.	2384.	401.	265.	130.	201.	74.	65.	81.	245.
4	48.	58.	27.	36.	17.	62.	28.	40.	21.	31.
5	624.	1117.	297.	557.	231.	445.	543.	130.	200.	174.
6	1623.	1057.	1152.	1103.	925.	973.	682.	601.	670.	416.
7	5213.	4043.	4158.	4398.	4176.	4630.	3377.	1549.	1169.	1271.
8	240.	318.	546.	420.	542.	215.	103.	105.	185.	90.
9	677.	580.	825.	1010.	1068.	984.	834.	878.	761.	1049.
10	84.	246.	516.	190.	221.	93.	189.	115.	91.	16.
11	4220.	3076.	3613.	4753.	4320.	3713.	2337.	1890.	1679.	1317.
13	1153.	894.	550.	919.	1022.	1183.	769.	550.	665.	545.
14	845.	1207.	624.	825.	732.	931.	621.	447.	570.	410.
15	489.	464.	414.	625.	649.	621.	829.	505.	350.	412.
T	15704.	15451.	13130.	15115.	14042.	14066.	10396.	6882.	6451.	5981.

	EXPORTING REGION 4				ORISSA					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	131.	162.	88.	53.	194.	95.	142.	115.	35.	32.
3	71.	126.	158.	120.	256.	122.	184.	210.	87.	89.
5	11.	75.	48.	5.	67.	14.	13.	10.	0.	4.
6	35.	75.	95.	68.	111.	58.	14.	21.	12.	5.
7	292.	425.	158.	342.	97.	256.	158.	214.	23.	65.
8	143.	166.	136.	65.	48.	104.	33.	21.	3.	16.
9	2.	13.	8.	23.	40.	21.	11.	37.	31.	0.
10	163.	168.	138.	138.	92.	94.	120.	15.	14.	11.
11	15.	3.	3.	6.	2.	6.	1.	0.	0.	0.
12	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	25.	4.	1.	7.	0.	0.	0.	0.	0.
14	48.	61.	77.	119.	82.	146.	165.	70.	11.	29.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	917.	1302.	917.	947.	1002.	921.	845.	717.	219.	255.

(96)

Table A4 : Oilcakes - Castor and Others

	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	9.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	9.	0.	0.	0.
2	2280.	1548.	513.	440.	409.	2073.	897.	1000.	1265.	785.
3	1394.	1923.	1254.	928.	1069.	1891.	1225.	947.	1476.	1853.
4	26.	89.	85.	164.	148.	219.	259.	91.	186.	179.
5	998.	1595.	445.	505.	990.	1933.	908.	1928.	1832.	2641.
6	1142.	1590.	1728.	1573.	803.	1468.	1620.	1653.	2304.	1090.
8	761.	757.	1859.	2052.	445.	242.	328.	705.	1835.	556.
9	22.	15.	29.	28.	22.	129.	60.	55.	42.	38.
10	645.	1017.	1374.	1042.	941.	834.	600.	2166.	1744.	1161.
11	2241.	3876.	3988.	3108.	3489.	5238.	2842.	6179.	8617.	11003.
12	297.	486.	314.	1056.	2222.	6004.	4150.	2767.	8524.	13005.
13	0.	83.	10.	5.	212.	610.	615.	301.	888.	1039.
14	241.	226.	557.	1795.	880.	3239.	4517.	2207.	2011.	1958.
15	4.	0.	590.	332.	147.	818.	1003.	799.	328.	252.
T	10258.	13211.	12751.	13032.	11782.	24704.	19038.	20803.	31058.	35566.

	EXPORTING REGION 13				HYDERABAD					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	718.	264.	29.	8.	0.	18.	0.	0.	10.	0.
3	54.	61.	0.	5.	27.	21.	43.	4.	0.	0.
4	0.	0.	0.	0.	0.	10.	0.	0.	5.	5.
5	274.	81.	2.	4.	5.	0.	0.	0.	27.	12.
6	0.	67.	100.	24.	25.	34.	12.	0.	5.	0.
7	125.	78.	0.	298.	238.	445.	312.	280.	662.	173.
8	0.	86.	562.	896.	118.	24.	19.	10.	98.	44.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	86.	76.	26.	191.	110.	20.	17.	51.	9.	0.
11	2953.	894.	1453.	2733.	1672.	1654.	684.	792.	2665.	1314.
12	57.	28.	40.	136.	1335.	1060.	237.	672.	2217.	2421.
14	9236.	4958.	6821.	12319.	12781.	18840.	17897.	18369.	9595.	14674.
15	59.	123.	478.	2273.	644.	536.	1159.	864.	251.	1081.
T	15567.	6721.	9516.	18394.	16958.	22667.	20383.	21044.	15549.	19728.

	EXPORTING REGION 6				UTTAR PRADESH					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
I	0.	3.	0.	0.	0.	0.	0.	0.	17.	0.
1	0.	3.	0.	0.	0.	0.	0.	0.	17.	0.
2	1300.	1623.	1114.	2521.	2059.	6190.	2712.	2453.	1713.	3044.
3	3161.	4177.	3557.	2488.	1256.	3555.	2936.	3126.	3099.	3727.
4	0.	4.	0.	5.	10.	71.	34.	68.	70.	182.
5	568.	641.	254.	223.	300.	916.	290.	457.	803.	4649.
7	252.	567.	493.	994.	601.	818.	2570.	1140.	1060.	1123.
8	1529.	4481.	8276.	6020.	6423.	5830.	3097.	7408.	9092.	6950.
9	32.	28.	6.	47.	32.	72.	156.	325.	594.	604.
10	776.	455.	676.	582.	688.	463.	514.	554.	605.	689.
11	11.	198.	274.	559.	182.	172.	234.	714.	352.	2088.
12	6.	0.	102.	29.	17.	99.	35.	188.	2696.	6348.
13	0.	0.	0.	9.	0.	0.	25.	627.	33.	335.
14	24.	73.	191.	164.	331.	168.	443.	796.	405.	734.
15	593.	0.	47.	104.	0.	9.	106.	130.	81.	188.
T	8256.	12255.	14995.	13770.	11904.	18368.	13157.	17992.	20626.	30666.

(continued)

Table 48 : (continued)

I	EXPORTING REGION 12				BOMBAY					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	52.	26.	57.	0.	0.	5.	4.	0.	0.	0.
3	179.	653.	198.	0.	0.	138.	122.	116.	160.	215.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	96.	108.	46.	19.	22.	13.	5.	4.	0.	0.
6	82.	651.	494.	170.	144.	534.	656.	380.	122.	16.
7	247.	238.	46.	79.	126.	45.	332.	471.	244.	34.
8	133.	9.	0.	1.	0.	0.	15.	17.	21.	5.
9	0.	8.	54.	4.	0.	64.	5.	12.	17.	11.
10	29.	58.	120.	22.	5.	0.	10.	267.	265.	65.
11	17175.	11288.	16283.	16025.	12460.	12479.	14564.	13947.	8491.	13388.
13	2.	4.	79.	70.	7.	335.	566.	581.	87.	120.
14	32.	127.	660.	518.	742.	3362.	3647.	2490.	553.	519.
15	0.	5.	116.	255.	62.	486.	828.	486.	106.	69.
T	18031.	13181.	18159.	17168.	13571.	17466.	20761.	18776.	10070.	14445.

I	EXPORTING REGION 1				ASSAM					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
2	383.	1568.	1364.	403.	201.	870.	1170.	1035.	2488.	2361.
3	8.	14.	179.	183.	32.	178.	131.	127.	276.	122.
4	0.	0.	0.	11.	0.	5.	5.	24.	14.	28.
5	4696.	1599.	284.	113.	803.	462.	559.	265.	930.	479.
6	31.	133.	28.	10.	0.	37.	42.	7.	0.	3.
7	0.	0.	0.	0.	0.	0.	0.	0.	5.	0.
8	745.	1294.	3644.	2212.	1750.	1958.	3261.	3016.	2918.	2598.
9	9.	17.	2.	0.	0.	2.	14.	14.	9.	0.
10	10.	49.	0.	90.	7.	36.	78.	22.	41.	45.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	2.	10.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	5885.	4678.	5504.	3026.	2795.	3551.	5263.	4514.	6688.	5649.

I	EXPORTING REGION 9				RAJASTHAN					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	454.	113.	42.	0.	38.	171.	99.	118.	50.	0.
3	51.	0.	73.	2.	10.	13.	9.	18.	5.	8.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	103.	51.	0.	0.	0.	0.	95.	16.	10.	16.
6	205.	306.	448.	863.	586.	1277.	1014.	1588.	1192.	746.
7	73.	74.	52.	121.	66.	50.	247.	225.	183.	220.
8	188.	262.	784.	1611.	1563.	986.	417.	438.	227.	205.
10	413.	466.	431.	537.	815.	931.	1063.	716.	643.	508.
11	71.	189.	57.	43.	164.	210.	167.	336.	417.	928.
12	12.	0.	0.	50.	4.	366.	0.	0.	142.	1440.
13	0.	0.	0.	0.	0.	0.	0.	10.	39.	46.
14	0.	0.	46.	65.	97.	54.	61.	75.	19.	27.
15	0.	0.	4.	5.	0.	20.	14.	37.	6.	5.
T	1575.	1464.	1942.	3301.	3347.	4083.	3190.	3584.	2938.	4152.

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**Table 49 : Wood and Timber - Teak and Others
(In Thousand Maunds)**

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	353.	377.	139.	112.	118.	95.	123.	134.	0.	134.
3	276.	206.	191.	68.	93.	132.	239.	172.	0.	142.
4	83.	87.	27.	19.	17.	22.	44.	37.	0.	67.
5	655.	681.	664.	491.	553.	481.	348.	418.	0.	868.
6	1162.	927.	699.	634.	587.	570.	655.	835.	0.	711.
8	262.	184.	173.	194.	338.	275.	393.	462.	0.	619.
9	310.	336.	272.	240.	229.	305.	440.	428.	0.	588.
10	563.	497.	542.	434.	467.	304.	340.	464.	0.	514.
11	1419.	1233.	743.	667.	883.	1139.	1455.	1203.	0.	2100.
12	3652.	584.	495.	395.	677.	331.	321.	325.	0.	766.
13	137.	122.	69.	54.	25.	23.	18.	23.	0.	53.
14	33960.	579.	401.	244.	235.	223.	338.	293.	0.	334.
15	64.	67.	66.	62.	77.	86.	119.	138.	0.	191.
T	44300.	5889.	4492.	3920.	4310.	3998.	4829.	4939.	0.	7104.

I	EXPORTING REGION 4				ORISSA					
	51-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.
2	770.	838.	557.	426.	718.	545.	721.	647.	811.	634.
3	474.	429.	558.	566.	753.	527.	648.	487.	420.	419.
5	595.	641.	555.	434.	852.	445.	658.	701.	1095.	1278.
6	224.	219.	171.	199.	249.	207.	240.	304.	288.	209.
7	63.	47.	72.	101.	122.	105.	123.	214.	175.	216.
8	336.	302.	230.	431.	468.	282.	458.	546.	489.	499.
9	4.	43.	18.	8.	7.	11.	22.	14.	20.	29.
10	163.	106.	97.	43.	49.	45.	39.	67.	57.	36.
11	45.	32.	37.	23.	22.	28.	34.	29.	50.	39.
12	0.	6.	10.	1.	0.	0.	5.	6.	0.	0.
13	2.	4.	10.	2.	0.	0.	0.	4.	0.	0.
14	419.	476.	282.	272.	314.	313.	304.	403.	293.	455.
15	3.	7.	6.	2.	6.	1.	1.	1.	2.	11.
T	3155.	3138.	2609.	2514.	3566.	2519.	3259.	3427.	3705.	4030.

I	EXPORTING REGION 1				ASSAM					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
2	203.	240.	183.	79.	34.	138.	175.	197.	177.	234.
3	42.	27.	25.	60.	14.	26.	150.	176.	55.	76.
4	0.	1.	2.	2.	0.	0.	0.	0.	13.	0.
5	164.	199.	149.	64.	206.	140.	128.	210.	913.	369.
6	4.	25.	11.	165.	20.	90.	110.	169.	73.	104.
7	3.	5.	1.	3.	0.	4.	7.	22.	6.	1.
8	2.	4.	0.	3.	2.	7.	5.	24.	79.	75.
9	5.	13.	5.	0.	4.	3.	21.	15.	32.	25.
10	5.	4.	12.	1.	0.	4.	15.	18.	29.	46.
11	1.	4.	20.	24.	2.	4.	12.	35.	8.	3.
12	0.	0.	0.	0.	13.	0.	0.	18.	5.	3.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
14	17.	2.	2.	2.	7.	12.	6.	0.	10.	8.
15	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
T	455.	537.	417.	412.	309.	440.	634.	900.	1405.	1010.

(continued)

Table 49 : (continued)

I	EXPORTING REGION 3			BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	2.	2.	2.	4.	1.	0.	1.	6.	12.	5.
2	828.	1015.	990.	666.	808.	730.	1019.	939.	1028.	1262.
4	11.	14.	20.	20.	15.	10.	27.	54.	95.	95.
5	528.	419.	417.	297.	478.	392.	434.	420.	695.	933.
6	497.	432.	486.	535.	447.	605.	555.	619.	512.	757.
7	20.	10.	32.	38.	89.	35.	26.	269.	100.	147.
8	72.	63.	67.	148.	201.	187.	271.	377.	624.	667.
9	68.	42.	47.	34.	41.	79.	93.	86.	140.	220.
10	46.	50.	73.	133.	91.	102.	90.	97.	121.	230.
11	60.	16.	22.	4.	11.	12.	9.	15.	13.	26.
12	2.	2.	0.	6.	3.	2.	6.	1.	5.	2.
13	37.	8.	6.	1.	0.	1.	0.	8.	0.	0.
14	19.	13.	6.	54.	42.	10.	2.	6.	1.	6.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	2195.	2095.	2173.	1946.	2236.	2172.	2541.	2953.	3350.	4370.

I	EXPORTING REGION 13			HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	3.	5.	2.	0.	0.
6	0.	0.	0.	0.	0.	8.	4.	7.	2.	0.
7	0.	0.	0.	13.	78.	84.	55.	25.	6.	22.
8	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.
10	1.	5.	0.	0.	0.	0.	0.	0.	0.	2.
11	5.	3.	4.	4.	5.	16.	44.	83.	91.	131.
12	2.	1.	0.	0.	0.	2.	2.	4.	20.	19.
14	763.	663.	583.	853.	750.	1014.	1012.	888.	714.	1126.
15	40.	47.	41.	53.	65.	90.	81.	202.	171.	171.
T	835.	744.	629.	951.	899.	1222.	1208.	1215.	1012.	1478.

I	EXPORTING REGION 6			UTTAR PRADESH						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	8.	0.	0.	0.	1.	0.	1.	5.
2	55.	141.	95.	32.	13.	26.	7.	32.	33.	51.
3	224.	298.	159.	62.	61.	193.	316.	244.	113.	116.
4	2.	0.	0.	0.	0.	0.	0.	0.	14.	18.
5	70.	59.	55.	27.	12.	38.	34.	30.	24.	39.
7	111.	99.	147.	45.	41.	76.	81.	398.	298.	137.
8	2034.	1093.	1024.	1373.	1348.	1220.	1440.	1718.	1040.	1039.
9	395.	253.	222.	159.	192.	271.	340.	463.	387.	523.
10	368.	223.	180.	156.	201.	229.	279.	359.	271.	271.
11	42.	60.	36.	36.	64.	113.	130.	226.	156.	205.
12	64.	91.	41.	79.	57.	97.	133.	159.	138.	150.
13	2.	1.	2.	0.	0.	0.	4.	16.	2.	0.
14	70.	36.	37.	31.	14.	24.	19.	11.	15.	7.
15	0.	0.	3.	4.	1.	0.	1.	1.	1.	1.
T	3443.	2357.	2017.	2033.	2010.	2300.	2791.	3669.	2409.	2560.

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Table 50 : Lac and Shellac

I	EXPORTING REGION 7				CENTRAL REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	3.	9.	2.	12.	6.	65.	1.	38.	10.	2.
3	622.	859.	309.	213.	244.	378.	556.	772.	590.	650.
4	40.	1.	12.	14.	1.	5.	73.	2.	5.	6.
5	1484.	1313.	1387.	1184.	1287.	1108.	1399.	2259.	1580.	1734.
6	524.	778.	331.	223.	212.	51.	101.	233.	121.	105.
8	4.	2.	1.	2.	3.	1.	6.	6.	3.	1.
9	17.	20.	11.	24.	7.	5.	9.	8.	9.	19.
10	0.	0.	6.	0.	0.	1.	0.	1.	2.	16.
11	1.	2.	1.	3.	14.	4.	2.	2.	3.	11.
12	69.	501.	202.	47.	21.	5.	28.	23.	2.	7.
13	0.	0.	0.	0.	12.	0.	0.	0.	1.	0.
14	33.	27.	20.	5.	7.	9.	15.	19.	19.	29.
15	8.	9.	5.	12.	15.	9.	8.	9.	5.	10.
T	2813.	3528.	2291.	1746.	1835.	1648.	2203.	3378.	2356.	2595.

I	EXPORTING REGION 1				ASSAM					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	352.	89.	148.	80.	64.	26.	32.	68.	60.	29.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	352.	89.	148.	80.	64.	26.	32.	68.	60.	29.

I	EXPORTING REGION 11				WESTERN REGION					
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	15.	7.	8.	0.	3.	6.	26.	17.
6	95.	109.	51.	53.	41.	67.	45.	67.	33.	28.
7	1.	0.	1.	0.	1.	3.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	14.	1.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.
10	0.	0.	0.	0.	0.	0.	4.	0.	0.	0.
12	4.	0.	0.	10.	1.	0.	0.	0.	0.	0.
13	0.	0.	1.	0.	0.	0.	0.	0.	12.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	102.	110.	69.	72.	52.	72.	67.	74.	74.	50.

(continued)

Table 50 : (continued)

I	EXPORTING REGION 3			BIHAR						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	3.	5.	0.	155.	5.	3.	10.	3.	0.	2.
4	3.	3.	8.	7.	0.	0.	0.	0.	0.	0.
5	1575.	1696.	2414.	1893.	1028.	631.	362.	127.	4.	11.
6	59.	41.	33.	18.	16.	21.	10.	9.	9.	3.
7	0.	0.	0.	5.	0.	0.	0.	0.	0.	0.
8	2.	3.	7.	4.	3.	4.	3.	0.	0.	0.
9	6.	5.	6.	5.	2.	2.	3.	3.	3.	56.
10	2.	2.	1.	0.	1.	0.	2.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	3.	1.	1.	1.	2.	0.	2.	0.	2.	1.
15	2.	1.	0.	0.	1.	0.	1.	0.	0.	1.
T	1661.	1763.	2475.	2092.	1062.	666.	398.	146.	23.	78.

I	EXPORTING REGION 4			ORISSA						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	5.	0.
2	0.	12.	0.	5.	0.	4.	0.	0.	4.	0.
3	21.	26.	13.	18.	24.	27.	23.	19.	24.	7.
5	80.	52.	96.	86.	32.	51.	22.	22.	3.	20.
6	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	6.	3.	0.	0.	1.	3.	1.	14.	6.	1.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.
13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	1.	0.	0.	0.	0.	0.	0.	5.	0.	0.
15	1.	3.	5.	1.	0.	0.	0.	0.	0.	0.
T	113.	122.	116.	113.	59.	88.	48.	63.	45.	30.

I	EXPORTING REGION 13			HYDERABAD						
	50-51	51-52	52-53	53-54	54-55	55-56	56-57	57-58	58-59	59-60
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	11.	23.	0.	3.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	0.	0.	0.	0.	14.	6.	4.	2.	6.	0.
14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
T	11.	25.	0.	3.	14.	6.	4.	2.	6.	0.

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