



PART II

LOCATIONAL

AND

DEVELOPMENTAL FACTORS

CHAPTER II
THE SURVEY DESIGN

In this Part it is sought to provide an empirical foundation to the analyses, particularly of the regionality concept, made in Part I, and to the Regional Synthesis of the State undertaken in Part III. Besides, the field of observation being the same, in this Part and in the next the empirical foundation established here will have at once general and particular value thus rendering the analyses of the regional synthesis in Part III more meaningful, more authentic and better substantiated. This empirical background places itself in the right and indispensable position in the context of the scope of this study. An inquiry is therefore undertaken in this Part into the nature and extent of regionality of the locational and developmental factors in Mysore State and their bearing on the origin, operation and growth of industries.

Introduction to the Survey.

It is the characteristics of the governing conditions that are of greater interest in the general development approach than the individual units governed by the common conditions. So the development factors could be treated as the starting point. Perhaps the development factors are the common link through which the location and regional growth theories may be integrated. Whether growth or inter-regional balance, the rate of industrialisation will remain a decisive

factor. Not that the development of other sectors is ignored. Far from that. They too are supposed to develop parallel to industrialisation and to a large extent as a result of industrialisation. The investigation was therefore limited to the important sectors of the economy. Indeed this is the sector that could generally measure better than any other the quality and adequacy of the development requirements of an economy because what is good for the growth of industry may be generally good to the all round development of an economy.

Small scale cottage industries are excluded. Though they play an important role in the economy, their potential ability to transform the character of the economy is quite negligible. To cover their demand for developmental prerequisites are no exception. The objective of the survey is too limited in relation to the determination of potentiality as a major development factor.

The Sample Design in the Survey

With regard to the financial, personal and time factors, the sample size was decided to be restricted around 90 industrial units. In itself being quite a large number

the fact that it constitutes about five per cent of the universe was also taken as an additional consideration in deciding on the adequacy of the sample

The list of large scale industrial units with detailed sectoral classification as accepted for the "Large Industrial Establishments in India"¹ was furnished by the Chief Inspector of Factories, Bangalore, and it related to the year ending December 1959. It was the latest year for which the list was available, when the design was being drawn up. It ensured that units with at least a few years' experience are only incorporated in the sample, though it inevitably entailed the possibility of selecting some units subsequently gone defunct.

The list contained 1,836 operating units excluding beedi manufacturing and printing establishments. The printing resembling more of service than manufacturing and beedi being essentially a hand made product, despite the fact that at times a large number of hands may congregate in a common shed, both have been excluded from the universe.

Units for investigation were selected by purposive and two stage random sampling methods. Primarily, all are divided into the Primary Processing and the Subsequent Processing units, depending on whether their principal raw materials are undergoing the manufacturing process in the given unit.

1 Government of India Ministry of Labour and Employment
Large scale industry as defined by the Factories Act, 1948, is that employing 20 persons or more, or employing 10 persons or more but using power

for the first time or in subsequent stages. The classification was deemed essential to assess the extent of regionality of the processed and unprocessed raw materials, as this factor bears on the location tendency of the manufacturing to drift either towards or away from the source of raw materials. It also helps assess the contribution of the resource and the market potentiality for regional development. As such a classification relates to the major location behaviour namely material and market orientation of the manufacturing units, and links it with the regional development potentiality, it was considered that the divisions into Primary and Subsequent processing is a valid hypothesis to start with.

The inclusion of all important big units and the units from large sectors of importance in the State economy are primarily ensured. In order not to lose the big units, all the eight important non-textile units employing around or above 2000 were selected. As a second step certain industries that comprise a large number of units were identified as fixed and in each of which no more than five units were randomly selected. Such fixed types while ensuring that the important sectors were not left out, kept at the required minimum, the number of selected units in each sector that are likely to behave almost the same way, so that with the given size, the sample may be more broad based in regard to the sectoral composition. In the remaining 9 sectors in the Primary Processing and 24 in the Subsequent Processing

were selected by 1st stage random sampling. Subsequently, from each sector, units were further selected by random in such a way that in no case their number exceeded three from each sector. The total number of selected units is 86. The final make up of the sample is presented in a tabular form below.

The Sample Design

	Total		Primary		Subsequent	
	Units	Indus-try	Units	Indus-try	Units	Indus-try
Special (fixed)						
Sample	8	4	3	2	5	2
Total	(8)	4	(3)	2	(5)	2
Fixed Sample						
Sample	23	6	17	4	6	2
Total	(1201)	6	(835)	4	(366)	2
General Sample						
Sample	55	33	18	9	37	24
Total	(627)	81	(232)	25	(395)	56
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Total Sample	86	43	38	15	48	28
Total	(1836)	91	(1070)	31	(766)	60

Eight units in the sample could not be investigated as they were found defunct or untraceable, or were not found to be typical manufacturing units. A valid substitution could have been made only in the case of three untraceable units. Because of the fact that it is too small a number in relation to the sample size and that in regard

to the nature of the data in question such a small change of percentage would be inconsequential, no substitution is tried

In the sample they are distributed as under

		Defunct	Could not be traced	Improper	Total
General	(Primary processing	2	-	-	2
	(Subsequent processing	1	2	2	5
Fixed	Subsequent processing	-	1	-	1
Total		3	3	2	8

The Questionnaire

The intricate and elaborate nature of the information required necessitated questionnaire technique of investigation with personal interview. The general apathy to reply to mail questionnaire, particularly when it is lengthy and is accompanied by elaborate explanation, is too apparent. The validity of the information secured depended on the willingness, ability and honesty of the respondents to report the correct and complete facts. Almost invariably the heads of the firms like the managers, managing directors, partners or sole proprietors were insisted on for interviewing. Wherever possible and found essential, discussions were also held with more than one person in the same unit. Available published documents like balance sheets, reports,

pamphlets and other publications, if any, are consulted so that a clear and complete understanding of the facts regarding the firm may be possible, and be of use to conduct the discussion and to interpret the recordings accurately

Elaborate check lists were used in the questionnaire under each major head to facilitate the course of interview and to identify the facts more clearly. A brief note on each unit emphasizing especially, the facts of particular importance was added after the interview. There was no case of non-response though in many cases more than one visit -- became essential. That, however, does not mean that the response was always enthusiastic in the beginning itself. More often than not, the visitors are looked upon as -- avoidable intruders and many a time the first reaction was to find a convincing excuse to turn them out summarily. When once the interview began, they, however, generally tended to warm up, ending up with satisfaction that they could give a systematic expression to thoughts and facts, vaguely familiar with them hitherto, but seldom had the need to be presented in such a systematic form. However, it is not so much the appreciation of academic research as an opportunity to give vent to their grievance over Government that sometimes prompted them to welcome searching questions.

The period of investigation lasted for about six months beginning from November, 1962. It was prefaced with a pilot survey covering a dozen units.

Tabulation and Interpretation

The check list of the questionnaire provided useful guidance in the tabulation of the data. Sub-divisions of higher order in the check list and consequently their respective sub-divisional tables are mainly intended to sharpen the focus of identification during investigation and to serve as a background of each major behaviour during interpretation. To maintain precision in the tabular presentation, items under which there is either no reporting absolutely or almost no reporting were deleted.

While tabulating the units were further classified separately according to their employment size, the size of their locality and the region of their location.

The details of classification are as under

I Processing

- 1 Primary Processing
- 2 Subsequent Processing

II Unit Size

(As determined by employment)

- 1, Less than 50 ²
- 2 51 - 100
Less than 100 (1 + 2)
- 3 101 - Big
- 4 Big
101 and above (3 + 4)

2 Often referred to as Small Units in the subsequent sections

III. Size of locality (as determined by population)

- 1 Rural ³
- 2 10,000 to 1,00,000⁴
Non-city (1 + 2) ⁵
- 3 1,00,000 and above ⁶
- 4 Bangalore
City (3 + 4)
Urban (2 + 3 + 4)

IV Regions

Coastal

Transitional

Malnad

N Maidan

S Maidan

As could be seen from the above, in the classification based on the unit size, two sub-groups, namely less than 100 and '101 and above' are also recognised as supplementary levels of aggregation to highlight certain facts that may not be evident from the four-fold division

The localities were also similarly regrouped into 'City' and 'non-city' locations. A further cross classification into 'Rural' and 'Urban' is also tried. Though Bangalore is a city

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- 3 With less than 10,000 population according to 1951 census
 - 4 Often referred to as Town Location
 - 5 With less than 1,00,000 population according to 1951 census
 - 6 Often referred to as City Locations

in view of its primate position and of the fact that it is almost three times the next highest in the number of industrial units and industrial population, its distinct identity was continuously maintained

Though the additional three-fold reclassification would suffer from the limitation that specific criteria relating to each of such aspects were not looked into while drawing the original sample, the fact that they still constitute a random sample under each class, does not unduly vitiate the conclusions they are likely to lead to. However, owing to such limitations, conclusions in regard to reclassified - - groups may be taken to be more as suggestive than conclusive

A re-classification of the units according to the five regions of the State did not, however, prove useful, because most of the characters that are observed through such classification are the complicated reflection of the character - - determined by other forms of classifications relating to the nature of processing, size of the unit, or that of the locality. There is hardly anything to affirm that a particular behaviour of the units appeared to be largely related to variations that characterise the differences in regions. As a result, in the final form regional classification was deleted

The data are presented generally in the form of frequency of appearance of the units in regard to the issue in question. At times more than one cause may be in operation

and more than one behaviour in response. As a result, the addition of percentages under each of them may add up to more than 100.

Interpretation

Ultimately three major questions had to be answered directly. What are the experiences of the units regarding the locational factors over various phases of their origin and operation? What is the contribution of each of such location factors to such an outcome? And what are the major problems now faced by them? The pattern of interpretation, in the first instance was designed to meet squarely the first question. For instance, general causes of location, variations in the location situation, determinants of size, obstacles to expansion, etc. were examined in this part. A re-run of the data with a view to study the impact of individual location factors over each of such experiences of the units served the objective embodied in the second question. It entailed marginal repetition. Here individual location factors were fixed and experiences of the units were studied in relation to them. For instance, power as a cause of location, as a factor contributing to changes in the location situation, as a problem in day-to-day operation, as a detriment for expansion, etc. was separately assessed. If the former approach helped to a greater extent the understanding of the general industrial situation, the latter brought to light the regionality and individual importance of each of these major locational factors, helpful for a policy of

balanced regional economic development. Answers to the third was elicited from the replies to a specific question on the current problems.

General Limitations of the Survey

The data and conclusions may have to be read with certain general limitations of the study. All the observations are primarily limited to the units under investigation. Only when particular behaviour appeared strongly suggestive of general situation in the State or in a wider area a pointer to such possibility is held out. Variations in industrial composition, organisation, development, - - resource balance and such other deterministic phenomena, among different areas of the same country, render the transmission of the findings to other areas of the same country and to under-developed countries in general impossible. All the same, such conclusions do not altogether fail to provide valuable insight into the situation possibly prevailing in other similar areas.

The observation in regard to classification based on unit and locality sizes are secondary to the study. A rigorous outcome in regard to them would have required a larger sample. They are as a consequence, classified only at the tabulation stage so that the suggestiveness of emergent conclusions, either in pointing out any new issues or in supporting facts observed in regard to original classifications need not be lost.

Reasons like faults of memory factual error, bad sense of proportion and deliberate falsehood on the part of the respondents, may vitiate the validity of the information, despite the best efforts to correct them before recording. So too, small errors may be possible in classification of such abstract and loose facts and statements. In a qualitative study facts under observation do not generally lend themselves either for quantitative measurement or inter-comparison. As a result a higher numerical frequency ipso facto does not have a claim for greater importance.

Though the method of study entails the remote study of experience of units and their behaviour to deduce the behaviour of location factors, it is to be relied upon nevertheless as there is no more direct empirical approach to the problem.

It is very difficult to put weight on certain conclusions derived from a slender base of data though at times they might have emerged fairly conclusively. Conclusions are at best tentative. There are no comparable studies to corroborate. Nor is the sample large enough or other limitations insignificant to permit a claim of infallibility. Every instance of categorical tone in the interpretation of the data is subject to these limitations. The needs of clarity or sense of propriety in expression, and a desire to avoid ambiguity and the possibility of leading to contrary impression due to loose statements, might have induced such rigorous and seemingly categorical statements, which may have to be read ultimately with these overriding considerations.

It may have to be made explicit that the survey opens up fields for further work as much as it claims to have -- brought out certain basic facts. A study of larger dimensions may await another occasion. For a valid generalization of every observation to the whole state, a much larger sample may be essential. In addition to employment size, locality size and two-fold division of processing, employed here for the classification of the units, other considerations like investment degree of capital intensity, nature of organization, more detailed sectoral classification and also regions of location may be kept in mind as they are essential to study several of the important phenomena. They however, call for a still larger sample.

Similar Surveys

Cases of empirical investigation into the location causes and related issues have been generally rare. Most of the little number of available cases are related to the U S economy.⁷ Often scope was limited in one direction or

7 The following may be cited

McLaughlin G F and Robock S : Why Industry Moves South - A Study of Factors Influencing the Recent Location of Manufacturing Plants in the South, N P A , 1949

Greenhut M L : Plant Location In Theory and Practice University of North Carolina Press, 1956

Greenhut M L and Colberg M R : Factors in the Location of Florida Industry Florida State University, Tallahassee, 1960

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the other, as for instance geographical coverage was small, facts observed related to causes of location only types of units was confined to new units, branches or to only very large ones. The fact that the findings of these surveys all relating to the advanced economies differ widely among themselves is in itself a sufficient reason to form a hypothesis that situations may be different in under-developed countries. In no under-developed country, however, a similar investigation has been undertaken. And a study of the behaviour of individual location factors that directly bear on the regional policies, has not been undertaken so far anywhere. The findings of some of these surveys have been given at relevant places. At any rate, that they relate to a different background is a common qualification, and a warning to a casual impression that could possibly be founded on them.

Foot note 7 contd

Katona G and Morgan J N : The Quantitative Study of Factors determining Business Decisions E J E
February 1952

Also Annual Survey of Industrial Development by the Board of Trade, England