

CHAPTER - I
INTRODUCTION

UNEMPLOYMENT is one of the major problems that confront the planners of Indian economic development. It has assumed greater significance in the context of rapidly growing population and an ever expanding system of education in India. While rural unemployment takes primarily the form of disguised unemployment or seasonal unemployment, urban unemployment is likely to be generally of a chronic nature, and is largely identified with unemployment among the educated. Until now, studies of urban, or even of rural unemployment have centered around the quantitative aspects of the problem such as concepts, measurements and estimates of the level of unemployment and its growth. An equally important and relevant aspect of manpower planning and employ-

ment policies, namely, an analysis and understanding of the qualitative aspects of unemployment problem in general and urban unemployment in particular, has, however, remained relatively neglected. The main reason for this relative neglect lies in the paucity of relevant information.

Employment Exchange Data on Urban Unemployment:-

One important source of information on urban unemployment is the data compiled by employment exchanges. It provides information regarding the total number of job-seekers on the Live Register and their characteristics such as: age, sex, education attained, nature of income and job preferences, etc.. A regular and periodical examination of such information does provide some indication of the level and trend and, probably the structure, of unemployment in urban labour markets, where these exchanges function. But an intensive investigation of the characteristics of these registrants, their socio-economic background and employment status is likely to throw light on the nature and significance of the level of urban unemployment that the figures on the Live Register represent, particularly, on the differential incidence of unemployment by age, sex, education and other characteristics. Opinions differ even in respect of the extent to which the data from

the Live Register indicate the level of unemployment in urban areas. The growth of the numbers on the Live Register of these exchanges in themselves cannot be taken as 'complete or correct' indicators of the level of unemployment because of the well-known problems of non-registration of the unemployed and the registration of the employed and students.

The Expert Committee on Unemployment Estimates¹ has underlined the limitations and inherent weaknesses of employment exchange data both in terms of the quality and quantity of unemployment that the figures on the Live Register of employment exchanges represent. The limitations of the data relating to persons on the Live Register are the following. Employment exchanges are located mostly in urban areas. All the unemployed in urban areas do not always register with Employment Exchange as there is no compulsion on them. The registrants, on the other hand, are neither necessarily the unemployed nor from urban areas. The Live Register figures represent a portion of the unemployed, the employed,

1. Report of the Committee of Experts on Unemployment Estimates - Planning Commission - Government of India 1970. (hereto this report shall be referred to as Dantwala Report).

the students and also of the rural residents. The proportion of these components are likely to vary from time to time and place to place. Many factors bring about variation in the figures on the Live Register. There may be psychological and social factors besides the purely economic factor of growing unemployment. The main objective of the Employment Exchanges is to bring together job-seekers and employers who need labour for productive activities. The estimates on unemployment that these agencies offer are only by-products. The validity of these figures for one thing depends on the manner in which these agencies are organised and administered as well as on the advantages that the registrants enjoy and the popularity and accessibility of employment exchanges.

The Nature of the Present Enquiry:-

Under the circumstances discussed above and in view of the ever increasing numbers on the Live Registers, the figures therein need continuous checking, in order to work out reasonably accurate estimates of the level of urban unemployment. The reason for this is that the employment exchanges impose no obligation on the unemployed job-seekers to register themselves with them nor do they compel the employers to recruit their personnel from among the registrants.

From the N.S.S. surveys, the proportion of urban

unemployed who register with employment exchanges is estimated to be 40 per cent of the total urban unemployed.¹ Since registration is voluntary, persons with good qualification and specific skills, -(we may add and "influence") - do not have to have recourse to employment exchange registration in finding jobs in urban areas. Even among those who register with employment exchanges, according to D.G.E. & T. survey in 1968, about 43.5 per cent were employed and 6.9 per cent were students.² The same survey showed that for Madras, among the job seekers on the Live Register, 25 per cent were employed and 3 per cent were students. Another feature noted from the survey data was that a third of the job seekers on the Live Register of employment exchanges were persons of rural origin. These facts show that the number of Live Registration is partly an overstatement and partly an understatement of level of urban unemployment. Hence the importance of working out correction factors to estimate the level of urban unemployment based on employment exchange data has been suggested, by experts on employment and unemployment estimates. An analysis of the characteristics of the registrants and their families would provide the necessary clues for correcting the data on the L.R. of Employment Exchanges.

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1. J.Krishnamurthy - Employment Exchange Data on Unemployment. An attempt in applying correction factors. Dantwala Report - Appendix - III, p.145.
 2. A Survey to Ascertain the Proportion of Employed Persons on the L.R. of Employment Exchanges D.G.E & T., 1968.

and throw light on the qualitative aspects of urban unemployment. There are in fact several gaps in our knowledge of urban unemployment, its nature and significance. There is need to know the characteristics of the job seekers on the Live Register such as age, sex, and education etc., but more particularly these characteristics should be analysed in terms of availability of alternative means of support or household income. We are yet to explain the wage and job expectations of these job seekers and the factors which influence the specific income and job preferences not only of the unemployed seeking job through the employment exchanges, but also of the employed and student registrants.

Along with the growing numbers on the L.R. there are also a large number of lapses each year, that is, those who do not renew their registration for one reason or the other. It is also alleged that a large number of job seekers on the L.R. do not turn up for job-interviews, called through the employment exchanges. The factors underlying non-renewals and non-attendance at job interviews will help us to understand the intensity of their need for employment. One may, therefore hypothesise that the number on the L.R. of the employment exchanges in urban areas shows to a large extent, the demand for higher incomes or permanent jobs rather than the

level of urban unemployment or chronic unemployment as such. There was need for an intensive investigation and special survey to obtain empirical evidence for verifying this supposition. Studies completed by the Directorate of Employment and Training as for Madras,¹ Bihar², Uttar Pradesh,³ show increasing interest in such studies and surveys connected with urban labour force. The D.G.E. & T. had conducted a survey⁴ in 1968 and has provided useful information on the proportion of employed persons and students on the Live Register and their respective characteristics. Yet this survey was not sufficiently elaborate to provide information on the socio-economic background of the job seekers on the Live Register since the unit of analysis and study for this survey was the individual. The Report of the Committee of Experts⁵ has also emphasised the need for frequent surveys to obtain up-to-date data on the distribution of registrants on the Live Register by age, sex, level of education etc., and that these surveys be undertaken by research workers and non-governmental or quasi-governmental agencies.

The present study therefore, is an attempt in the direction of explaining some of the aspects described above,

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1. The Madras Labour Market - A Pilot Study, D.G.E. & T., 1964.
 2. Report of the Bihar Unemployment Committee, Department of Labour & Employment, Patna, 1962.
 3. Urban Unemployment in U.P., Directorate of Employment and Statistics, Government of U.P., 1964.
 4. Ibid.
 5. op.cit., Dantwala Committee Report.

with the main objective of throwing some light on the nature of urban unemployment and the income and job preferences of job-seekers in an urban setting. The objective was sought to be achieved on the basis of a Socio-economic Survey of selected Households in Madras City during the year 1972, covering the following aspects:

1. Socio-economic background and other characteristics of registrants and other members in their households,
2. Employment and unemployment particulars of persons in the Labour Force, belonging to these households,
3. Job search efforts in the past and present, of all persons who were in the labour force during the time of survey, with details on registration, renewals attendance at job interviews etc. from the registrants,
4. Job History particulars of all those who had changed jobs during 1962 - 72.

Besides the main objectives of the survey outlined so far, there are also a few more relevant issues on which we had collected some useful information. An attempt has been made - however limited in scope and details - to study the job-versus-studies preference of students who were found to be on the Live Register of Employment Exchanges. We have also probed into the desire and willingness of women currently engaged in household work to undertake economic activity with some thought given to the question of female labour force participation related to education and marital status. This would help us to examine the hypothesis that in the developing countries labour ^{Force} participation of women was often limited or conditioned by

their marital status and the number of children they have.¹

A Socio-economic Survey of households was undertaken to obtain the necessary data for the study of such aspects.

Sample design and coverage of the Survey:-

Taking into account the available funds and the time at our disposal, it was decided to interview a sample of 700 registrants in their households. Based on an earlier experience of a pilot survey in 1970 regarding the extent of our inability to contact the addressees, it was believed that a total of 1060 addressees would be adequate to enable us to interview 700 job seekers and the members in their households.

Sampling:-

A stratified sample of 700 registrants from the Live Register of the four Employment Exchanges in Madras City,** was drawn. The occupational divisions under which the job seekers on the L.R. are classified, formed the strata.* In view of the availability of the sampling frame (Live Register) in suitable sub-frames (occupational groups)

1. Ansley J.Coale & Edgar M.Hoover - Population Growth and Economic Development in Low-Income Countries. Oxford University Press, 1959.
- ** The Four Employment Exchanges in Madras City are:-
 - (i) D.E.O. The District Employment Office - at Nandanam Madras-35 (for Clerical and Technical Personnel)
 - (ii) D.E.O. at North Madras for the Unskilled Categories.
 - (iii) P.E.E.O. Professional & Executives Employment Office.
 - (iv) U.E.I.G.B. University Employment Information & Guidance Bureau, Madras -5.
- * The index cards of the applicants on the Live Registers of Employment Exchange are filed in occupational groups. This grouping has been used as stratification.

which themselves constituted suitable strata for the purpose of the survey, and in view of the availability of supplementary information about the sub-frames, the same stratification as was used in the D.G.E. & T. surveys, was adopted. In the D.G.E. & T. Survey, each stratum was treated separately for each state and fractions worked out proportionately for each state and a sample of suitable size in each stratum was estimated on the basis of the results of previous surveys, so that the margin of error would not differ from the true value by more than five per cent. (Table No I.1).

On the whole we could fill 650 schedules or 92.8 per cent of the target number of 700 schedule. The proportion of cancelled addresses to the total contacted was nearly 35 per cent. The reasons for our inability to fill in schedules for 350 addressees are shown on Table No.I.2. Incomplete and wrong addresses caused much difficulty in locating and identifying the households. Substitution became impossible in certain cases (divisions) as in the case of 9th. division, consisting of watchmen. (Due to strike among the Nepalese Gurkhas these have been dispersed and part of them had gone back to their native place.). Hence out of 69 addresses contacted, schedules could be filled in only for 30. Similarly in the case of drivers (6th division) we could fill in schedules only for 55 households out of 101 addresses contacted. All necessary precautions were taken to ensure maximum reliability of data

I.1.

Sample Design and Coverage

Occupational Divisions - Strata	Occupational Divisions - Codes	Sampling fraction for Tamil Nadu	Number of addresses drawn	Percentage of the number in the total size of the sample	Number required persons	Number required Males	Number required Females	Number actually filled - Persons	Number actually filled - Males	Number actually filled - Females
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Professional Technical and Related workers	0	1/91	49	4.62	32	16	16	32	16	16
Administrative executive and Managerial	1	$\frac{1}{2}$	9	0.86	6	6	-	6	6	-
Clerical and Related workers	2	1/13	177	16.68	117	58	59	117	59	58
Farm workers	3 & 4	1/5	24	2.26	16	16	-	10	10	-
Mines & Quarrymen	5	1/1	7	0.66	5	5	-	3	3	-
Workers in transport and communication	6	1/46	101	9.52	67	61	6	55	50	5
Craftsmen	7 & 7	1/57	149	14.04	98	92	6	93	87	6

contd.

I.1.

Sample Design and Coverage (Contd).

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Labourmen with some) experiences	8 a	1/23	6	0.57	4	4	-	4	4	-
Service Sports & Recreation	9	1/3	67	6.31	44	44	-	30	30	-
Persons without work experience or training below SSLC.	10	1/285	155	14.51	102	81	21	93	72	21
Persons without work experience or training S.S.L.C. or P.U. Certificate.	11	1/228	101	9.52	67	42	25	67	42	25
Graduates and Post- graduates without work experience.	12	1/21	216	20.36	142	99	43	142	98	44
TOTAL			1061*	100.0	700	524	176	650	475	175

Note* The 361 addresses taken in excess of our requirements for the purpose of substitution, were not proportionally distributed among the strata on the basis of cancellation in each stratum.

obtained in investigation. Fifteen per cent of the sample households were revisited for scrutiny of inconsistencies.

The actual survey interviews were carried on during the second half of 1972. Besides the data collected on the basis of this sample survey, we have also used the data collected by D.G.E. & T.¹, all India Survey and relevant census data for analysis and comparison.

1.2. Percentage Distribution of the Cancelled Addresses According to the Reasons.

Reasons for Cancellations

<u>Reasons for not filling in schedules</u>	<u>Number of Households</u>	<u>Percentage</u>
1. Addressee ^e not traceable at the given address.	123	35.14%
2. Addressee ^e out of station and not available for 3 months.	62	17.7%
3. Addresses transferred, not likely to return within 6 months.	22	6.3%
4. Addresses not traceable.	44	12.6%
5. Incomplete and wrong addresses.	53	15.1%
6. Households shifted elsewhere.	38	10.9%
7. Refusal to respond	5	1.4%
8. Addressee deceased.	3	0.9%
Total:-	<u>350*</u>	<u>100.0</u>

* This figure excludes the special cases of three addresses that were outside city limits, but have been contacted. There were also another three addresses, one belonging to Andhra State, and two others belonging to Madurai & Tinnelveli within Madras State but outside Madras City, whom we did not contact.

1. Op.cit.

Concepts and Definitions:

It seems necessary to explain here the various concepts and definitions used in the present study before we begin the actual analysis of the data - even though we have explained these terms elsewhere in the course of discussions.

1. Addressee and Non-Addressee:

Addressees are those persons - registrants who were actually selected for our sample from the Live Register of Employment Exchanges in Madras City. The addresses of these persons were taken for contacting their respective households. All addressees are thus necessarily registrants even if their reported registration status showed them to be otherwise. The non-addressees were persons other than the addressees defined above, but who belonged to the households of the addressees. Even among these non-addressees there were registrants and non-registrants. Hence, a further distinction as addressee registrants and non-addressee registrants was made in the course of analysis. Nearly 91% of the addressees reported to be on the Live Register.

2. Current Activity Status:

A. This refers to the activity in which the person was currently engaged, whether he be within or outside the labour force. It is wider than employment status because

it includes even retirement or schooling or even disability. The current activity thus defined includes the working, the non-working, those available for work and those neither working nor available for work. The last category includes the children, the students, the aged, the housewives and the disabled or handicapped persons. Thus by current activity, we determine whether the person is in the labour force or outside the labour force.

B. The usual employment status as prescribed by C.S.O. and used by D.G.E. & T. includes the employed, the unemployed and the students. The definitions are as follows:-

(a) Employed: A person was treated as employed if he had worked for salary, wages or profit in some gainful occupation or as unpaid helper in a family enterprise or as an apprentice (paid or unpaid) in some establishment on at least one day during the seven days preceding the date of enquiry (reference week).

Similarly, a person was treated as employed if he had some job, business or apprenticeship from which he temporarily absented himself during the reference week for such reasons as illness, holiday, strike, bad weather or any causes necessitating temporary absence from work.

- (b) Unemployed: If a person neither worked during the reference week nor had a job or business from which he was temporarily absent but was seeking work, he was treated as unemployed. These include those who have never worked before, the fresh entrants and those who have worked before.
- (c) Student: A person whose primary occupation was the pursuit of studies was considered a student.

3. Class of worker status:

This refers to the relationship of the worker to the industry or establishment (this is sometimes called employment status). In our survey, this class of worker status included the following classification:

- (a) Employer: An employer is one who owns and operates his own business, trade or profession, employing one or more paid workers.
- (b) An Employee: Is a person who usually works under some other person for salary or wages in cash or kind. There may be persons employed as managers, agents, etc., who may employ and control other workers; still they are employees.
- (c) A Self-employed: Is an own account worker who manages his own business, such as a vendor or a small pan shop owner.

- (d) An unpaid family helper: Is one who helps in the household industry, family business or farm without any specific remuneration in cash or kind. Their assistance is often casual or part-time.
- (e) An Apprentice: Is one who is undergoing training in a factory or firm for a specified period of time, receiving some stipend or pay or even without any such remuneration.

4. Labour Force:

Labour force includes all persons classified as economically active, i.e. those who supply effort for the production of goods and services for exchange - namely, the employed and also those who though not working, seek an opportunity to do so - namely, the unemployed. Labour force thus defined is an inventory of individuals who constitute the economically active population of the community and the two components of the labour force are the employed and the unemployed.

5. Labour force participation rates refer to the ratio of persons in the labour force to the population expressed as per cent or per 1,000. The term worker rates relates only to the workers - employed persons to the population. We may also add here that by incidence of unemployment we mean persons classified as unemployed as per cent of those in the labour force.

6. Live Register:

Live Register (L.R.) maintained by employment exchanges is a collection of index cards of applicants who seek employment assistance through the employment exchanges (E.E.). These cards contain information on the age, sex, educational qualifications, the nature of income and job^P references and the duration of employment etc. of the applicant.

The number of the Live Register refers to the Cumulative total of registrants who are found awaiting employment assistance from employment exchanges at the end of each year. Total number registered during the year refers to those who have been placed in employment during the year plus the numbers who were already on the registers at the beginning of the year accounts for the Live Register total.

7. Manpower:

This term is used to mean the potential labour force which includes the able bodied persons within the economy, who can be used for productive services. Roughly, it includes persons in the age group 15 - 59, excluding the physically handicapped, the disabled persons and women engaged in housework. It is customary to distinguish between actual labour force and potential labour force. Manpower or potential labour force refers

to the available human resources within the economy.

8. Migration Status:

According to 1961 census, a migrant is one whose place of birth is different from the place of enumeration. He is an out-migrant of the place of his birth and in-migrant of the place of enumeration. Even though we felt that place of birth alone would not be a sufficient criteria for determining the migration status, we used the same criteria in our chapter III on Labour Force, in order to facilitate comparison between 1961 census and our survey data pertaining to Madras City population.

However, in our analysis of the characteristics of registrants we have used a slightly modified criteria. Namely, we have taken into consideration, the frequency of rural visits and the reasons for such rural visits along with the duration of stay in Madras City besides the details of the place of birth. In brief, the nature of their current connections with and commitments in rural areas, has been taken into account in determining rural-urban residence status of the job seekers in urban areas.

9. Occupational Mobility:

Occupational mobility refers to the movement of labour between jobs and occupations. This includes changes in occupation. A change in work occurs when a steno

takes up a job as a telephone operator. While only the job is changed when a clerk from the university takes up clerical work in a private firm.

10. Stability of Jobs:

This refers to the duration of the jobs held by the employed persons. Jobs may be of a temporary, permanent or casual nature. In the survey we had used the following definitions in determining the stability of jobs or the nature of duration of the current jobs.

The permanency of a job depends not only on how long or how many years a person has been working or is employed in a particular job, but also on the nature of the agreement or understanding with the employer. A temporary post may last from 6 months to even 6 years while the contract is made on a temporary basis. On the otherhand, an employer may take up a job only as a stop gap agreement before finding a better job. He may consider his job as a temporary one even though he can continue in this job as long as he wishes. Here, this is not a temporary job, but will be considered as a temporary job.

Casual work means, work that is available, intermittently or occassionally. The frequency of

availability of work may differ, e.g. a cook finds employment throughout the month during the wedding season. Yet he is a casual worker and his work is neither permanent nor temporary (unless he is employed in a hotel or household on permanent or temporary basis), because he changes employer each time.

Casual work can become temporary work if the same cook is employed throughout the wedding season by a contractor who undertakes catering for wedding parties.

However, duration of work is also important in distinguishing casual work from temporary work and temporary work from permanent work. Unless otherwise reported, normally work for more than 5 years at a stretch was taken as permanent job in this survey.

11. Student Registrants:

Taking into account the reported activity of the registrants we have classified the registrants into the employed registrants, the unemployed registrants and the student registrants.

The student registrants are those who were found on the Live Register of employment exchanges and at the same time were studying or attending classes or

courses. There were both part-time and full-time students depending on the nature of their studies.

12. Urban Job Seekers:

These are persons, whether employed or unemployed who seek jobs in urban areas or seek urban type of jobs, even if they are not necessarily residents in urban areas. There may be persons of rural origin or actually living in rural areas or recent migrants to urban areas in search of employment. Those residents or non-migrants who seek jobs in their native towns and cities are the urban unemployed proper - but there are also rural migrants who flock ^{to} cities in search of employment. Thus the term includes all job seekers found seeking jobs in urban areas.

Urban unemployed will include those individuals who are unemployed and are seeking jobs. Here the rural - urban distinction followed is the same as used in census enumeration. Hence, urban unemployed refers to that section of urban population who are found unemployed. Those who were not actually seeking work but were available for work have also been included among the unemployed in analysing the general characteristic of the unemployed.

Scheme of Analysis:

We begin the analysis with a brief descriptive chapter (II) on the origin and development, role and functions of the Employment Exchanges in India and in Tamil Nadu, with a view to emphasising the significance of the data furnished by these employment agencies regarding urban labour market. Further such historical analysis is a help for understanding the inherent weaknesses of these agencies in supplying employment information. The basic function of these employment exchanges, namely, placement of the job seeking registrants has been the special target of this chapter.

The actual analysis of the data obtained from the survey is divided into 2 parts. First, the study of urban labour force (Ch.(III)) with reference to the socio-economic background of the employed (Ch.(IV)) and the unemployed (Ch.(V)). The characteristics discussed in these chapters include age, sex, education, migration, labour force participation, income and job preference. The first part is thus a descriptive analysis of the characteristics of the labour force in the sample population and the structure of employment and unemployment as revealed by the survey data.

The second part is the analytical study of the registrants, Ch.(VI), their current employment status, age, sex, and educational qualifications the nature of

their income and job preference, the duration of their waiting, the reasons for non-renewals and non-attendance at job interviews etc. which throw light on the nature and significance of urban unemployment as revealed by the volume of Live Registration. The job versus studies preference of students currently found on the Live Register of employment exchanges is discussed in a separate chapter (VII), while it is part and parcel of the same study of registrants. The job history of those who had changed jobs during the past decade 1962 - 72 is presented in a brief chapter to complete our study of urban unemployment and labour force with this additional information on mobility and job stability.

In the concluding chapter, we have summarised the salient points of our analysis with suggestions that we felt necessary for future studies.

APPENDIX I 1.

Statement I

Number of Applicants on the Live Register as on 31.5.72

<u>Office</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
i) Employment Office, Nandanam	27,990	8,642	32,632
ii) Employment Office, North Madras	29,754	8,409	38,163
iii) University Employment Information and Guidance Bureau, Madras	421	55	476
iv) Professional and Executive Employment Office, Madras - 35.	2,690	604	3,294
	<u>60,855</u>	<u>17,710</u>	<u>78,565</u>

Source: D.E.O. Madras 35.

Statement II

31-12-71.

<u>Divisions</u> <u>N.C.O.</u>	<u>Madras 35</u>	<u>Madras - 1</u>	<u>P.E.O.</u>	<u>U.E.I.G.B.</u>	<u>Total</u>
Dn.8	3168	-	2783	326	6277
Dn.2x 1	7	-	3	-	10
Dn.3x 2	1801	-	-	-	1801
Dn.3n 4	27	-	-	-	27
Dn.5	18	-	-	-	18
Dn.6	2810	1580	-	-	4390
Dn.7and 8	8890	-	-	-	8890
Dn.9	-	2116	-	-	2116
899	-	208	-	-	208
X08.10	-	32500	-	-	32500
X00.10	20205	-	-	-	20205
X00.30 88	4079	-	570	308	4957
Total	41005	36404	3356	634	81399

Source: D.E.O. Madras - 5.

APPENDIX - I2.

Sampling Fractions (1: ...)

State	Professional	2	3	4	5	6	7	8	9	10	11	12	13	14	Total Sample Size
1. Andhra Pradesh	50	2	3	20	2	1	18	30	15	23	130	130	13	3871	
2. Assam	4	1	1	4	1	-	4	9	4	8	70	35	6	3096	
3. Bihar	80	1	1	25	3	9	16	150	16	20	190	130	40	4266	
4. Chandigarh	4	-	1	3	1	1	2	2	3	3	7	10	2	2557	
5. Delhi	40	1	1	23	3	1	10	18	30	4	60	80	16	4002	
6. Goa	2	1	1	2	1	-	2	2	3	2	7	4	2	2405	
7. Gujarat	27	1	1	20	3	1	7	12	12	3	110	90	18	3899	
8. Haryana	25	1	1	4	3	1	6	8	12	9	30	25	4	3560	
9. Himachal Pradesh	8	1	1	4	2	1	5	9	7	11	40	25	3	3435	
10. Jammu & Kashmir	2	-	1	2	1	1	2	2	2	4	7	4	2	1800	
11. Kerala	60	3	3	40	5	1	20	37	30	8	130	140	13	4265	
12. Madhya Pradesh	22	3	3	13	3	1	13	28	14	30	150	150	22	4109	
13. Tamil Nadu	80	2	2	11	4	1	40	50	20	3	250	200	18	4113	
14. Maharashtra	30	2	2	70	4	1	16	48	22	20	330	180	20	4193	
15. Manipur	2	3	3	1	1	-	2	2	2	1	16	8	3	2404	
16. Mysore	40	1	1	15	3	1	9	24	13	7	180	190	13	3803	
17. Orissa	11	1	1	6	2	1	6	14	8	50	35	50	6	3640	
18. Pondicherry	2	-	1	1	1	-	1	2	1	1	14	6	1	1484	
19. Punjab	40	2	2	4	2	1	8	14	14	18	30	30	9	3835	
20. Rajasthan	25	1	1	4	2	1	4	10	10	3	80	80	10	3667	
21. Tripura	3	1	1	2	1	-	1	3	2	2	15	24	2	2590	
22. Uttar Pradesh	35	2	2	20	3	1	11	54	36	10	300	230	35	4038	
23. West Bengal	30	2	2	40	2	7	21	100	30	40	500	250	50	4294.	
														79326	

Source : D.G.E.T. SURVEY

CHAPTER - I APPENDIX - I.3.

METHOD OF ESTIMATING SAMPLE SIZE

As stated in para 2.3 of the Scheme, it has been considered necessary to fix the sample size so as to achieve 95% precision at 5% level in the estimates of proportion of employed persons in each stratum in each State. Let N be the total size of and P the true proportion of employed persons in a particular stratum in a State. If a sample of size n_0 is drawn and if p is the estimate of the proportion based on the sample, then with a probability of 95%:

$$p - 2 \sqrt{\frac{PQ}{n_0}} \leq P \leq p + 2 \sqrt{\frac{PQ}{n_0}} \quad (\text{where } Q=1-P)$$

assuming normality and ignoring f.p.c. Our objective, therefore, is to have ' n_0 ' such that

$$2 \sqrt{\frac{PQ}{n_0}} = \frac{1}{20}$$

or $n_0 = 1600 \cdot PQ$

From the earlier survey it has been noticed that P is likely to be around $\frac{1}{2}$. This value of P incidentally yields the maximum sample size and hence the desired accuracy will be preserved even if the proportion is different from $\frac{1}{2}$. The desired sample size n_0 will then be equal to 400. Using this value of n_0 , the sample fractions have been worked out. Wherever the fraction happened to be more than 5%, correction for finite population has been applied and a revised value of n_0 has been calculated using the formula:

$$n = n_0 \frac{1}{1 + \frac{n_0 - 1}{N}}$$

Source: Scheme for the conduct of survey to ascertain the proportion of Employed persons on the Leve Register of Employment Exchanges D.G.E.&T. Cyclostyled. Appendix -II. 1970.