CHAPTER I

INTRODUCTION AND RESEARCH DESIGN
1. INTRODUCTION

Unemployment and under employment are the unique features of Indian Economy. The Report of the Bhagavati Committee on unemployment estimated that in 1971, 16.7 million persons were unemployed.\(^1\) Which included 9 million who were un-employed and 9.7 million who worked for less than 14 hours a week and who, the Committee stated, should be treated as being on part with the unemployed.

Andhra Pradesh with its population of 66 lakhs according to the census of 1991,\(^2\) (555 lakhs as per 1981 census) had a labour force of 265 lakhs, of whom 120 lakhs were engaged in agriculture and another 13 lakhs in other rural vocations. The number of unemployed persons in rural areas was estimated at 9 lakhs. In addition, as only 66 lakhs of agricultural workers were fully employed, 43 lakhs had to be provided with part-time employment in the off season.\(^3\) For Andhra Pradesh the State Planning Commission estimated that in 1981, 1.5 million workers were unemployed.\(^4\) This estimate did not include those who were working for less than 14 hours a week. If that were added, the unemployment in the sense in which the Bhagavati Committee used the term, would amount to 2 million.

The incidence of unemployment in India over the past seven Five Year Plans is presented in the following Table.\(^5\)
<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>Annual</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plan</td>
<td>Plan</td>
<td>Plan</td>
<td>Plans</td>
<td>Plan</td>
<td>Plan</td>
<td>Plan</td>
<td>Plan</td>
</tr>
<tr>
<td>1. a) Backlog</td>
<td>3.3</td>
<td>5.3</td>
<td>7.1</td>
<td>9.6</td>
<td>12.6</td>
<td>17.1</td>
<td>22.33</td>
<td>9.2</td>
</tr>
<tr>
<td>b) New entrants</td>
<td>9.0</td>
<td>11.8</td>
<td>17.0</td>
<td>14.0</td>
<td>23.0</td>
<td>65.0</td>
<td>33.50</td>
<td>39.38</td>
</tr>
<tr>
<td>c) Total (a+b)</td>
<td>12.3</td>
<td>17.1</td>
<td>24.1</td>
<td>23.6</td>
<td>35.6</td>
<td>82.1</td>
<td>55.83</td>
<td>48.58</td>
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<tr>
<td>2. Additional employment generated in:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Agriculture</td>
<td>1.5</td>
<td>3.5</td>
<td>4.0</td>
<td>2.0</td>
<td>4.5</td>
<td>13.53</td>
<td>14.74</td>
<td>17.934</td>
</tr>
<tr>
<td>b) Non-agriculture</td>
<td>5.5</td>
<td>6.6</td>
<td>10.5</td>
<td>9.0</td>
<td>14.0</td>
<td>46.24</td>
<td>31.69</td>
<td>22.372</td>
</tr>
<tr>
<td>c) Total (a+b)</td>
<td>7.0</td>
<td>10.0</td>
<td>14.5</td>
<td>11.0</td>
<td>18.5</td>
<td>59.77</td>
<td>46.63</td>
<td>40.356</td>
</tr>
<tr>
<td>3. Backlog carried forward to Eighth Plan (1-2)</td>
<td>5.3</td>
<td>7.1</td>
<td>9.0</td>
<td>12.6</td>
<td>17.1</td>
<td>22.33</td>
<td>9.20</td>
<td>6.224</td>
</tr>
</tbody>
</table>

Source: Five Year Plans

It would appear that the Seventh Plan would start with a backlog of unemployment of 9.2 million. Adding to this, the estimate of 39.38 million would be new entrants into the labour force in the course of the plan period, then, the VIIIth Plan's burden would be to provide jobs for about 50 million people. So far, for over 4 decades of planning, 3 million jobs per year were created, and if the VIII Plan is to create full or nearly full employment by the end of its period, it would be necessary to create 20 million jobs per year.
Out of 1.87 crore total unemployed persons in 1971, the number of unemployed in the rural areas was 1.61 crores comprising 79 lakhs males and 85 lakhs females. The high incidence of unemployment in the rural areas may be attributed partly to the seasonal nature of agriculture. As Das Nabagopal estimated (1980): "For at least 5 to 7 months in a year, the very large number of people who derive their livelihood from agriculture have to remain idle or unemployed".

Thus, the unemployment as a proportion in the total labour force has been mounting from Plan to Plan and it has assumed an unhealthy dimension which has got to be tackled on a war footing. Besides acute unemployment which is assuming alarming proportions, year after year, another serious problem is the vast under-employment (seasonal as well as permanent) which is perhaps even worse than unemployment. To a greater extent the continuing additions to the technological unemployment are felt in the field of traditional industries. Around 40 per cent of the people are living in acute poverty with a low rate of income and savings and the scarcity of capital is a challenge to our developing economy.

As regards the State of Andhra Pradesh about 40 to 49 millions (72.90%) of the population fall below Poverty
Line (with reference to minimum needs) as 1991. Besides, the situation is burdened with a host of institutional factors inhibiting the process of economic growth, indicating the wastage of resources of manpower and in terms of distribution and low income groups living much below any recognised subsistence level.

The fundamental postulate is that every citizen of India has a right to a decent living through fruitful occupation. This can be promised only through industrialisation which implies dispersal of industries, removal of disparities in development and better utilization of local talents and resources in gainful employment. It is important to improve the conditions of living and working of the workers in this sector, the bulk of whom belong to the lowest income groups in the country. Their conditions are extremely poor and disappointing and whose welfare is paid inadequate attention for long.

Rural artisans are essentially producers and it is only when they give up their artisan status, finding it no longer profitable to pursue their traditional vocation, that they sink into the rank of labourers. It is an important aspect of national policy to prevent this from happening as far as possible. The aim of the national policy has to be to conserve as far as possible the skills and investment of
rural artisans in their own particular industries and to see that they become viable. 11

Providing employment through village and small scale industrial cooperatives in the occupations in which people have been traditionally trained (through inheritance or otherwise) is a rational approach which can combat mass poverty and unemployment and under-employment. This can mobilise rural resources, both human and material and increase rural incomes in the context of alleviating the hardship of poverty among the rural artisans. Therefore, the establishment of small-scale industrial cooperatives becomes inevitable in the Indian context because of:
(a) the availability of abundant human resources which can be tapped for fuller utilization by organising many small scale enterprises;
(b) great paucity of capital resources;
(c) increase in unemployment in the economy; and
(d) unbalanced growth in the regional development of the country. 12

The cooperative form of organization ensures better pooling of resources, improved equipment, more modernized techniques of production, organised marketing and cooperative sharing of risks. Moreover, it lends itself to inter-linking of cooperative units through federations at
different levels, gaining more and more strength in the process. Thus, the industrial cooperatives within the total sector should occupy an extremely important place in the national strategy to provide succour to the weaker and vulnerable sections of the society especially to those who have nothing except the skills to sustain their family and themselves.

Chittoor, one of the four backward districts in Rayalaseema Region of the State of Andhra Pradesh has several aspects to its credit in building up the cooperative movement. There are 29 Weavers Cooperative Societies and 216 other than Weavers Cooperative Societies comprising various activities like Handicraft, Village oil, Gur and Khandasari, Pottery and Bricks etc., by 30 th June, 1991 in the district. However, as many as 9 of the Weavers and 115 of other than weavers are defunct resulting in dormancy. There are many reasons for the dormancy and they vary with the category place and time. They include:

What is the need for Cooperatives?
What is the pattern of growth of Cooperatives?
What are the problems confronted by the Cooperatives?
What are the causes of dormancy in Industrial Cooperatives?
What are the consequence of dormancy?
To find the answers to these questions an empirical micro level research study has been designed. The contents of the design are presented in the following paragraphs.

II. OBJECTIVES

Based on the critical examination of genesis and working of Industrial Cooperatives, the following specific objectives have been identified to examine the role of Industrial Cooperatives in the economic development of Chittoor District:

1. To review the pattern and progress of Industrial Cooperatives in India, in A.P. and in Chittoor District.

2. To examine the impact of the State Policies on the development of Industrial Cooperatives in Chittoor District.

3. To identify the various reasons for dormancy of Industrial Cooperatives by examining the areas relating to the organisational structure, management, production, finance, purchase and marketing of selected dormant Industrial Cooperatives of Chittoor District; and

4. To offer appropriate suggestive measures to overcome dormancy in Industrial Cooperatives.
III. REVIEW OF LITERATURE

Some relevant literature on industrial cooperatives are reviewed here. The notable contribution in the area of industrial cooperatives is by Mehta. The author discussed at length all the issues relating to industrial cooperatives like the growth and development of industrial cooperatives in various states, the operations of the different industrial cooperatives, financing of industrial cooperatives and also the cooperative education and training.

Pillai discusses the growth of industrial cooperatives through Five Year Plans in his book on industrial cooperatives. It also covers the role of Reserve Bank of India and Khadi and Village Industries Commission towards the development of Industrial Cooperatives. It also contains the recommendations of the first and second working groups of industrial cooperatives.

The small industries extension training institute of Hyderabad conducted six case studies of industrial cooperatives during 1967-1970. These studies mainly focussed on the factors for the success and failure of cooperative enterprises in small scale sector and also worked out norms for measuring such factors effectively.
In his study "Weavers' Cooperatives", Shanmugasundaram is mainly concerned with the relationship of the personnel and socio-economic factors of the individual members with their utilization of their respective societies. The study is purely descriptive and not diagnostic and the author has offered suggestions for achieving a higher degree of utilization of weavers' cooperative societies by members.

The survey of the Handloom Industry in Karnataka and Sholapur carried out by National Council of Applied Economic Research (NCAER) in 1958 highlights the problems and weaknesses of the handloom industry. Some important findings of this study are:

(a) the weaving establishments are small, scattered and poorly organised and are unable to meet the competition from textile mills,
(b) their major difficulties are lack of funds, inefficient methods of production and marketing,
(c) a large percentage of workers work for the master weavers and also depend on them for finance,
(d) the influence of the master weavers is supreme in urban centres,
(e) since the handloom weavers work for middle men, their bargaining power is weak, and hence, only a very narrow
margin of profit is left for them,

(f) the process of production in practice is uneconomical,

(g) Master Weavers are an important source of loans and yarn,

(h) due to the weak economic position of the weavers, they are unable to hold back the stocks and they sell the cloth at unfavourable prices, and

(i) the looms are under utilised.

The study also emphasises the role of cooperatives in solving the problems and recommends for "a systematic reorganization of the industry through the formation of cooperatives".

In his article "Programmes for Weavers" Prosperity, Batra recommends adoption of Weavers' Cooperative Societies by spinning mills. In another article "Protection for Handloom Industry", he brings out the weakness in the implementation of the reservation order, reserving certain varieties of cloth exclusively for handlooms.


Jha highlights the appropriateness of the handloom
industry for cooperative action in his paper on "Need for Training Managers of Handloom Cooperatives." 22

Arumugam in his article Handlooms since Independence narrates the Government's efforts over the years in revitalising the handloom industry. 23

In his article "Handloom Industry - A case for Co-operativisation", Garg elucidates the role of Cooperatives in improving the conditions of the handloom industry on two grounds. (i) the employment potential and the traditional nature of the industry and (ii) the economic backwardness of the handloom weavers. 24

In his paper on "Progress and Problems of Handloom Weavers' Cooperatives in Karnataka State", Venkatappa discusses the problems of Weavers' Cooperative Societies under different headings such as social problems, problems relating to management and organizational defects. In his findings relating to management, he highlights the problem of utilisation of resources. He observes that in some cases even the raw material is supplied, by the society and the members' finished product is going outside. 25

Choubey in his article "Problems and Prospects of Weavers Cooperatives in Bihar" makes a historical review of the progress of Weavers' Cooperatives in the State of Bihar.
As a step towards revitalisation of Weavers Cooperative Societies he classifies them into three categories

(a) Viable Societies,
(b) Societies which can be made viable and
(c) Societies to be liquidated.

He recommends linking of both Weavers' Cooperative Societies with the Cooperative wholesale Consumer Stores so as to ensure speedy disposal of the handloom products. 26

Guruswamy in his article "Economic Development and Industrial Cooperatives" states that an industrial Cooperative is one of the few institutions which will bring the required changes both in the national and personal levels and can start off a silent revolution in our country. He emphasises that for the successful working of industrial cooperatives, the government has to undertake integrated effort to overcome the difficulties experienced by them in various levels and directions. There should be prompt supply of raw materials, machinery and tools. Care should be taken to provide adequate credit facilities on appropriate terms and on right time. The government has to provide facilities for the promotion of an assured and expanding market for the products of these societies. 27
The special report on "Smart Growth of Industrial Cooperatives Despite Odds" brings out the phenomenal growth of the Cooperative cottage industries in U.P. The report points out that the growth of the movement was slow being confined to only service type of societies for supply of raw materials and limited marketing of finished goods. Cooperative societies are currently faced with a variety of problems e.g. difficulty in marketing of products, non-availability of qualified and trained persons to act as secretaries, lack of proper supervision by officials of the cooperative department, inadequate financial assistance from institutions including district cooperative banks, lack of leadership among artisans, and inclusion of non-working artisans with vested interests in the societies.

Mehta in his article "Industrial Cooperatives" has traced out the Cooperative movement in India and clearly pointed out that despite numerical growth, they are either marking time or back tracking. Further, he has highlighted the special features of industrial cooperatives other than the weaver's. He observes that if cooperatives are being run in losses, their importance will be vanished and there will be no alternative except nationalization at each level in the industrial sphere.
Upadhyaya (1973) examined certain economic aspects of handicrafts with reference to Aurangabad which also covered handlooms of the area. As against the general problem of marketing faced by small and cottage industries, he finds market as not a constraint but the more pressing problem was lack of finance.

Besides these research studies, the following committees appointed by various Governments during the sixties and seventies have also made studies on various aspects of the Handloom Industry.


2. Study Team appointed by the Government of India in September 1973 under the Chairmanship of Sivaraman.


4. Andhra Pradesh House Committee to enquire into the activities of Handloom Cooperative Organisation relating to the misuse of Rebate in 1976.
IV. NEED FOR THE STUDY

In the past industrial cooperatives were organised, many steps were taken, targets financial outlays were made, paternalistic assistance through subsidies etc. was provided, huge administrative structures/apparatus was created, statutory and advisory bodies were established, but the bane of Industrial Cooperative Movement has been however, an increasing incidence of dormancy amidst them.

Further to state dormancy in cooperatives in Andhra Pradesh has become a perennial problem and it is a matter of deep concern for their survival. Because of dormancy many societies have become defunct and non-existent. Although significant research studies have been carried out by the social scientists and Governments organisations in respect of the working of cooperatives in relation to rural development an indepth study to look into the problems of dormancy among cooperatives in our country has not been attempted. It is in this connection is made, in this study and to examine the factors influencing the cooperatives and their role in the context of rural development and for the upliftment of artisans and other weaker sections in the society.

A dormant society not only shakes the confidence of the members of the cooperative organisation but vitiates
the name of the cooperative movement as a whole. Therefore, a constant and continuous increase in dormancy is a matter of deep concern. The incidence of dormancy and mortality among the Industrial Cooperatives and that too within a few years of their organisation is so sharp and high that it has become a matter of deep concern for the policy makers of the country.

V. AREA OF THE STUDY

Chittoor District was chosen for the study one to the following considerations:

(a) An introspection into the genesis and development of the cooperative movement in Andhra Pradesh reveals that Chittoor District in Rayalaseema Region has many "FIRSTS" to its credit. The first Primary Weavers Cooperative Society, the first Industrial Cooperative Society (other than weavers), the first Cooperative Consumers Store, the first Land Mortgage Bank were started in the District and the other Districts in the Rayalaseema Region followed the example. In the overall picture of the total districts in Andhra Pradesh, Chittoor District is regarded as one of the industrially backward districts. It is an established fact that the small enterprises especially the
handlooms have a rich tradition in the field of business and entrepreneurship. As such, this study would mean an examination of the entrepreneurship in the District which is regarded backward. It further serves as a stimulant for similar studies to be undertaken in the relatively backward districts/ states/ regions of the country in future. It would be interesting to know as to why some societies could not thrive while most others prospered in cooperatively progressive States.

(b) The need of the hour is to locate the reasons and suggest solutions for dormancy in Industrial Cooperatives. Further to state, the problems of Industrial Cooperatives are not the same in nature but differ from one place to another. Hence, the study in taken up to identify the specific problems and to suggest the remedies for dormancy.

(c) A study of this nature requires a grass-root level approach and understanding. Problems at micro level are invariably linked with the problems at macro level. This approach will undoubtedly give a comprehensive understanding of the functioning and working of Industrial Cooperatives.

(d) There are no specific studies in this field.

(e) Therefore, the present empirical study attempts to
evaluate the condition of the dormant Industrial Cooperatives, highlight the reasons for their running into dormant condition etc. and suggest remedial measures for the problems to serve as a palliative, if not a panacea. This study may be found useful for future formulation of policy framework by the State Government and the Cooperative Organizations.

(f) Although there is general awareness of the problems faced by the entrepreneurs of small industries, specific studies of a representative nature of the particular problem of dormancy is yet to emerge to enrich our understanding.

VI. DEFINITION AND CLASSIFICATION OF INDUSTRIAL COOPERATIVES

The term "Industrial Cooperatives" is understood in various ways by various people. There is a controversy over the exact definition, and scope of the term "Industrial Cooperatives". The expression "Industrial Cooperatives" is relatively of a recent origin. A lay-man may understand it as something to do with industry. An economist, may feel that it is one of the methods of developing the economy in the country and a private industrialist may consider it as a losing venture attempted by the State. For a Cooperator, it may mean a Cooperative organization engaged in an industry; while a Government official may wonder whether it could work
economically or profitably and a staunch cooperative trainer who has a conviction in Cooperative ideology may swear by it.

The Khadi and Village Industries Commission has defined the Industrial Cooperative as one whose membership is composed predominantly of workmen.\textsuperscript{31} According to the Reserve Bank of India, "those societies where the membership is composed mainly of the growers of the commodity which is used as raw material by the society should not be classified as an industrial cooperative society."\textsuperscript{32}

A factory may be opened by consumers' cooperative or a marketing cooperative, but it cannot acquire the status of an industrial cooperative, as per this definition. Consumers may start a vegetable oil factory to meet their own needs; growers of oil seeds or sugarcane may launch their own oil mill or sugar mill respectively or a Cooperative Union may run a printing press, but none of these could be labelled as "Industrial Cooperatives". This appellation is deserved only by those cooperatives which are formed and controlled by workers and not by consumers or producers who themselves do not work. An industry on cooperative basis, controlled by interests other than those of workers can be called "Cooperative Industry", but not an
### Chart-1.1

**Classification of Industrial Cooperatives**

**INDUSTRIAL COOPERATIVES**

**WEAVERS COOPERATIVES**

<table>
<thead>
<tr>
<th>Handloom</th>
<th>Powerloom</th>
<th>Khadi Cotton</th>
<th>Wool Silk</th>
</tr>
</thead>
</table>

**OTHER THAN WEAVERS COOPERATIVES**

(17 MAIN TYPES)

1. Flaying and Tanning
2. Pottery
3. Handpounding of paddy and cereals
4. Oil Crushing
5. Palmgur
6. Cane Gur and Khandasari
7. Other village industries
8. Canning of Fruits and Vegetables
9. Handicrafts industries
10. General Engineering
11. Chemical Engineering
12. Leather goods
13. Construction materials
14. Sericulture
15. Coir
16. Spinners' societies
17. Miscellaneous Industries.
According to the Reserve Bank of India, the industrial Cooperative Societies may be broadly classified under two heads viz. Weavers Societies and other Industrial Societies. Weavers Societies may be further sub-divided into three groups viz. Handloom, Powerloom and Khadi Societies, producing cotton, woolen and silk goods respectively. The other Industrial Societies are organised for the benefit of artisans and at times, with a view to providing employment to small cultivators, agricultural labourers etc., during the lean periods. These societies have been classified into seventeen broad groups (vide Chart I.1).

According to the Department of Industries and Commerce, Andhra Pradesh, Industrial Cooperatives are those which undertake manufacturing and processing activities and/or provide service facilities to artisans, small producers, technicians, engineers and consumers and shall include Central and Apex societies which help primary societies in achieving their objectives.

It may be pointed out here that for the purpose of this study only those industrial cooperatives which fulfil the definitions of the Reserve Bank of India and Khadi and Village Industries Commission are considered.
Cooperatives of artisans, workers-owned and managed, falling under the jurisdiction of the Assistant Director of Handlooms and Textiles, the Assistant Director of Industries and Commerce, Chittoor District were taken up for this study.

**DEFINITION OF DORMANCY**

According to the Reserve Bank of India the term "dormant" means inactive over a period of time, say, a year or more. A society should not be treated as dormant if it had started functioning earlier but it did not function during any part of the year under report. It may be noted that the societies which are newly organised during the year under report did not commence business during the year should not be treated as dormant. In order to classify a society as "active" it is necessary that it should have done some business viz. either production or provision of services during any part of the year under report.

If the society did not work after registration, for a short time (say a year or so), may be due to some temporary setback or experiencing the teething trouble to reach the "take off" it should not be treated as a dormant one. In order to really know that is ailing the Industrial Cooperatives, causing them to run into despair, despondancy and it is felt that the inactive period must be little more
than a year or two. Therefore, the dormant society in the context of this study will mean "an inactive society at least for the past three years" ending 30th June 1991.

VII. METHODOLOGY

(i) SELECTION OF AREA AND TYPES OF SOCIETIES

The Industrial Cooperatives falling under the jurisdiction of the Director of Handlooms and Textiles and the Director of Industries and Commerce are classified into 3 major groups; the industries of the former are grouped under A and that of the latter under B and C.

From the statistics furnished by the above Directorates it is seen that there are wide variations in terms of absolute number of Industries, the types and their spread over in various Mandals (numbering 66) of the Chittoor District. (vide Appendix 1.2, 1.4 & 1.8).

To have compact area, representative and manageable sample, it is perforce felt necessary while selecting the area, to adopt the criterion of "maximum percentage of dormancy in each type of Industrial Cooperatives relating it to the maximum concentration of the same type of industry in an area".
The types of Industrial Cooperatives covered are:
Handloom Cooperatives and various types of Village and
Handicraft Societies spread over in 86 Revenue Mandals of
the three Revenue Divisions of Chittoor District
(Chandragari 15, Chittoor 20 and Madanapalle 31, Total 86).

(ii). SAMPLING

As the main objective of the study is to find out
the causes of dormancy of the Industrial Cooperatives and to
suggest measures for overcoming them, proportionate number
of dormant and active societies in Chittoor District were
selected for study.

The particulars of various industrial cooperatives
given by the Departments, their number, types, percentage of
dormancy, the list of different types of societies and the
societies selected for study methodically followed by the
Simple Random Sampling procedures are given in Appendix 1.1
to 1.9.

As already stated there was too much of variation
in the absolute number of industries in each group and type
and they were spread out over a vast area. Therefore, for
purpose of determining size of the sample and at the same
time to get a manageable sample, the following percentage
was adopted for each type of society.
<table>
<thead>
<tr>
<th>Weavers</th>
<th>Non-Weavers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Societies</td>
<td>Percentage of Sample to be taken</td>
</tr>
<tr>
<td>4 and below</td>
<td>100%</td>
</tr>
<tr>
<td>5 and 25</td>
<td>50%</td>
</tr>
<tr>
<td>Above 25</td>
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</tbody>
</table>

By adopting the above sampling procedure, the distribution of sample of societies is as follows:

In Group 'A' (i.e. Handloom Weavers Cooperative Societies), in all, 21 Societies (9 dormant and 12 active) were chosen from 3 Divisions (viz. Chittoor, Chandragiri and Madanapalli). Under Group 'B' (i.e. the Handcraft Industrial Cooperatives) 9 Societies (2 active and 7 dormant) were chosen from 3 Revenue Divisions. The Societies selected were Coir (2), Toys (1), Bronze sculpture (1), Glass Beads (1), Mat weaving (2) and Seamless guilts (1). Under Group 'C' (i.e. the societies falling under the purview of Khadi and Village Industries Board) of 32 societies (24 dormant and 8 active) were chosen from 3 Divisions of the District. The societies selected were Village oils (10), Gur and Khandasari (8), Handpounding of Paddy (4), Pottery (3) and Bricks and Tiles (7).

Thus, in all 3 Revenue Divisions 12 types of societies with (38 dormant and 24 active) 62 numbers were studied.
(iii). EMPIRICAL DATA

Besides case studies of selected Industrial Cooperatives, secondary data available in the statistical statements relating to the cooperative movement published by the Reserve Bank of India, National Bank for Agriculture and Rural Development (NABARD) on Industrial Cooperatives and other published matter made available by the Government of Andhra Pradesh, Director of Handlooms and Textiles, Director of Industries and Commerce, Assistant Director of Handlooms and Textiles, Tirupati, Assistant Director of Industries Commerce, Chittoor and the Khadi and Village Industries Board, Chittoor were used. The records of the societies, bylaws, enquiry reports relating to the dormancy of the societies prepared by the respective controlling officers were also consulted.

(iv). PERIOD OF THE STUDY

The period of data used in the study pertains to the past 5 years ending June 1991 and case studies of dormant societies relate to the last 5 years to the date of actual dormancy.

(v). COLLECTION OF DATA

Questionnaire was prepared and mailed to the societies in advance to collect data. An opinion survey was undertaken by selecting three individuals at random from each society (total being 114), in the case of dormant
societies, informal discussions were also held with the chief executives to elicit information on various issues about the functioning and dormancy of the societies.

STATISTICAL TECHNIQUES FOR THE ANALYSIS

In the present research study, various statistical tools such as Exponential Growth Rates, Log Linear Production function, correlation coefficient and student’s t-test have been used for analysing the empirical data. The exponential growth rates have been computed to know the progress in different variables under study. A Log linear production function namely a generalized Cobb-Douglas Production functions is used to estimate the elasticities of production with respect to several inputs such as Employment, Sales and Share capital. The time variable is also considered as an input in the production function for Handicrafts Industrial Cooperatives to find the technical change in the production. The square of correlation coefficient namely coefficient of determination ($R^2$) is also computed for each every regression model to find the percentage of variation in the dependent variable explained the chosen independent variables. Student’s t-test is used to test the significance of exponential growth rates of different variables under study. Also chow test statistic is applied to compare the budget provision and actual expenditure with respect to different schemes. Besides the above statistical tools, the percentages have been calculated.
COMPUTATION OF EXPONENTIAL GROWTH RATE

Consider an exponential relationship between a dependent variable \( Y \) and an independent variable \( t \) (Time variable) as

\[
Y = a e^{bt} \quad \ldots (1.1)
\]

where \( b \) represents an exponential growth rate of \( y \). By taking logarithms on both sides of the above specification yields

\[
\log Y = \log a + bt \quad \ldots (1.2)
\]

Here logarithms are with base \( e \).

Adding a classical error term \( u \), to equation (1.2), gives

\[
\log Y = \log a + bt + u \quad \ldots (1.3)
\]

where \( y = \log y \)

\( A : \log a \)

using least squares estimation procedure, an estimate of exponential growth rate is given by

\[
b = \left\{ \frac{\sum yt - \left( \frac{\sum y}{n} \right) \left( \frac{\sum t}{n} \right)}{\sum t^2 - \left( \frac{\sum t^2}{n} \right)} \right\} \quad \ldots (1.4)
\]

Here \( n \) : number of time periods

To test the significance of growth rate, one can use the following Student's \( t \)-test statistic as

\[
t = \frac{|b|}{S.E(b)} \quad \ldots (1.5)
\]
where \( S.E(\hat{b}) = \frac{\hat{\sigma}}{\sqrt{\frac{\sum t^2 - (\sum t)^2}{n}}} \).

Here, \( \sigma^2 = \frac{1}{n-2} \left\{ \sum y^2 - (\sum y)^2/n \right\} - \hat{b} \left\{ \sum yt - (\sum y)(\sum t)/n \right\} \). Fixing the calculated value of \( t \) with its critical value for \((n-2)\) degrees of freedom, one can infer about the significance of growth rate.

11. ESTIMATION OF A LOG LINEAR PRODUCTION FUNCTION

Consider a log linear production function namely Cobb-Douglas production with the following specification.

\[ y = \beta_0 x_1^{\beta_1} x_2^{\beta_2} e^u \quad \ldots (2.1) \]

where \( y = \) production (out put)

\( x_1 \) and \( x_2 \) are inputs such as sales, employment etc.

\( u = \) A classical error term

\( \beta_0 = \) Technological coefficient

\( \beta_1 = \) Elasticity of \( y \) with respect to input \( x_1 \)

\( \beta_2 = \) Elasticity of \( y \) with respect to input \( x_2 \)

By taking logarithms on both sides of \( (2.1) \) we have

\[ \log y = \log \beta_0 + \beta_1 \log x_1 + \beta_2 \log x_2 + u \]

or

\[ y = A + \beta_1 x_1 + \beta_2 x_2 + u \quad \ldots (2.2) \]

where \( y = \log y \)

\( A = \log \beta_0 \)
\[ x_1 = \log x_1 \]
\[ x_2 = \log x_2 \]

Using least squares estimation procedure, the estimates \( \hat{\beta}_1 \) and \( \hat{\beta}_2 \) are given by:

\[
\begin{bmatrix}
\hat{\beta}_1 \\
\hat{\beta}_2 
\end{bmatrix} = \begin{bmatrix}
\Sigma x_1^2 - \frac{(\Sigma x_1^2)}{n} & \Sigma x_1 x_2 - \frac{(\Sigma x_1)(\Sigma x_2)}{n} \\
\Sigma x_1 x_2 - \frac{(\Sigma x_1)(\Sigma x_2)}{n} & \Sigma x_2^2 - \frac{(\Sigma x_2^2)}{n}
\end{bmatrix}^{-1}
\begin{bmatrix}
(\Sigma x_1)(\Sigma y) \\
(\Sigma x_2)(\Sigma y)
\end{bmatrix}
\]

\[ \hat{A} = \bar{y} - \hat{\beta}_1 \bar{x}_1 - \hat{\beta}_2 \bar{x}_2 \]

Here \( \bar{y}, \bar{x}_1 \) and \( \bar{x}_2 \) are the arithmetic means of \( y, x_1 \) and \( x_2 \) variables respectively,
\( n \) is the number of observations on each variable.

\( \hat{\beta}_0 = \text{Anti Log}\ (\hat{A}) \)

To test the significance of input elasticity the Student t-test may be used.

III. CHOW TEST FOR THE EQUALITY TO TWO GROWTH RATES

In the empirical analysis, the exponential growth rates of budget provision amount and actual expenditure are compared. To compare these growth rates, Chow Test statistic is used. It is given by
$$t = \frac{|\hat{b}_1 - \hat{b}_2|}{\sqrt{\text{Var}(\hat{b}_1) + \text{Var}(\hat{b}_2)}}$$

where $\hat{b}_1$ = Estimate of growth rate of budget provision amount
$\hat{b}_2$ = Estimate of growth rate of actual expenditure.

\text{Var}(\hat{b}_1)$ and $\text{Var}(\hat{b}_2)$ are the variances of $\hat{b}_1$ and $\hat{b}_2$ respectively.

By comparing the calculated value of the test statistic with the critical value of the $t$-distribution for $(n_1+n_2-2)$ degrees of freedom, one can infer about the comparison between two growth rates. Here, $n_1$ and $n_2$ are the number of time periods considered for budget allocation and actual expenditure respectively. The estimates $\hat{b}_1$ and $\hat{b}_2$ and their variables have been computed according to the procedure discussed in the Section I of statistical techniques.

\textbf{(vii) LIMITATIONS OF THE STUDY}

(a) The societies might have become dormant in any particular year and in the absence of details, it may rather difficult to state the exact uniform period of statistics that could be collected for study and comparison purposes.

(b) The secondary data used in the thesis was only upto June ending 1984 because the prime source of secondary data published by the Reserve Bank of India and NABARD was available, as on data only upto 30th June 1984.
(c) Since an official list of dormant societies was not available, the officers-in-charge of these Industrial Cooperatives in Chittoor District were consulted for getting the list of dormant societies.

(d) As the reasons for dormancy of the societies differed from one cooperative to another and the types of societies, the size of societies and the statistics made available may also be different from one another. An interfirm comparison was, therefore, rather difficult excepting perhaps in a very general manner.

VIII. PLAN OF THE PRESENT STUDY

The entire work is divided into the following SIX Chapters. The FIRST Chapter deals with Introduction and Research Design.

SECOND Chapter presents a general profile of Industrial Cooperatives, policies and development programmes.

THIRD Chapter comprises District Profile and the progress of Industrial Cooperatives in Chittoor District.

FOURTH Chapter Covers the features and causes of dormancy in Industrial Cooperatives in Chittoor District.

In Chapter FIVE a few case studies of sample societies selected for study from each group of Industry have been evaluated.

The LAST Chapter consists of Summary and Conclusions.
IX. SUMMARY

One of the most agitating problems of Indian economy is unemployment and under-employment of both educated and uneducated in the rural as well as urban areas. Therefore, to provide employment opportunities to the unemployed (especially rural artisans), to remove the hardship of poverty, to have a balanced regional development, etc. in the country, the Industrial Cooperatives play a vital role. A look into the functioning of Industrial Cooperatives reveals that the problem of dormancy found amidst them is quite appalling. Thus, the importance of the study is highlighted, the terms like Industrial Cooperative Society, dormant society defined and classified in the context of the study, the methodology adopted for the study (viz., the objectives, the area covered, selection of size and sampling procedure, period of data, tools and techniques adopted for data collection, the constraints of the study, etc.) are covered.
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