GROWTH OF MARKET TOWNS IN THE RAYALASEEMA REGION OF ANDHRA

C. 1890–C. 1945

A study of cross-sectional and temporal variations

A dissertation submitted in partial fulfilment of the requirements for the award of the degree of Master of Philosophy of Jawaharlal Nehru University New Delhi

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I hereby affirm that the research for this dissertation titled "Growth of Market Towns in The Rayalaseema Region of Andhra, c.189Ø-c.1945: A study of cross-sectional and temporal variations" being submitted to the Jawaharlal Nehru University for the award of the Degree of Master of Philosophy was carried out entirely by me at the Centre for Development studies, Trivandrum.

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Certified that this dissertation is the bonafide work of Miss Namerta and has not been considered for the award of any other degree by any other university. The dissertation may be forwarded for evaluation.

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CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

The study of urban history is concerned with two major related questions: First, does the visual presence of towns provide enough justification for turning the focus of our analysis on them as a decisive units or independent variables in the process of social change[1]? Secondly, should urban history be treated as a "part of the economic changes with which history is concerned"[2]?

According to one view given by Braudel, "Town is a town wherever it is[3]". In other words, town it is argued, is an independent social generic entity, and its analysis can be made in isolation. But this approach has attracted criticism. For instance Philip Abram feels that sociologists and historians alike have failed to establish the growth of the towns as autonomous entities. The historians who should have known much better, it is pointed out, have often sccummbed to the tendency of studying the 'form' at the expense of 'substance' of the urban characteristics of a place[4].

On the other hand, the relationship between the emergence of towns and the dissolution of an socio-economic system has also been commented upon. Notably, according to Maurice Dobb, "the growth of the market exercised a disintegrating influence on the structure of feudalism, and prepared the soil for the growth of the forces which were to weaken and supplant it, the story of this influence can largely be identified with the rise of towns"[5]. However such an approach failed to discuss the specific features of feudalism which might have activated the growth of the towns.

Infact, when he suggested that, "in their early stage many if not most of the towns were themselves subordinated to feudal

authority..." and "Atleast in their early stage these communities were half servants of and half parasites upon the body of feudal economy"[6], he could not possibly hold the town as an independent entity any more. Interestingly, at a later stage in his discussion with Sweezy he admitted that, "the rise of towns was (atleast to some extent) a process internal to feudalism"[7].

In point of fact majority of the towns had originated on the initiative of some feudal institution, or in some way as an element of feudal society, rather than as alien bodies.

However, till now there is no consensus on a theoretical approach to the study of growth of towns. Dewey has noted that the, "only characteristics which any significant number of theories of town agree in identifying as distinctively urban is heterogeneity"[8]. Therefore, several social scientists, sociologists, geographers and economists have tried to give the essential notion of the structural reality of the town by distinguishing different types of towns.

Hoselitz distinguishes between generative and parasitic towns, Weber between patrician and plebian, Pirenne compares the towns of Liege type and Flemish type, Redfield and Singer between orthogenetic and heterogenetic and Sjoberg between pre-industrial and Industrial towns[9]. However, in the case of India such classifications may not be appropriate: Indian towns have their own characteristics. They have different patterns of origin and growth as compared to their counterparts in the west.

Urban centres in the Indian context were not the result of one single set of causes. Most of the towns originated in diverse circumstances and due to specific causes. No doubt a few factors like the existence of surplus and distributive machinery representing both the traders and administrators were common to all the towns, they

derived their rationale for existence from such diverse causes as religion, marketing etc. The simple reason why the growth of urban centres was due to diverse causes was that they grew at several points of time. Some of the towns had their origin in the ancient period, some in the medieval and some in the modern periods.

Towns which grew during the ancient period owe their emergence to the availability of local surpluses in agricultural products. And it has been noted that these towns stood as the local collecting and distributing centres as, "by concentrating the local surplus of intensive agriculture, the earliest towns were supported"[10]. In the medieval period towns grew on account of changing regimes from one dynasty to the other. The role of some of the dynasties and their regional and local lords became very important from the point of view of emergence and growth of certain towns. Some towns emerged as either centres of administrative, strategic or religious importance and the others as market centres owing their growth to flourishing commerce, handicrafts and trade.

But in the 19th century, when British power was getting a firm foothold in India, the country witnessed a different pattern of urban growth. During this period there occurred a number of political, economic, cultural and transportational changes. Since such changes activated the centrifugal and centripetal forces, the growth pattern of towns was different during this period[11].

Now let us discuss some of the studies available at macro level in terms of factors responsible for the growth of urban centres.

In Europe it has been noted that the emergence of towns (especially trading towns) took place because of the commercial currents. The foundations of these towns were laid in places where merchants felt that these places would be focal points of their

activity. As a result, artisans congregated there. For artisans, it was a matter of necessity to settle themselves near the merchants for the latter supplied them with the raw materials and disposed off their products. Hence, this sort of movement resulted in the concentration of population leading to the emergence of urban centres[12].

In the case of Germany, Lee had shown that railways had extensive impact on the pattern of urbanization/growth of the towns. It was with the railway that most vulnerable cities had transformed themselves into major industrial towns. Cities which were mainly parasitic had grown into those cities of generative activities[13].

In Latin America, in the earlier period, organization of economic institutions by the ruling classes, resulted in trade and with which towns came into existence. It is mentioned that almost all the Pre-Columbian cities grew spontaneously in response to the dynamism in agriculture. However during the colonial regime, the growth of population was slow and transport was in a deplorable state. The urban population which was 31 million in 1850 grew to 63 million by 1900. Between 1840 and 1910, 100,000 kilometers of railway line was built. And by linking the more fertile lands and more productive and accessible mining areas to railway network and ports, regional specialization was promoted. With the establishment of industries the demand for unskilled labourers increased, which resulted in immigration from Europe. Hence, a population growth along with the development in transportation resulted in the emergence of urban areas[14].

In the case of Sweden, it has been noted that during the period 1840 and 1920 among other things, there was a rapid increase in population both in absolute and relative terms. Around the middle of the 19th century, it was partly the excess of population in the

countryside which led to a growing proletarianization and partly the expansion of trade and certain type of handicrafts requiring a growing supply of labour, which were responsible for an exodus of the people from the rural areas. But somewhat later, it was the development of railway construction and industrial development which pushed the people out of rural areas. So on the whole, Sweden's urbanization can be explained partly in demographic and partly in economic and occupational terms; these explanatory factors however varied over time[15].

In the case of India as successive Census Reports noted, apart from factors like transport, commercialization and industrial development race, rainfall, pilgrims, famines, epidemics and psychological factors are reported to have played an important role in the growth of the towns.

Turning to the case of India according to the 1901 census, race was responsible for the low proportion of urban population in Bengal[16]. But the 1931 census report asserts that it was not race, but the rainfall which was responsible for a slow urban growth[17].

Since these two factors remained in the realm of speculative thinking, the role of famines and plague was put forward with much more confidence.

In the case of famines, Census Report noted that the famine of 1900 in several parts of India drove many persons from rural areas into the towns and cities, while the ravages of plague around 1911 brought about an exodus of urban population into the rural areas.

The impact of plague though it was singled out remained difficult to estimate because of "non-availability of statistics, but

it was enormous[18]".

The Census Report of 1911 on Bengal, Bihar and Orissa stated that,

"After the somewhat dreary sketch of urban decay, stagnation or decimation by disease... it is refreshing to turn to the number of towns, some old, some young and nascent, which are fast developing owing to the expansion of trade and industrial enterprise, often introduced and directed by Europeans[19]".

Psychological factors are also said to have had an impact on the growth of the urbanization. According to 1941 census, "the much more potent reason than usually realized is the fact that the city life began really to appeal to the ordinary middle class and lower class Indians because for the first time accommodation with his means and tastes has become available. Over the period there was increase in the number of persons who seek to pass their retirement or their leisure in a city instead of their farm house[20]".

Not only this, even the accidents of history are no less important in the growth of towns. The 1951 census mentioned that the growth of the towns has largely depended at any rate in the past, "on the accidents of history and geography"[21]. In this context the 1941 census gave the example of Madras city. "Madras as a port is so starkly artificial that anywhere else would have done equally well and many places much better. It is from the accidents of first contacts that we have where it is[22]". Similarly the second world war and the partition of the country were also mainly responsible for a sudden spurt in urban growth during the decades 1931-41 and 1941-51.

Apart from the census reports, which emphasized the diversity of factors affecting the growth of towns across time and space, D. R Gadgil's pioneering work has also thrown some interesting insights

into the process of urbanization in colonial India. He noted that if on the one hand transportation, trade, famines, creation of landless labour class and tendency of wealthy landlords to live in the towns were responsible for the increase in the town population, factors like diversion of trade routes into different channels, decay of old handicrafts, epidemics, insanitary conditions and bad housing in towns were responsible for the fall in the urban population.

In his view if railway construction meant an increase in the trade and thus the growth of the population on the one hand, on the other hand, it had an opposite effect also i.e whenever a new rail line came up normally old towns were left aside leading to diversion in the trade routes and the decay of old towns.

Similarly for the role of the famines he held that no doubt their occurrence added to the pace of urbanization, but such an increase was temporary in nature. It was so, because the urban centres did not have the potential in terms of providing jobs or wage differential or higher standard of living to absorb this influx of population. The wealthy landlords stayed back in the urban areas because they got used to the urban comforts[23].

According to Christopher Baker, Tamilnadu, commercial crops and provision of credit for the agricultural activities helped the emergence of market towns[24].

By analyzing the coefficient of variations of foodgrains prices in India, for the period 1861-1921 John Hurd II had indicated that transportation had resulted in the convergence of prices and market integration[25]. A similar study done for the Bengal economy also came to the same conclusion. Such market integration implied the coming up of urban market centres[26].

Hence what one can infer from the operation of these factors in

Indian context is that the dynamic process of growth of towns was related to several social and economic changes, and hence like the latter, the pattern of growth of towns was neither uniform across space nor linear over time.

Therefore, as has been argued, "the proper concern should not be with the cities/towns as such, but with complex societies in which cities and their hinterland are interwoven into tight political and economic webs[27]". This can be said to be the point of departure of the present study: to analyze the growth of the market towns in relation to the (varying) conditions in the hinterland. The growth of the town therefore, in this study, is seen in terms of variations in selected economic factors.

OUTLINE OF THE STUDY:

1.1 Area:

The studies on commercialization of agriculture in Andhra passingly mention about market towns, which emerged in response to the dynamism in the product market, yet till now no systematic study has been undertaken. This present study therefore, attempts to trace the emergence of market towns in the Rayalaseema region of Andhra pradesh during the period c.1891 to c.1945.

The choice of the region is motivated by the fact that in the late '19th century, the degree of urbanization in this region was higher than that of other regions in the Madras presidency. However, by the turn of century, it was on the decline. Hence, it is interesting to look into the factors which were responsible for such a decline.

1.2 Choice of the Period:

The starting and closing points of the study are justified on the following grounds: (1) The definition of the towns in the census of Madras presidency became precise from 1891 onwards. (2) Though the construction of railways in the region was completed by early 187Øs, the great famine of 1876-78 resulted in the increase in prices and dislocation of markets. (3) Since the functional characteristics of these towns also changed during the post-independence period, c.1945 is chosen as the terminal year of our study.

1.3 Criteria For the selection of Towns:

In a broader sense, urbanization implies an increase in the urban population at a faster rate. In the Indian censuses, a place having a population of more than 5ØØØ persons was returned as a town till 195Ø. Such an approach i.e, relying on size of population in the categorization of urban place to the neglect of urban characteristics (such as proportion of population dependent on non-agricultural activities) resulted in inconsistencies across regions and over time. This definition of a town, however narrow and inconsistent it was, remained virtually the same during the period 1891-1951 and hence, the 1891 definition is taken into account.

Market towns form only a part of the broader phenomenon of urbanization. Besides satisfying the census definition of urban place, a market town in our study should also satisfy the following criteria.

(1) There should be a scope for marketing facilities and a substantial part of the population should be engaged in these

activities and

(2) There should be a hinterland from where substantial volume of marketable surplus can be generated so as to ensure the viability of a market town.

1.4 Factors in the Growth of Market Towns:

The scope of the study can be explained in terms of the following factors.

(a) Urbanization Process:

The study begins with a detailed examination of broad trends in the process of urbanization in the Rayalaseema region. Using certain statistical methods such as degree, concentration and growth of urban population, the study seeks to highlight the variations in the growth of urban population across the districts as well as towns. An analysis of town-wise pattern of population has also been done for the selection of towns with varying trends in the population growth for an intensive study. Once such a selection is done, the study sets off to examine the factors which caused the fluctuations in the fortunes of various market towns.

(b) Commercialization of Agriculture:

Commercialization of agriculture could be one of the important factors which resulted in the emergence of market towns. The studies on commercialization of agriculture in Andhra highlight the spread of commerce into agriculture from the turn of the century. Though there appears to be some disagreement over the inter-regional variations in the process of commercia-

lization, the fact that Rayalaseema had experienced an intensive process of commercialization from about the late 19th century is hardly in dispute. The area under cash crops had gradually swallowed the area under food crops. Such cultivation of cash crops must have resulted in the marketable surplus, which in turn would have necessitated the emergence of places where it could be marketed. This link, though obvious, is difficult to be captured empirically. What is attempted in the proposed study is to associate the degree of urbanization in a place (say taluk) with the degree of commercialization in hinterland affecting the town. Such an exercise of correlations, has helped in capturing the impact of commercialization on the emergence of market towns.

(c) Trade:

Intensified process of commercialization in the country was sustained by the growth of external and internal trade by the turn of century. The Rayalaseema region exported foodgrains as well as cash crops to both within and outside the presidency. Among the non food crops cotton, groundnut and oilseeds became the major exportable crops. Increased level of trade led to an increase in the area under exported crops. An analysis of trade data would have helped us to locate the places, that must have served as the focal points of these activities. However, the non-availability of data on the trading activities of towns prevented us from making a detailed analysis of trade links among the towns. Nevertheless, with the help of qualitative information and the Sea-borne trade statistics we have attempted to document the growth of trade in the region.

(d) Transport:

Trading activities continued due to the development of both rail and road transport, which linked up the several market towns and resulted in their growth. To see development of transport and the inter-nodal links among the towns, an inter connectivity matrix has been prepared. The presence of one and zero element in the matrix shows the presence or absence of the direct links. The values in the matrix, besides representing the comparative accessibility of each town has shown the poor and weak links which prevailed in the region. The evolution of transport system increased the circulation of commodities, which strengthened the internal market in terms of prices. Hence, it is important here to test the hypothesis of John Hurd II that transportation had resulted in the convergence of prices and market integration.

Impact of transport on the growth of towns has been studied by computing a rank correlation between the number of direct links (both rail and railways) a town has and the level of urbanization.

(e) Agro-Processing Industries:

Commercialization of agriculture also resulted in the emergence of agro-processing industries. The enterprising farmers who were operating in several factor markets realized that the prices of the processed produce will not only be high but also fluctuate less than those of the raw materials. Moreover, the agrarian surplus had also come in handy to these farmers in setting up the industries. Consequently, the agro-processing industries were, quite significant in the Rayalaseema region. Most of these units were set up in the vicinities of market towns

due to a assured supply of raw materials. Hence, one expects that the growth of the agro-processing units to have a positive impact on the emergence of market towns.

However, the growth of these industrial units was not unilinear during this period. The depression in prices and trade during late 192Ø's and early 193Ø's had severely affected these units. Though most of the units survived the onslaught of fluctuation in the world market, the average number of workers in these units had sharply come down. However, the agro processing industries were revived in the post-Depression period due to the dislocation of foreign market and limited support from the colonial government. Thus, we have hypothesized that the agro-processing industries have had a mixed impact on the growth of market towns.

In order to capture such a mixed impact of the agro-processing units on the emergence of market towns we have tried to work out a rank correlation between the average number of units in the towns and the observed level of urbanization.

(f) Epidemics:

While commercialization of agriculture, trade, transport and growth of agro processing industries had positive or mixed impact on the emergence of market towns, epidemics can be said to have had a negative impact on the growth of the towns. The frequent out-break of epidemics such as plague, influenza and cholera resulted in the disruption of marketing activities and evacuation of people from the towns which were severely affected. The impact of epidemics has been captured by an analysis of disease-wise mortality figures and level of migration for these

towns.

Though, there is little doubt regarding the importance of the phenomenon of rural-urban migration, the problem lies in capturing it empirically in the absence of data on rural-urban migration. We have tried to solve this problem by adopting the vital statistics residual method (working out the difference between the natural growth of population in a given town which will be arrived at after deducting registered deaths from registered births and the real growth of that town as seen from the Census Reports).

1.5 Objectives of the Study:

The objectives of the study are:

(1) To document and analyze the broad feature of urbanization process in the Rayalaseema region between 1891 and 1945.

(2) To make an intensive study of the pattern of growth of market towns vis-a-vis the following factors;

(a) Commercialization of Agriculture.

(b) Development of Rail and Road transport.

(c) Growth of Agro-processing industries.

(d) Famines, epidemics and consequent rural-urban and urban-rural migration.

1.6 Methodology:

The proposed study given the above objectives, combines elements of both cross-sectional and inter-temporal analysis. In

doing so, it employs several techniques. Besides quantitative analysis, visual presentation of data in the form of maps, diagrams and graphs etc, is employed mainly with the purpose of highlighting the spatial dimensions of the phenomenon.

1.7 Data Sources:

The study mainly depends on the archival information. The sources such as Indian Agricultural Statistics, Census Volumes, District Gazetteers, Statistical Atlas of Madras Presidency, Madras Provincial Banking Enquiry Committee, Sea-Borne Trade Statistics of Madras Presidency, Sanitary Commissioners Reports, Reports of the Municipal Committees, Report on the Administration of Industries Department in Madras Presidency and Statistical list of Industries and other reports form the data base of the study.

1.8 Chapters Scheme:

The following are the chapter scheme of the study.

Chapter 2 sets off the stage for the discussion on the variables which have an impact on the growth of towns by analyzing the trends in and pattern of urbanization in the Rayalaseema region. Chapter 3 looks into the commercialization of agriculture and the growth of the urban centres. Chapter 4 reviews the same question in terms of transport and trade. Chapter 5 deals with the emergence of agro-processing industries and their impact on the growth of the towns, Chapter 6 discusses the mortality and fertility rates for the selected towns. The last chapter comprises of summary and conclusion.

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16. Race also is possibly an important factor, and the Mogloid element in the population of Bengal may be less inclined to congregate in towns than the Dravidian and Arya Dravidian inhabitants of other parts. Assam which is even markedly Mongolodid has the smallest urban population of any part of India.

17. It may however, be questioned whether race has in this case anything to do with the matter, and we should be inclined to account for the phenomenon not by race but by rainfall. The areas of the greatest precipitation in Penninsula are the Malawar Coast, Bengal, Assam and lower Burma and if living in cities in unpopular as it certainly is, in these regions, it is perhaps rather on account of the greater degree of discomfort which it entails than on account of the racial composition of the people.

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CHAPTER II

TRENDS IN AND PATTERN OF URBANIZATION IN RAYALASEEMA

2.Ø Introduction:

The primary objective of this chapter is to analyze the trends in urbanization in the Rayalaseema region of Andhra Pradesh. Rayalaseema (hereafter RAP) in our study is not the same as the present day Rayalaseema region of Andhra Pradesh which consists of four districts namely Kurnool, Cuddapah, Anantapur and Chittoor. Till the formation of the linguistic states in 1953, RAP consisted of these four districts, as also Bellary. The Bellary district was in the Madras Presidency till 1947 and in Madras State between 1948 to 1953. A major portion of the district went to Karnataka in 1953 when the states were reorganized. Barring the language spoken in Bellary (which is Kannada), there are many similarities regarding the type of soil, rainfall and cropping pattern between this district and the present day Rayalaseema. Hence, all these districts which are similar in more than one way are included in our study.

This chapter is divided into three sections. The first section attempts to define the concept of urbanization and also the concept of "town" as defined in various Indian censuses. The second section deals with the trends in and pattern of urbanization in the whole of the region as well as in the districts, while the last section highlights the differences in the growth of individual towns and provides a rationale for the selection of the sample towns for an intensive study.

SECTION 1

2.1.1 The Concept of Urbanization:

The concept of urbanization though frequently used in urban history, is seldom defined. Generally its meaning has to be deduced from the context in which it is used. Sociologists, economists and historians have tried to explain the meaning of the term urbanization; but there is no consensus over it. Mcgee, therefore, has rightly remarked that, "it is a balloon into which each social scientist has blown his own meaning" (Mcgee, 1971; 1Ø). Ressiman has tried to explain the concept of urbanization in terms of rise of nationalism, industrialization and restructuring of power relations (Carter, 1976; 3Ø). On the other hand, Charles Tilley views urbanization as a term which embraces a set of changes which generally occur with the appearance and expansion of large scale co-ordinated activities in a society. These societies, according to Tilley, would consist of the operation of a centralized state, or the control of water for irrigation or the production of goods in a factory system. Tilley thinks that urbanization brought with it a differentiation of social positions, standardization of forms of organization, change in the quality of social relationships tending to become more instrumental, and concentration of population at points of coordination (Tilley, 1976; 16). These two definitions seek to explain the whole urban society and embrace the entire humanity. Hence, this approach loses comprehensiveness and the means of operationalization.

Urbanization generally consists of three essential components which are behavioural, structural and demographic. Whereas behavioural refers to the way of life and structural implies changes which are economic and hence indicate movement of the people from

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rural to urban areas, demographic changes are generally related to the number of people. The concept of demographic change was used in different ways. Some have used it in terms of rural-urban migration, while others have used it to explain the rise of metropolis or the difference between rates of growth of rural and urban populations. Demographic definition, given by Hope Tisadle Eldridge, has been extremely popular among the urban historians. She defines urbanization "as a process of population concentration. It works in two ways, the multiplication of points of concentration and the increase in the size of individual concentration" (Eldridge, 1942; 338). In this definition, towns are the result of the urbanization. Bo-ohngren argued for identifying urbanization with only those changes in the distribution of population that favour the emergence of towns (Bo-ohngren, 1978;75).

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These definitions have generally implied that urbanization is exclusively a demographic process. But Lampard has tried to isolate the concept of urbanization from the demographic process and link it up with the ecological complex. Urban history is the possibility of making the societal process of urbanization central to the study of social change. Efforts should be made to conceptualize urbanization in ways that actually represent social change. For this purpose, urbanization may be regarded as a process of population concentration that results in an increase in the number and size of towns and cities (points of concentration) and social changes as an incremental or a rhythmic alteration in the routines and sequences of everyday life in human communities. This consists of exploring possible inter-relationships between the phenomenon of population concentration and certain apparent trends in social organization, structure and behaviour (Lampard,1963; 233)[1].

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Though, at a first glance this view appears to be the same as Eldridge's definition, it is in fact not so. Lampard tried to relate urbanization to environment, technology and social organization. He explains that increasing populations adjust themselves to the circumstances, specifically to the environment, by way of technology and social organization. The establishment of towns is one of these adjustments. But in the end he also adheres to the concept of demography, saying that its scope allows inquiry into many facets of life (Lampard,1965;522)[2].

In a broader sense, though an attempt would be made in the subsequent chapters to relate the growth/decline of towns to larger socio-economic changes such as commercialization of agriculture, changes in the pattern of trade and emergence of agro-processing industries and so on, this chapter analyses the trends in and pattern of urbanization by taking the data available in Indian Censuses, which mainly indicate the increase in the number and size of the towns. This means, we are following the definition of Eldridge as far as the analysis in this chapter is concerned. Now, let us examine the definition of town in the Indian censuses and the problems associated with it.

2.1.2 Definition of A "Town" in the Indian Censuses:

The definition of towns in Indian Censuses varied not only from one census year to another, but also across the provinces within the country for a given census year. Besides, there were frequent modifications in the definition of towns. Hence, it calls for numerous adjustments to attain comparability over time. Though the definition of a town in the Indian Censuses remained more or less the same during the period 1901 to 1951, uniformity was not always

maintained due to the inherent weaknesses in the definition itself. The discretionary power (in classifying the places falling on the border line between rural and urban areas) given to the Census Superintendent complicated matters further.

In the census of India, 1901, "Town includes: (1) Every municipality of whatever size. (2) All civil lines not included within municipal limits. (3) Every other continuous collection of houses permanently inhabited by not less than 5000 persons, which the provincial superintendent may decide to treat as a town for census purposes"[3].

Thus, the primary consideration for deciding a particular place as a town was its administrative setup and not the size of the population. All the municipalities, civil lines and cantonments did not have population of over 5000, yet they were called towns and at the same time places having more than 5000 were not taken as towns. Besides, the Census Superintendent, barring the criteria of administrative set up or population, had a right to declare a place as town for special reason, though it was not evident in the definition. Hence, this definition was not objectively applied across the provinces in the country. The census authorities, however, were aware of these limitations, but still preferred the administrative expediency. Different census commissioners reacted to the definition of a town in different ways.

The Commissioner of the 1901 Census felt that a certain proportion of the inhabitants of any area which it may be proposed to bring under their operation must earn their livelihood from non-agricultural occupations. This should be the main test of what constitutes a town[4].

The 1911 census commissioner refers in his report to the

criticism of a German statistician who thought that the adoption of a double criteria-the possession of municipal government and of a population over 5000, introduced an element of uncertainty in the definition of the town. He points out that, "In framing the definition the object in view was as far as possible to treat towns only those places which are of more or less of urban character." It could be assumed that all the places under municipal government possessed some urban characteristics but the converse was not always true for some times places with distinctly urban characteristics have not yet raised to a municipal rank. Hence, the definition based on administrative set up would have resulted in the exclusion of several places with urban characteristics and at the same time adoption of criteria of 5000 population would have resulted in the inclusion of over grown villages in the list of the towns[5].

In the main report of 1921 Census, the Commissioner enumerated certain factors that Census Commissioners should keep in mind while exercising their discretionary power. These factors are: the character of population, the relative density of dwellings, the importance of place as a centre of trade and its historic association. Besides, they should bear in mind that it is undesirable to treat an over grown village which has no urban character as a town[6].

The 1931 Census Commissioner also highlighted the problems associated with the definition of a town. He admits that, "the varying degrees of urbanization of different provinces cannot necessarily be taken at their face value". He points out that it is rather difficult to make a distinction between a small town and a large village as far as the conditions of the life or the occupation are concerned". Moreover, the treatment of any place as urban does not necessarily imply any degree of industrialization in that place[7].

The 1941 Census Commissioner criticized the basic criteria of 5000 inhabitants because of its non-application in all the provinces with the same spirit except in the Madras province. He also remarked that the places with less than 5000 population should not be classified as towns[8]. However, all these criticisms were not incorporated in the definition of 1951 census. The only change made in it was a careful wording of the definition. According to the Census of 1951, "A town is normally an inhabited locality with a total population of no less than 5000 persons. The places which do not possess definite urban character may not be treated as towns. At the same time, places with a smaller population with a definite urban character (including generally all municipalities and cantonments and other places having a local administration of their own) may be treated as a separate town. The decision in the marginal cases, rests with the state government in some states and state superintendent in others"[9].

However, inconsistencies still persisted in the application of the census definition of town across the regions, though these were not always on account of arbitrary decision on the part of Census Superintendent. Defining a place as a town remained a difficult job. As the 1931 census Report on Bombay points out, "definitions employed in the census are a compromise meant to cover in the least confusing way the extreme variety of conditions in which masses of people are actually found living together in identifiable units presenting some kind of similar character"[10].

2.1.3 Definition of Town in the Censuses of Madras Presidency:

According to the 1881 census of Madras Presidency, any village having a population of over 5000 was called a town. But this

definition was not considered appropriate because it did not capture urban characteristics[11]. Commenting on the 1881 definition, the Census Superintendent of Madras Presidency remarked in 1891 that by itself the 5000 inhabitants standard was a poor one. It includes for instance 186 amsans or townships not containing a single street. Size compactness and certain architectural, commercial or industrial features are all considerations which would go to make up the definition the definition for census. Hence, there was a change in the definition in 1891. Which ran as follows," (1) The population should not be less than 5000 residing in houses more or less contiguous and not in scattered collection of hamlets etc. (2) The place if not containing the above population should be under the operation of some Municipal Act. (3) Though containing the above population it should not be merely a village but should have some distinct urban character as that of a market town. (4) Where a town is made up of several distinct portions each should be shown separately as municipal limits suburbs and cantonments respectively"[12]. When these criteria were applied (especially the second one) the number of towns with less than 5000 inhabitants in Madras presidency fell from 43 in 1881 to 14 in 1891.

It was mentioned in the Census of India, Madras that the definition adopted in the 1901 census was practically the same as that of 1891 census18. Since the 1891 definition remained virtually the same till 1951, we will adopt the definition of 1891 Census in our study. This is justified on two grounds. Firstly, as stated above, the 1891 definition was sought to be made precise compared to the 1881 definition. Secondly, as mentioned in the census of India, 1941, the application of the 1891 census definition was much more rigorous in the Madras Presidency[13]. Consequently, overgrown villages were not

returned as towns in this province. The same was evident when a revised and elaborate definition came into operation in 1961. Unlike the other regions, wherein a large number of towns were declassified in 1961, only two towns were de-classified in the whole of Rayalaseema region[14].

SECTION 2

2.2.1 Trends in Urbanization:

As it is mentioned earlier, urbanization is not a recent phenomenon. History of urbanization goes back as far as about 2500 B.C, when a number of urban communities like Mohanjodaro and Harappa were flourishing in the Indus valley, because of revolution in agriculture in terms of invention of plough and irrigation. But this was in the northern part of India. The advent of urbanization was late in South India as compared to North India. It began in South India during the regime of Mauryas from 323 B.C. partly due to cultural impact of Aryan migration from the north. Then on this process continued and during medieval period South India witnessed the rise of Bahamani and Vijayanagar empires. It was during this period that the Europeans (the Portuguese, the Dutch, the French and the English) established themselves in India, and since they had trade relations with western countries, many trading and port towns came up in the west coast.

However, with the advent of colonial rule, a new phase of urbanization had set in. The transformation of India into a colonial one-a market for British manufacturers and a source of raw material to her industries hit hard the industrial and commercial base of a number of Indian towns and resulted in the slow pace of urbanization. By the

middle of the nineteenth century when British empire had consolidated itself and established an elaborate spatial structure of administration, the urban characteristics gradually developed[15]. But this pattern did not continue for a long period. Urbanization was at a low level at the turn of the century (Table 2.1).

Table 2.1: Growth and Degree of Urban Population of India, Tamilnadu and Andhra Pradesh

Years	India		Tamilnadu		Andhra Pradesh*	
	Growth	Degree	Growth	Degree	Growth	Degree
1901	--	11.00	--	14.15	--	9.56
1911	-0.14	10.40	15.57	15.07	14.10	9.69
1921	8.25	11.34	8.86	15.85	0.59	9.76
1931	19.08	12.18	23.40	18.02	20.41	10.40
1941	32.09	14.10	22.30	19.70	34.99	12.45
1951	41.49	17.62	41.75	24.35	44.93	15.82

Source: Census Of India, Various Volumes.
Note: * Includes the three regions of Coastal Andhra, Rayalaseema and Telangana.

Table 2.1 shows the decadal variations in the growth rates of the urban population for India as well as for the states of Tamilnadu and Andhra Pradesh. During the first decade of the 20th century, the urban population in India had declined and since then, it was increasing at a faster rate than the total population. Thus, the degree of urbanization (which is nothing but the proportion of urban population in the total population) had declined in the first decade of the 20th century and increased since then. On the other hand, the states of Tamilnadu and Andhra Pradesh experienced higher growth as compared to India during the decade 1901-11. But in the next decade, the growth of urban population was slow in these states. A steady increase in the urban population in these two states can be seen from 1920's. However, while there was a slight fall in the growth rate of

urban population of Tamilnadu in the decade 1931-41, a steady rate continued in Andhra Pradesh till 1951. In contrast, the degree of urbanization was increasing steadily for the states of Tamilnadu and Andhra Pradesh all through the period. However, the degree of urbanization increased at a rapid rate from 1930's onwards.

2.2.2 Urbanization of Coastal Andhra and Rayalaseema:

Andhra Pradesh consists of three regions namely Coastal Andhra, Rayalaseema and Telangana. For our study, we will compare the rate of growth and degree of urbanization of coastal Andhra and Rayalaseema. The Costal Andhra region experienced almost a similar pattern of rate of growth of urban population as that of Andhra Pradesh (Tables 2.1 & 2.2). However, in the case of level of urbanization there is a difference; in the decade 1941-51, the coastal Andhra experienced a decline in the degree of urbanization. But Rayalaseema showed an altogether different

Table 2.2: Rate and Degree of Urban Population in Costal Andhra and Rayalaseema

Years	Coastal Andhra		Rayalaseema		
	Growth	Degree	Urban population (lakhs)	Growth	Degree
1891			3.91	-	8.58
1901	-	-	5.00	27.79	10.41
1911	18.32	8.70	4.77	-4.66	9.44
1921	12.75	9.68	4.64	-2.69	9.15
1931	21.25	16.22	5.15	11.06	9.47
1941	23.40	20.71	7.01	36.08	11.58
1951	37.40	17.41	9.55	36.22	13.05

Source: Census of India, Madras Presidency, Various Volumes.

pattern with respect to growth and level of urbanization as compared to other regions (Tamilnadu, Andhra Pradesh and coastal Andhra). By the turn of the century, the region had relatively high rate of growth

of urban population. During the first decade of the 20th century, like in India, the urban population of the region had declined. This negative growth rate continued even in the next decade (1911-1921). The departure from this trend started from 1921 onwards; urban population in the region was increasing at a faster rates during the period 1931-51. Even the degree of urbanization had declined in RAP in the decade 1901-1911, which continued till 1911-1921. However, it steadily increased from 1921 onwards. A closer examination of growth and degree of urban population in the region suggests that while urban population was declining at a faster rate during the period 1891-1901, the decline in the degree was somewhat slow.

Such a divergence between growth and degree of urban population was mainly due to the difference in the growth rates of rural and urban population in the region. This is evident from Table 2.3, which shows Urban Rural growth differentials (URGD), measured as the difference in the rates of growth of the urban and rural populations.

Table 2.3: Urban-Rural Growth Differentials in Rayalaseema

Decade	Growth of urban population	Growth of rural population	URGD
1891-1901	27.79	3.19	24.60
1901-1911	-4.66	6.22	10.88
1911-1921	-2.69	0.66	3.35
1921-1931	11.06	7.02	4.04
1931-1941	36.08	8.71	27.37
1941-1951	36.22	18.78	17.44

Note: The last column is arrived at after ignoring the signs
Source: Census of India, Madras Presidency, Various Volumes.

Whereas the urban population (in absolute numbers) had declined during the period 1901-21, the rural population was growing at a falling rate. Consequently, the decline in the degree of urbanization was slower than the decline in the growth of urban population. On the other hand, during the period 1921-

51 the urban population in the region had doubled, while the growth of rural population was somewhat slow. Consequently, the increase in the degree of urbanization in the region was faster; it increased from 9.15 in 1921 to 13.Ø5 in 1951.

Thus, the process of urbanization in the Rayalaseema region was not steady. While the urban population increased from 3.91 lakhs in 1891 to about 5 lakhs in 19Ø1, it declined to 4.77 lakhs in 1911 and to 4.64 in 1921. Thus, during the period 19Ø1-21, a process of de-urbanization was taking place. From 1921 onwards, the urban population increased at a faster rate. One can put forward a few tentative explanations for the above processes.

The increase in urban population during the decade 1891-19Ø1 can be attributed to the occurrence of famines in that decade and consequent rural-urban migration. Famines ravaged the region in the years 1891, 1896/7 and 1899/19ØØ. Consequently, there was an out-migration of people from this region to the irrigated districts such as Kistna. Besides, intra-regional migration was also reported. For instance, the small peasants from Cumbum taluk in the Kurnool district migrated to "take part in the harvest operations in the rich canal tract around Nandyal"[16]. Similarly, there was an out-migration of agricultural labourers from Pattikonda to the taluks of Ramallakot in Kurnool and Adoni and Alur in the Bellary district[17]. The Commissioner of the 19Ø1 Census also noted that there was a striking increase in the urban population in the Deccan districts during the decade 1891-19Ø1 and he attributed this to the rural-urban migration[18]. A smaller growth of rural population, as compared to the urban population, during this decade (see Table 2.3) also corroborates that rural-urban migration was taking place. Such movement of population into the towns was not due to "any increase in the

industrial operations"; nor was it due to the better health conditions in the towns[19]. This was mainly due to the availability of better relief and private charity in the towns as compared to the villages. For instance, the Report on Famine of 1900 notes that wealthy farmers and traders had organized kitchens and provided charity in the towns of Kurnool, Kadiri, Madanapalli, Rayachoti, Cuddapah and Proddutur during periods of famines[20].

The decline in the urban population in the subsequent decade was partly due to the reverse migration and partly due to the epidemic diseases prevalent in the towns. Once the famine periods were over, people went back to the villages. That is why the urban population declined by 4.66 per cent, while the rural population increased at 6.22 per cent during the decade 1901-11 (see Table 2.3). One might wonder why people, instead of settling down in towns, went back to the villages. Evidently, the peasants in India did not react to the adverse conditions in the same way as their counterparts in Europe and America. Kingsley Davis, discussing the question of rural-urban migration in India brings out the fact that under adverse conditions such as famines, the peasants did migrate, but returned as soon as the distress was over[21]. This is to be expected in the face of limited and uncertain employment opportunities in the towns.

Apart from reverse migration, the epidemics prevalent in towns also resulted in large scale migration of people to the rural areas. For instance, the out-break of plague in Bellary drove many people out of the town and its population had declined substantially during the decade 1901-11. The epidemic diseases continued to affect the urban population in the decade 1911-21 also. Apart from epidemic diseases such as plague, influenza broke out in 1918-19 and consequently, there was a decline in the urban population in the region.

Between 1921-31, the urban population was increasing though the rate at which it was increasing was smaller. Apparently, the Great Depression of 1929 did not have a significant impact on region's urban population as a whole. From 1931 onwards, the urban population was increasing at a very rapid rate and perhaps the War boom would have contributed to such a rapid process of urbanization. The emergence of agro-processing industries also gave a fillip to the movement of people towards urban areas.

2.2.3 Size class-wise Analysis of Urban Population:

The next important question is to find out the types of towns in which population was increasing. Were they small or large towns? It is customary in the Indian censuses to classify the urban population according to size-classes of town population. We adopt a similar classification. However, as Rayalaseema did not have even a single town with a population of more than one lakh, this size class is excluded from our analysis. Table 2.4 defines the size of various types of towns considered in the study.

Table 2.4: Class and Category of Towns according to the 1951 census.

Size-Class	Category
50,000 to 100,000	Larger town
20,000 to 50,000	Above medium town
10,000 to 20,000	Medium town
5000 to 10,000	Small town
5000 & below	Very small town

Source: Census of India, Volume, 1951.

The distribution of urban population according to different size-classes shows that a maximum number of people were residing in 'small towns' (Table 2.5). Out of a total of 3.91 lakhs of urban population staying in 38 towns, nearly 39 per cent were living in 'small towns', while 29 per cent of total urban population were

staying in 'medium towns'. During the decade 1901-11, the percentage of urban population staying in 'medium towns' increased from 29 to 53, while the percentage of urban population staying in 'small towns' declined from 39 to 24. The percentage change of urban population according to the size classes of towns also shows a similar pattern (Table 2.6). The urban population residing in 'medium towns' increased by 133 per cent during this decade. Though the percentage of population staying in above 'medium towns' declined from 13 to 11 (Table 2.5), the population in these towns increased in absolute terms. The reasons for a faster growth of population in 'medium towns' was the improvement in the status of 'small towns'. As Table 2.7 shows, 11 'small towns' in 1891 had become 'medium towns'. Four 'very small towns' in 1891 had obtained the status of 'small towns'. During this period, one new town, called Kamalapuram in the Cuddapah district, came up (Table 2.8). Interestingly, the population of 'large and above medium towns' had either declined or registered a small increase. Thus, the movement of population from rural to urban areas that we have discussed above was mainly towards 'very small' or 'small towns'.

Between 1901 and 1911, though most of urban population was staying in 'medium towns', their importance had slightly declined.

Table 2.5: Distribution (%) of Urban Population According to Size-class, in Rayalaseema

Class-size	1891	1901	1911	1921	1931	1941	1951
50000-100000	14.94	11.65	0.00	0.00	0.00	8.01	18.22
20000-50000	12.93	11.16	18.80	21.12	44.16	39.60	33.32
10000-20000	29.03	52.98	50.23	46.25	29.31	22.64	24.93
5000-10000	38.73	24.22	30.97	29.92	22.44	29.76	22.72
5000 below	4.36	0.00	0.00	2.71	4.10	0.00	0.81
Total (in lakhs)	3.91	5.00	4.77	4.64	5.15	7.01	9.55

Source: Census of India, Madras Presidency, Various Volumes.

On the other hand, the percentage of urban population staying in 'small towns' and the 'above medium towns' had increased. The increase in the percentage of population of the 'above medium towns' was mainly due to the decline in the population of Bellary, which was the only 'large town' till 1901, and became 'above medium town' in 1911.

Table 2.6 : Variation (%) in urban population According to Size-Class of Towns of Rayalaseema

Class-size	1891-1901	1901-11	1911-21	1921-31	1931-41	1941-51	1891-1951
50000-100000	-0.38	n.a	n.a	n.a	n.a	209.94	197.65
20000-50000	10.22	60.67	9.30	132.23	22.03	14.61	528.70
10000-20000	133.22	-9.61	-10.40	-29.61	5.09	50.03	109.61
5000-10000	-20.11	21.92	-5.99	-16.71	80.50	4.01	43.18
5000 below	-100.00	n.a	n.a	67.58	-100.00	n.a	-54.60

Source: Census of India, Madras Presidency, Various Volumes.

The increase in the percentage of urban population in the 'small towns' was not only due to the downward mobility of two towns in 1911 but also due to the emergence of a new town (Bukkapatnam in the Anantapur district) (Tables 2.7 and 2.8). The percentage change in the urban population according to the size classes also show a similar pattern (Table 2.6). Thus, a reverse migration seemed to have affected the 'small' and 'very small towns', while the epidemics had reduced the population of Bellary town.

Table 2.7: Urban settlement according to size-class in Rayalaseema

Class-size	1891	1901	1911	1921	1931	1941	1951
50000-100000	1	1	0	0	0	1	3
20000-50000	2	2	3	3	8	10	10
10000-20000	9	20	18	15	11	12	16
5000-10000	22	16	19	19	16	30	29
5000-below	4	0	0	3	5	0	2
Total	38	39	40	40	40	53	60

Source: Same as in Table 2.6

During the decade 1911-21, the population of 'medium' and 'small towns' had declined both in absolute and relative terms (Tables 2.5 and 2.6). On the other hand, the population of 'above medium towns' had increased from 18.8 per cent in 1911 to 21.12 per cent. Nevertheless, the 'medium towns' continued to support the bulk of urban population (Table 2.5). Thus, the influenza of 1918 seems to have adversely affected the 'medium and small towns'. As Table 2.7 shows, three 'medium towns' had become 'small towns' and another three 'small towns' had become 'very small towns'. Though Table 2.7 gives the impression that the total number of towns remained unchanged, it was not true. During this period, Guntakal in Anantapur district and Kuppam in Chittoor district came up, while Cumbum from Kurnool district and Porumamilla from Cuddapah district were declassified (Table 2.8). Thus, the impact of influenza was not the same across the various types of towns.

Table 2.8: Variations in Urban Settlements

Year	Number in the beginning	Declassified towns	New towns	Total	Additional towns
1891	38	Ø	Ø	38	Ø
19Ø1	38	Ø	1	39	1
1911	39	Ø	1	4Ø	1
1921	4Ø	2	2	4Ø	Ø
1931	4Ø	2	2	4Ø	Ø
1941	4Ø	2	15	53	13
1951	53	1	8	6Ø	7

Source: Census of India, Madras Presidency, Various Volumes.

Certain important changes took place during the decade 1921-31. Firstly, after two decades, the urban population in the region started increasing. Secondly, the percentage of population of 'above medium towns' in the total urban population had more than doubled and consequently, a maximum number of people were found to be living in

these towns. On the other hand, the percentage of population of 'medium and small towns' had declined during this period, while that of 'very small towns' had increased (Table 2.5). The percentage change according to the size classes also shows a similar pattern (Table 2.6). The reasons for a significant increase in the population of 'above medium towns' was the rapid increase in the population of five 'medium towns' which enabled them to become 'above medium towns' during this period. Consequently, the number of 'above medium towns' had increased from three to eight. Since one 'small town' moved up to the status of' medium town', the number of medium towns' was 11 in 1931. At the same time, two 'small towns' moved down to become 'very small towns'. Consequently, the number of 'small towns' declined from 19 to 16, while the number of 'very small towns' had increased to five. Thus, while some towns had improved their status, the population of others had in fact declined on the eve of the Great Depression. This suggests that the Depression had less impact on 'medium and above medium towns', while its impact was somewhat adverse on 'small towns'. For instance, two 'small towns' from Anantapur (Yadiki and Bukkapatnam) were declassified. On the other hand, Banaganapalli from Kurnool district and Sandur from Bellary district emerged as new towns. Hence, one can conclude that though the Depression did not have much impact on the urban population of the region as a whole, it nevertheless had adversely affected the 'smaller towns'.

Between 1931 and 1941, the region had experienced phenomenal growth of urban population. The urban population had increased by nearly two lakhs during this period. Such an increase was possible due to the sudden spurt in the number of towns. Altogether 15 new towns came up in 1941; all of them were 'small towns'. These towns

were; Atmakur, Maddikera, Markapur, Nandikotkur, Gudur, Pattikonda, Koilkuntla, Giddalur, Dhone and Kodumur from Kurnool district; Tekkalikota and Hadagalli from Bellary district; Nandalur in Cuddapah district and Palamaner in Chittoor district. Cumbum town in Kurnool district which got declassified in 1921 regained the status of a town in this year. Two towns Sandur and Kampli from Bellary district were declassified during this period. Since many of these towns were 'small', the growth of population in the category of 'small towns' was faster (Table 2.6). After a span of nearly 30 years, Bellary obtained its earlier status of 'larger town'. As a result, the percentage of population staying in the 'above medium towns' had declined from 44.16 per cent in 1931 to 39.60 in 1941. Nevertheless, large proportion of urban population continued to stay in the above medium towns, a situation which continued upto 1951. This was due to the upward mobility of 'small towns' to the status of 'above medium towns'. During the decade 1931-41, three 'medium towns' had become above 'medium towns' (Table 2.7). Thus, War boom appeared to have helped all types of towns in the Rayalaseema region.

During the period 1941-51, the urban population had increased by more than two lakhs. This was due to the increase in population of the existing towns as well as due to the emergence of eight new towns. These towns were: Vayalpad, Renigunta, Pakala, Puttur, Nagari in the Chittoor district; Kampli and Sandur in the Bellary district. Kotturu town from Bellary district got declassified. With the emergence of these towns, the total number of towns in the region had increased from 53 in 1941 to 60 in 1951. The population of the existing towns also increased during this period. Two 'above medium towns' had obtained the status of 'large towns', while the same number of 'medium towns' had become 'above medium towns'. Six small towns had become

'medium towns'. Thus, the population residing in all types of the towns had increased during this period. The same thing can be observed from the percentage change in population classified according the size-classes of towns (Table 2.6.). Consequently, from 1941 onwards, the process of urbanization had become an impressive phenomenon.

The foregoing analysis suggests that the distribution of population which was in favour of 'small towns' in 1891, showed an upward mobility towards the 'medium towns' till 1921 along with some movement towards 'medium towns'. However, from 1931 onwards, a large proportion of population was found to be staying in the above 'medium towns'. This infact can be seen from the maps drawn at a two points of time 1891 and 1951 also (Map 2.1 and 2.2)

2.2.4 Spatial Growth of Urbanization:

So far we have analyzed the growth of urban population across various types of towns in the region. Now let us analyze the spatial spread of urbanization process. In order to do that, we have worked out the taluk-wise degree of urbanization by using the following formula[22].

$$UC = L/R.$$

Where UC = Urban concentration.

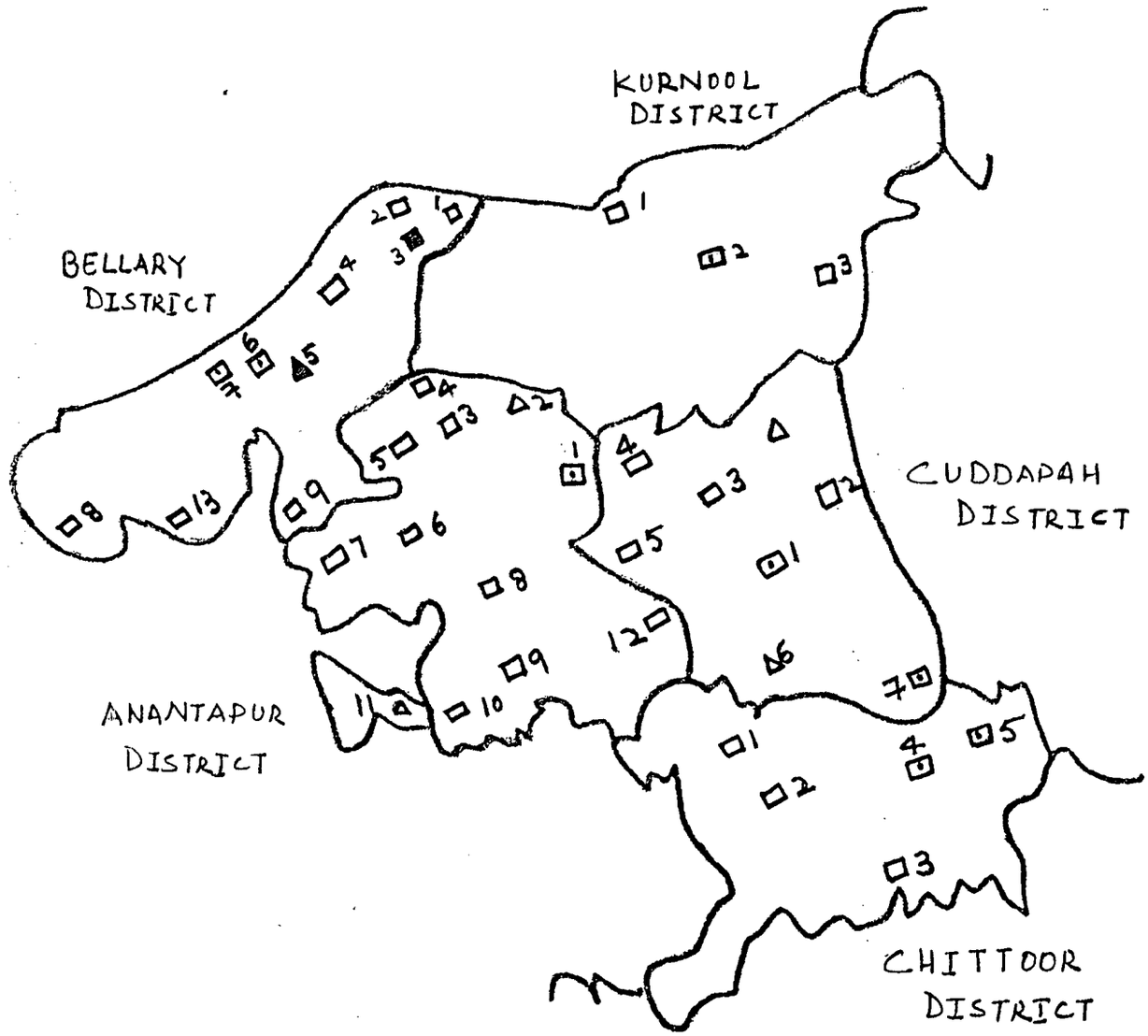
L = Ratio of urban population of a taluk to total population of the of that taluk.

R = Ratio of urban population of a region to total population of that region.

Taluk- wise degree of urbanization has been worked out only for the period 1911-51. This is done to avoid the boundary changes which occurred in several taluks in the region during the first decade of

Map: 2.1 Distribution of urban population in Rayalaseema

1891



Index

Towns with population

50,000 - 100,000 ▲

20,000 - 50,000 ■

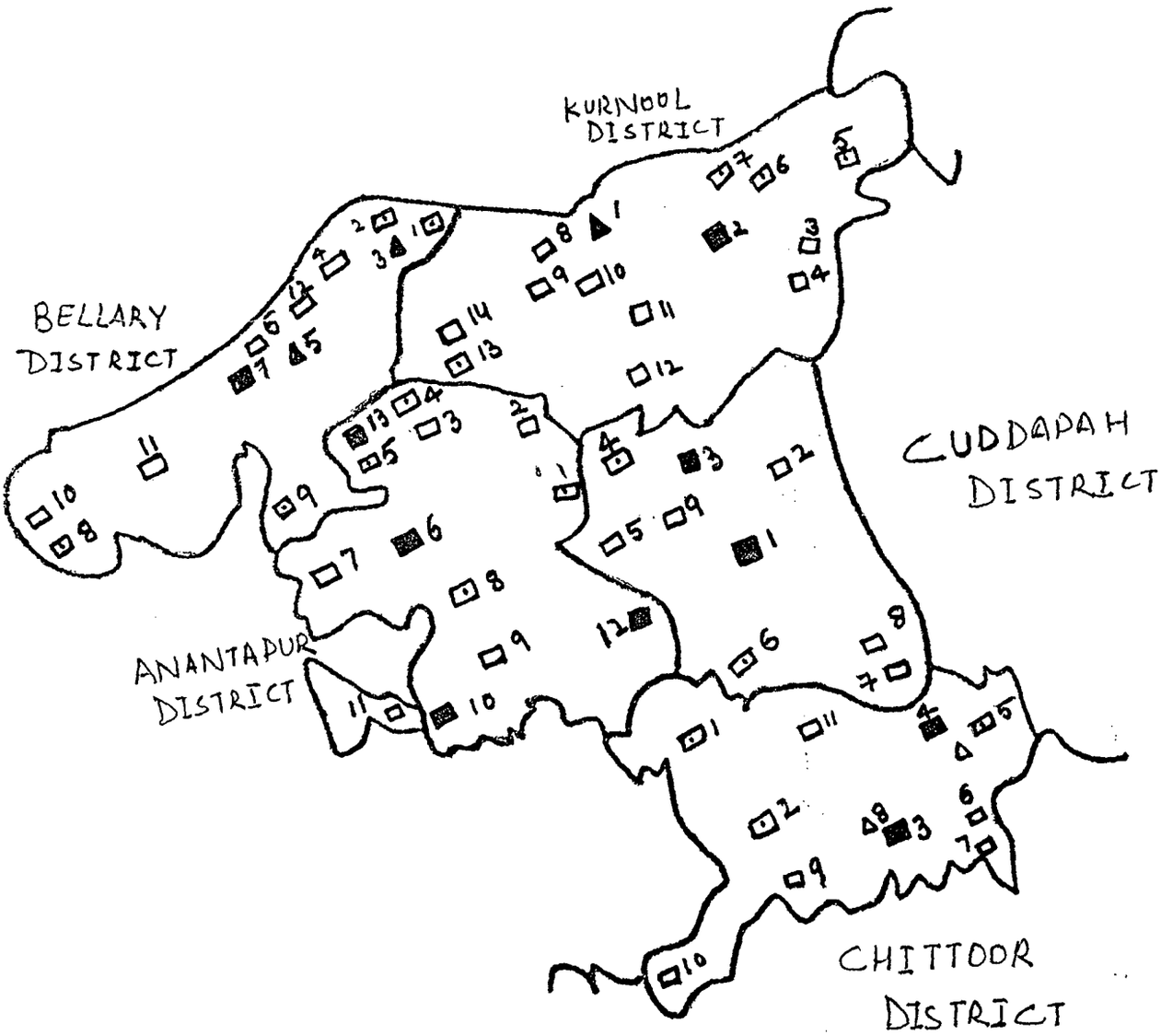
10,000 - 20,000 ⊡

5,000 - 10,000 □

Below 5000 △

Map: 2.2 Distribution of urban population in Rayalaseema

1951



Index

Towns with population

50,000 - 100,000 ▲

20,000 - 50,000 ■

10,000 - 20,000 ▭

5,000 - 10,000 ▭

Below 5000 △

Index of Towns

Bellary District

Towns

(1) Yemminagaur
(2) Kosgi
(3) Adoni
(4) Siruguppa
(5) Bellary
(6) Kampli
(7) Hospet
(8) Harapanahalli
(9) Rayadrug
(1Ø) Hadagalli
(11) Sandur
(12) Tekkalikota
(13) Kottur

Kurnool District

Towns

(1) Kurnool
(2) Nandyal
(3) Cumbum
(4) Giddalur
(5) Markapur
(6) Atmakur
(7) Nandikotkur
(8) Gudur
(9) Kodumur
(1Ø) Dhone
(11) Baganapalle
(12) Koilkuntla
(13) Maddikera
(14) Pattikonda

Anantapur District

Towns

(1) Tadapatri
(2) Yadiki
(3) Pamidi
(4) Gooty
(5) Urvakonda
(6) Anantapur
(7) Kalyandrug
(8) Dharamavaram
(9) Penukonda
(1Ø) Hindupur
(11) Madakasira
(12) Kadiri
(13) Guntakal

Cuddapah District

Towns

(1) Cuddapah
(2) Badvel
(3) Proddatur
(4) Jammalamudugu
(5) Vempalli
(6) Rayachoti
(7) Razampet
(8) Nandalur
(9) Kamalapuram

Chittoor District

Towns

(1) Madanapalle
(2) Punganur
(3) Chittoor
(4) Tirupatti
(5) Kalahasti
(6) Puttur
(7) Nagari
(8) Pakala
(9) Pullampet
(1Ø) Kuppum
(11) Vayalapad

20th century. Siruguppa taluk was carved out of Bellary, Alur and Adoni taluks in 1910. In the same decade, Dhone was formed out of Pattikonda, Ramallakot and Koilkuntla in Kurnool district.

The results on Taluk-wise urban concentration are presented in Table 2.9. We have arbitrarily classified the taluks according to three ranges in the degree of urban concentration.

DC	Type
0- 0.50	Taluks with low concentration
0.50- 1.0	Taluks with medium concentration
1.00 and above	Taluks with high concentration

There were 46 taluks in the region during this period, of which only 32 had towns. Interestingly, about 60 per cent of taluks (with towns) had high urban concentration in 1911. In 1921, the number of taluks with towns had come down to 31 and the number remained the same in 1931. Again, a majority of taluks had high concentration of urban population. However, the urban concentration of some of the taluks had declined and hence one finds the taluks with low concentration of urban population both in 1921 and 1931. Thus the influenza of 1918 and the depression in 1930's had resulted in a decline in the concentration of urban population in some of the taluks.

However, as we noted earlier, the war boom of 1940's had helped many new towns to come up in the region. Consequently, the taluks with the towns had increased from 39 in 1941 to 41 in 1951. Since many of these new towns were small in size, the number of taluks with low degree of urban concentration increased during the period 1941-51.

Table 2.8: Urban Concentration in RAP

Size-class	1911	1921	1931	1941	1951
Ø- Ø-.5Ø	Ø (Ø.ØØ)	1 (3.33)	2 (6.67)	6 (15.38)	7 (17.Ø7)
Ø.5Ø-.1.Ø	13 (4Ø.63)	1Ø (33.33)	1Ø (33.33)	17 (43.59)	14 (34.15)
1.Ø and above	19 (59.37)	19 (63.34)	18 (6Ø.ØØ)	16 (41.Ø3)	2Ø (48.78)
Total	32 (1ØØ)	3Ø (1ØØ)	3Ø (1ØØ)	39 (1ØØ)	41 (1ØØ)

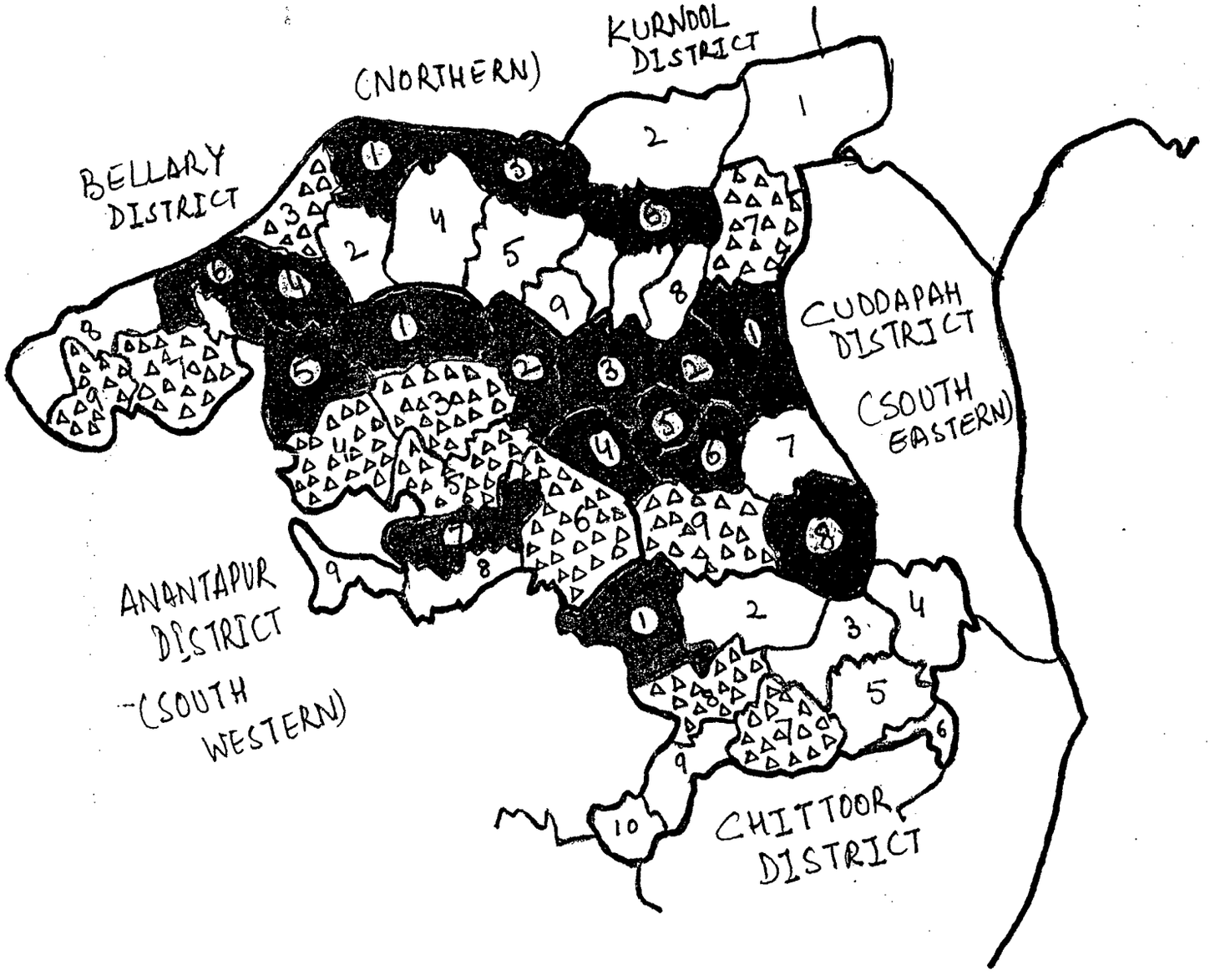
Source: (1) Statistical Appendix of the Districts Gazetteers.
(2) Census of Madras Presidency, Various Volumes.
Note: Figures in brackets in represent percentage of total number of towns for each year.

On the other hand, the percentage of taluks with the high urban concentration had also increased from 41.Ø3 in 1941 to 48.78 in 1951. It was partly due to an increase in the population of the existing towns and partly due to the emergence of new towns in taluks which already had towns.

The concentration of urbanization infact can be seen from the maps drawn for the years 1911 to 1951 (Maps 2.3 to 2.7). The visual presentation at two points of time 1891 and 1951 shows that urbanization spread itself within the region over time (Maps 2.1 &2.2). The spread can be seen from the south-eastern portion to south western and northern portion of the RAP. By 1921, the western part of the region was highly concentrated and it continued so till 1931. In 1941, it had shifted towards the northern part of the region (Maps 2.3 to 2.6). Hence, one can conclude from the above discussion that urbanization had spread spatially during the period under consideration.

Map: 2.3 Concentration of Urban population in Rayalaseema

1911



Index

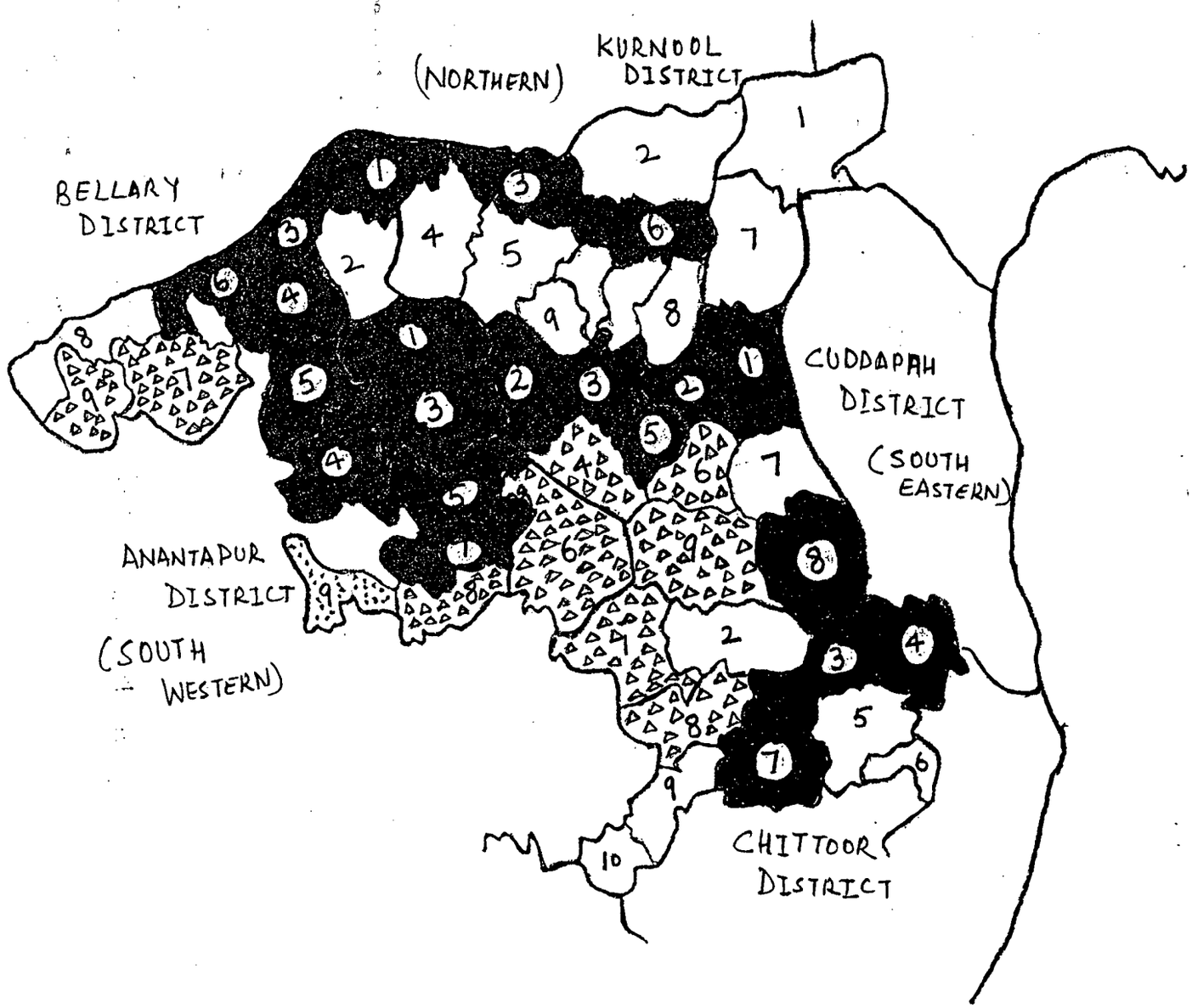
No Concentration = ☐

Less than .50 low concentration = ▫

.50 - .1 medium concentration = ▫

.1 - above high concentration = ■

Map: 2.4 Concentration of Urban population in Rayalaseema
1921



Index

No Concentration = ▭

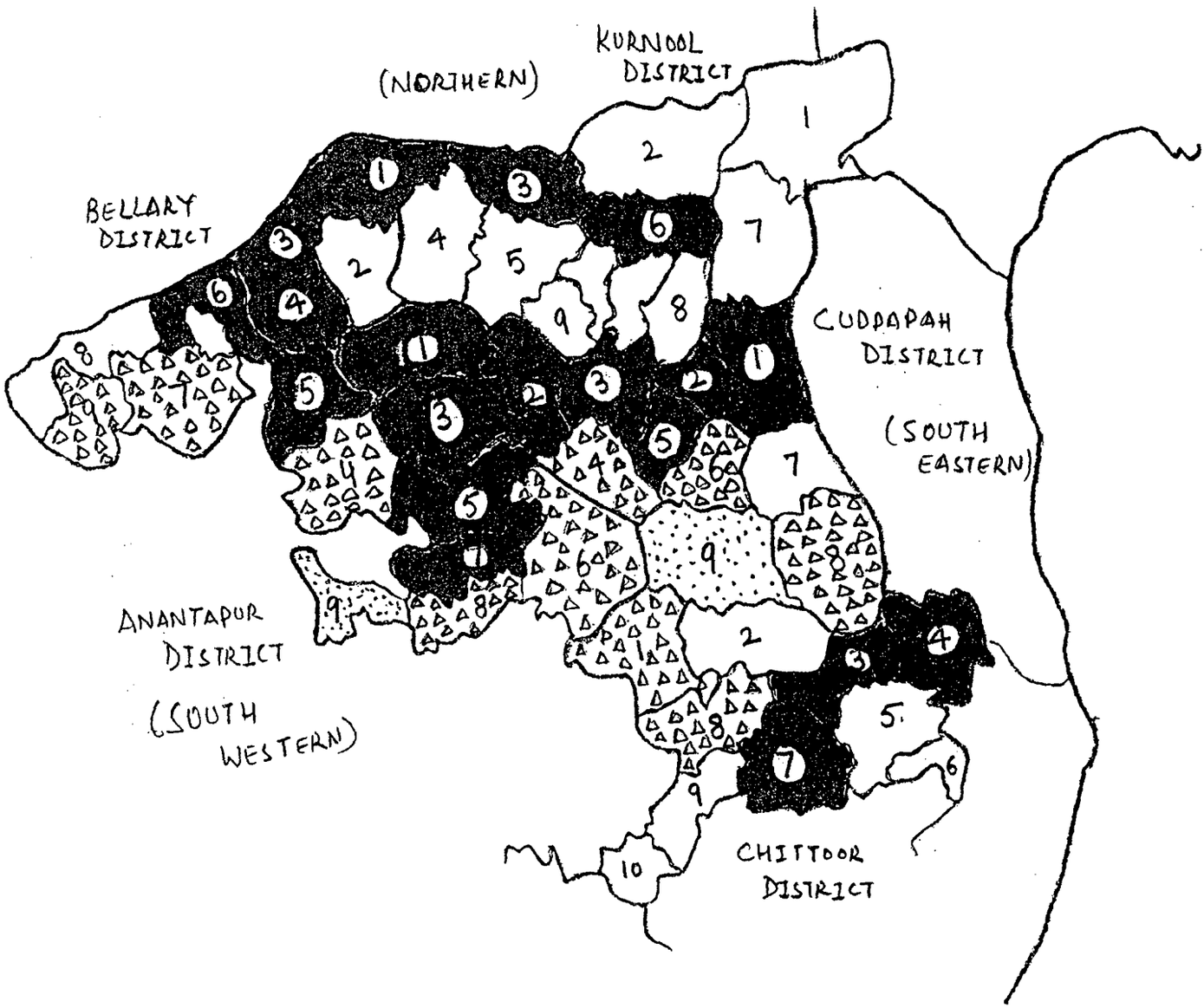
Less than .50 low concentration = ▭

.50 - .1 medium concentration = ▭

.1 - above high concentration = ■

Map: 2.5 Concentration of Urban population in Royalaseema

1931



Index

No Concentration = ☐

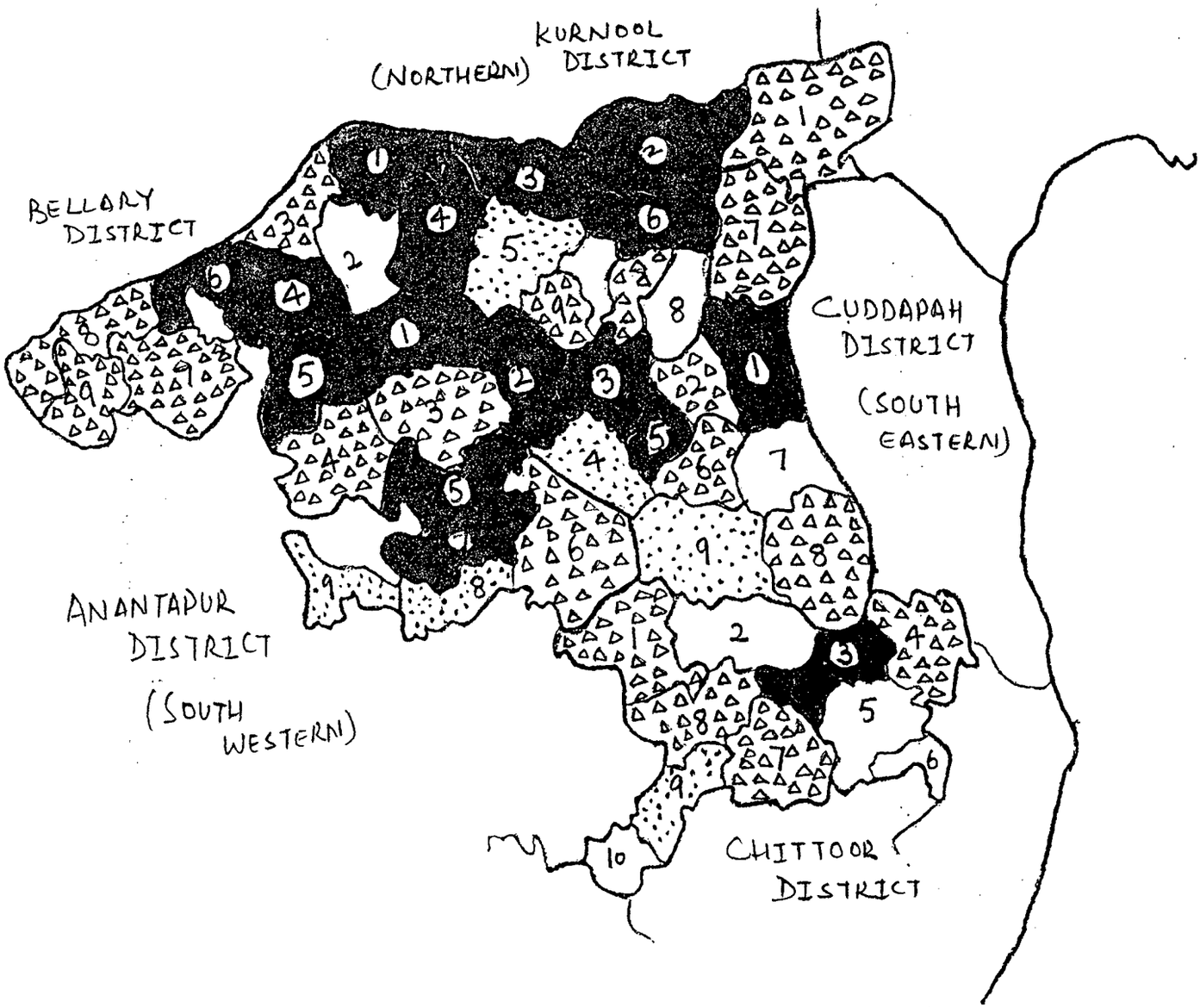
Less than .50 low concentration = ▫

.50 - .1 medium concentration = ▫

.1 - above high concentration = ■

Map: 2.6 Concentration of Urban population in Rayalaseema

1941



Index

No Concentration = ☐

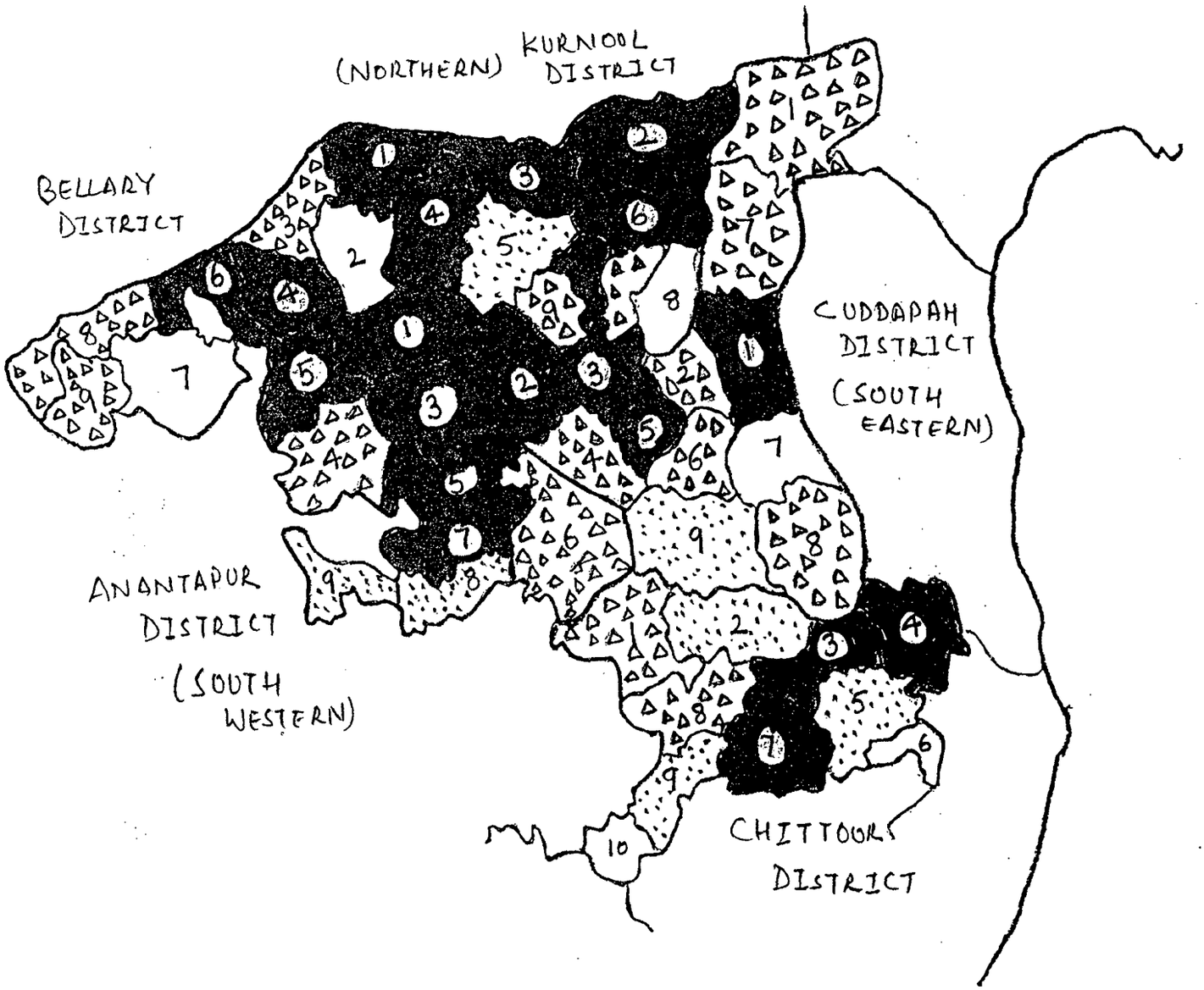
Less than .50 low. concentration = ⊡

.50 – .1 medium concentration = ⊡

.1 – above high concentration = ■

Map: 2.7 Concentration of Urban population in Rayalaseema

1951



Index

No Concentration = ☐

Less than .50 low concentration = ▪

.50 - .1 medium concentration = ▪

.1 - above high concentration = ■

Index of Taluks

Bellary District

Taluks

(1) Adoni
(2) Alur
(3) Siruguppa
(4) Bellary
(5) Rayadrug
(6) Hospet
(7) Kudligi
(8) Hadagalli
(9) Harpanahalli

Kurnool District

Taluks

(1) Markapur
(2) Nandikotkur
(3) Kurnool
(4) Pattikonda
(5) Dhone
(6) Nandyal
(7) Cumbum
(8) Sirvel
(9) Koilkuntla

Cuddapah District

Taluks

(1) Badvel
(2) Proddatur
(3) Jammalamadugu
(4) Pulivendla
(5) Kamalapuram
(6) Cuddapah
(7) Siddavattam
(8) Rajampet
(9) Rayachoti

Anantapur District

Taluks

(1) Gooty
(2) Tadpatri
(3) Anantapur
(4) Kalyandrug
(5) Dharmavaram
(6) Kadiri
(7) Penukonda
(8) Hindupur
(9) Madakasira

Chittoor District

Taluks

(1) Madanapalle
(2) Vayalpad
(3) Chandragiri
(4) Kalahasti
(5) Puttur
(6) Tiruttani
(7) Chittoor
(8) Punganur
(9) Palmaner
(10) Kuppam

2.2.5 District-wise Pattern of Urbanization:

The trends in urbanization were uneven across the districts in several respects. Table 1Ø shows that the urban population in all the districts was increasing during the decade 1891- 19Ø1. The rate of growth of urban population in the districts of Cuddapah and Anantapur was quite high as compared to other districts in the region. During the decade 19Ø1-1911, the urban population had either declined or increased at a lower rate. Thus, the reverse migration to rural areas has affected all the districts more so in the districts of Bellary and Anantapur. The occurrence of epidemics also must have contributed to the decline in the urban population in these two districts.

During the decade 1911-21, the urban population had declined in the districts of Kurnool and Cuddapah, while it increased in the districts of Anantapur, Bellary and Chittoor. The increase in Chittoor is not surprising because this district was relatively less affected by the influenza of 1918.

The increase in urban population in Bellary and Anantapur districts does not imply that they were unaffected by these fevers.

Table 2.1Ø: District Level Growth Rates: Urban Population in Rayalaseema

Decade	Kurnool	Cuddapah	Anantapur	Bellary	Chittoor
1891-19Ø1	15.1Ø	56.34	46.85	1Ø.66	22.37
19Ø1-1911	3.4Ø	5.84	-7.Ø2	-17.6Ø	13.86
1911-1921	-5.31	-22.9Ø	7.4Ø	3.33	1.3Ø
1921-1931	38.34	5.72	-4.34	17.56	12.93
1931-1941	149.64	22.51	24.84	13.87	23.82
1941-1951	32.11	26.77	43.48	27.96	59.38

Source: Census of India, Madras Presidency, Various Volumes.

In fact the Census Commissioner of 1921 noted that these two districts were worst affected in the whole of Madras Presidency. The increase in the urban population in these districts was due to the

occurrence of famines towards the end of the decade 1911-21 and consequent rural urban migration[23].

The urban population in all the districts had increased during the decade 1921-31, except in Anantapur. This was mainly due to Depression. It was stated that several groundnut decorticating units in the towns such as Kadiri and Penugonda in the Anantapur district were closed down due to world wide depression in the groundnut trade[24]. From 1931 onwards urban population in all the districts was increasing at a rapid rate except in the Bellary district. The urban population increased at a slow rate during the decade 1931-41 and at a modest rate during the decade 1941-51. Thus war boom had a positive impact on the growth of urban population in all the districts except in Bellary district.

2.2.6 District- Wise Degree of Urbanization:

The analysis of degree of urbanization at a district level shows that Kurnool had a near constant degree of urbanization till 1921. It started increasing from the next decade but there was a slight fall in the decade 1941-1951.

Bellary district had a fall only in the decade 19Ø1-1911. Other wise, it had a steady increase in the degree of urbanization.

Table 2.11: District-wise Degree of Urbanisation
in Rayalaseema

Year	Kurnool	Bellary	Cuddapah	Anantapur	Chittoor
1891	4.99	17.56	7.26	9.7Ø	4.29
19Ø1	5.39	18.Ø7	11.38	13.16	5.Ø1
1911	5.2Ø	14.54	11.86	11.87	5.2Ø
1921	5.Ø3	16.89	9.21	12.84	5.13
1931	6.21	17.65	9.1Ø	11.18	5.29
1941	13.87	18.54	1Ø.Ø2	12.51	5.81
1951	12.99	28.32	11.54	14.18	8.35

Source: Census of India, Madras Presidency, Various Volumes.

Cuddapah and Anantapur districts had a fall in the decades 1901-11 and 1921-1931. Chittoor district had almost a stagnant degree of urbanization till 1941; only in the decade 1941-1951, it experienced an increase.

SECTION 3

2.3.1 Growth of Towns:

The objective behind the analysis of the growth of the towns is to select a sample of towns for an intensive analysis. Certain methodologies exist in the selection of towns for a closer study. For example Josef James has adopted the following methodology. To describe the growth of the urban place as fast, slow or ordinary Josef James adopted the following criterion: He has picked up for each decade two reference rates. Firstly the rate of growth of population over the territory of the state and secondly the rate of growth of urban population over the same territory. An urban place is described as "slow growing" if its rate of growth of population is less than the rate of growth of population in the state during that decade. An urban place is described as "fast growing" if its rate of growth is greater than one and two thirds of the rate of growth of urban population in the state during that decade. The criterion one and two thirds has been fixed arbitrarily. According to him, this procedure would neither give too many fast growing towns nor too many slow growing towns for any decade for Tamilnadu, the area of his study. Urban places whose rate of growth lies between these two quantitative limits are called "ordinary growing" towns (Josef James, 1987)[25].

Christopher Baker has adopted his own criteria to look into the growth of towns. He classified the growth of towns as (1) rapid and

(2) stagnant. According to him, a town is rapidly growing when its population grows at twice the rate of the population of the state as a whole. A town's growth is stagnant when its population declines or grows less quickly than the rate of growth of the total population of the state (Christopher Baker, 1984)[26].

Our attempt to classify the growth of the towns on the basis of these two methodologies could not yield any significant result. When Josef James, criterion was applied to our region, we obtained either too many fast growing or too many slow growing towns. The application of Baker's criterion resulted in stagnancy in the growth of fast growing towns from 1921 onwards. Hence, we have selected the towns on the basis of calculating the annual rate of growth of urban population for the region as well as for the towns which were there in the region from 1891 to 1951. In other words, the annual growth rates were worked out only for those towns which were not declassified during this period. We have classified the Rayalaseema towns under the arbitrary following three categories.

Category 1: Towns having an annual growth rate below 1.25 are slow growing.

Category 2: Towns having an annual growth rate between 1.25 and 1.75 are medium growing.

Category 3: Towns experiencing an annual growth rate above 1.75 are termed as fast growing.

In Table 2.12 towns falling under these three categories has been listed out. It is to be noted that this table does not include the towns which were declassified and also those which came up during the period 1891-1951. From these towns, we have picked up 18 towns for an intensive analysis. These towns bear an asterix mark in Table 2.12.

To select the market towns, we have depended on the available qualitative information. To begin with, all these towns were trading centres for one crop or another.

Table 12: List of towns under different categories.

Category 1	Category 2	Category 3
Madakasira*	Jammalamadugu*	Kurnool*
Razampet*	Rayachoti	Nandyal*
Vempalli*	Cuddapah*	Hindupur*
Badvel*	Adoni*	Hospet*
Yemmiganur	Rayadrug*	Anantapur
Harpanahalli*	Uravakonda	Kadiri*
Kosgi	Tadpatri*	Proddatur*
Siruguppa	Gooty*	
Pamidi	Dharmavaram	
Kalyandrug		
Penukonda		
Bellary*		

Note: * Market towns selected for study

In this region there were, "no regulated markets such as are to be found in Berar. The important district and taluk head quarter towns, which have ginning and pressing factories served as the cotton markets"[27]. Thus all these towns were for long trading places with differential levels of market activities.

Regarding Kurnool town, Morris in the Settlement Report of Kurnool Proper had noted that as early as in 1863, "there is (was) only one town in the district of Kurnool which has a market worth naming and that is (was) Kurnool itself[28]". Benson's analytical account in the Kurnool district also showed that Kurnool was an important market town. This was later corroborated by the settlement Report of Kurnool proper in 1905. Benson in his analysis predicted that since Nandyal was situated on the railway line connecting Bellary with Vijayawada, it would become an important market centre. His prediction came true. By the turn of century, it became a thriving market centre[29]. The Indian Cotton committee (here after ICC) noted

in 1918 that the Cotton trade in this town was so large that the agents of European companies such as Binny and Co and Volkart Bros were stationed at this town to pick up cotton for export. Nandyal remained as " Chief market in the Kurnool district during the whole of this period[30]".

In Bellary district the towns of Bellary and Adoni were centres of cotton trade. Being situated in the heart of the cotton growing tract, these towns were able to extract large quantities of cotton not only from Bellary district but also from the neighbouring districts of Kurnool and Anantapur. As early as in 187Ø's, the merchants from Bellary, Adoni and Kurnool towns would visit Pattikonda taluk in Kurnool district during the harvest season and there was a great competition amongst them for surplus produce[31]. Similarly H. Lambert Superintendent Engineer of state railways survey, noted that Adoni was an important centre of marketing activity. The ICC surveys also revealed that,"Adoni was an important cotton market in the whole of western and Northern tracts (Rayalaseema region)"[32]. Similarly the ICC investigation in 192Ø and Madras Provincial Banking Enquiry Committee surveys in late 192Ø's also highlighted that these two places were important trade centres. Commenting on the development of marketing facilities in the Black soil taluks of Bellary and Anantapur taluks, the Settlement Officer noted that Bellary, Adoni and Siruguppa, Gooty, and Tadpatri were," Centres of daily markets and of great commercial activity and export large quantities of Cotton"[33]. Similarly the Resettlement Report for the Red soil Taluks of the above districts noted that Hospet and Rayadrug were," busy centres of trade and are (were) of Commercial importance"[34].

Historically speaking Tadpatri and Hindupur were important market towns. As early as in 188Ø's it was mentioned that, " Tadpatri

has always been a great trading centre ...it has always been a thriving and populous town". Large quantities of cotton and indigo and groundnut were sent from this town to Cuddapah and Bellary[35]. Hindupur also had a large market in the South of the Greater Bellary district and a large traffic is carried on Jaggery, piece goods and grain[36]. At the turn of the century the Settlement Officer of Anantapur district did not consider it worth mentioning of any town in the district except Tadpatri and Hindupur. He noted that towns, "are none in the district worth any special mention except perhaps Tadpatri, which is in the centre of cotton growing taluk and which can boast of a cotton press. Hindupur adjoining the Mysore territory is a place of some trade chiefly in grains and Jaggery"[37].

Unlike Anantapur, Cuddapah district had several market towns the most important of which was Proddatur. Proddatur was "certainly the wealthiest town in the Cuddapah district. In its pressing and ginning factories large quantities of raw cotton are prepared for the market by power driven machinery. The trade of the town, the bulk of which is concerned with cotton,indigo and food grains"[38]. Next in importance was Cuddapah town. In a sense it was a more important town as it tapped surplus produce from a larger area within the district. Most of the surplus produce of Badvel, Sidhout, Pulivendla and Rayachoti taluks passed through this town. Moreover, since this town was situated on the railway line between Madras and Bombay, considerable quantities of Cotton Turmeric and other commodities were exported to several parts of India[39]. Other important market centres were Jammalamadugu, Rajampet and Badvel. "The principal trade of Jammalamadugu town is in Cotton. Weaving of a more ambitious character than usual is carried on by families of Mahratta extraction[40].

Rajampet became an important town after the opening of Madras Bombay Railway line. It became a principal centre of distribution of surplus produce not only for Pullampet but for much of Sidhout and Rayachoti taluks[41]. Badvel being situated on the main road connecting Cuddapah with Cumbum and Nellore became a trading centre for the eastern taluks.[42]

Thus, our qualitative information unmistakably points out that all the selected towns were centres of marketing activities. They remained so all through our period of study. In fact the 1951 census report for Madras state presented a list of towns which were considered to be major trading towns in the region. Most of the selected towns figure in this list[43].

The whole discussion on trends in and rate of urbanization in Rayalaseema region for the period 1891 to 1951 highlighted two findings that, during the period 1901 to 1921 the region experienced the process of de-urbanization or in other words the growth of the towns was negative in the sense that the population of the towns was falling, but after 1921 the process of urbanization picked up and towns experienced higher growth of population. In the next chapter an attempt will be made to seek reasons for the observed trends in the growth of the selected towns.

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43. List of Important Trade Centres In the State

District	Place	Articles Dealt With
Kurnool	Nandyal	Cotton, Groundnut, Castor
	Kurnool	Cotton
Bellary	Bellary	Cotton, Groundnut, Millets Jaggery
	Adoni	Millets, Cotton Groundnut
	Kotturu	Groundnut
	Hospet	Jaggery
Anantapur	Tadpatri	Castor, Groundnut, Cotton
	Guntakal	Cotton
	Hindupur	Castor, Groundnut, Arecanuts
	Anantapur	Castor, Groundnut, Rice
Cuddapah	Kodur	Castor, Citrus Fruits
	Proddatur	Ghee
	Cuddapah	Turmeric, Groundnuts
	Rajampet	Citrus Fruits

Source: Census of India 1951, Vol.III Madras and Coorg, Part 1-Report, Govt. Press, 1953, pp. 289-9Ø.

CHAPTER III

COMMERCIALIZATION OF AGRICULTURE AND MARKET TOWNS

3.Ø Introduction:

A study on commercialization of agriculture in Andhra has categorically stated that the expansion of commodity market and development of market towns went hand in hand[1]. But was it empirically true? The present chapter seeks to analyze the commercialization in agriculture and its impact on the development of market towns in the specific context of the Rayalaseema region during the period c.1891-c.1943. It should be noted that any discussion on the commercialization of agriculture encompasses the development of four markets viz., land, labour, credit and product markets. However, we will concentrate only on the dynamism of product market and take cultivation of the commercial crops as an important indicator of the process of commercialization in agriculture.

The chapter is presented in three sections. The first section discusses the physical aspects of Rayalaseema, while the second section discusses changes in cropping pattern in the region during the period 18ØØ to 1951. The last section analyses the relationship between the commercialization of agriculture and market towns.

SECTION 1

3.1.1 Physical Aspects of Rayalaseema:

The development of commodity market in any region depends upon the existing physical aspects. The nature of the soil, rainfall and availability of infrastructural facilities such as irrigation would influence the nature of crops grown in the region and subsequently

their marketing activities. So, let us first discuss the physical aspects of the region under study.

As far as the physical endowments are concerned, RAP consists of both black regar and red soils. Table 3.1 shows that both types of soils are present in all the districts, except Kurnool. Black soil is abundant in the district of Kurnool, Bellary, and Cuddapah, while red soil is predominant in Chittoor and Anantapur. Since black soil is conducive for the cultivation of cotton, this remained a major industrial crop in the region till about mid-192Øs. Similarly, red soil in the districts of Anantapur and Chittoor helped the farmers in these districts to cultivate groundnut on a large scale from about 191Øs.

Table 3.1: Percentage Distribution of Soils in Rayalaseema

Districts	Black	Red	Arenaceous	Mixed	Total
Kurnool	73	Ø	27	Ø	1ØØ
Bellary	5Ø	3Ø	Ø	2Ø	1ØØ
Anantapur	21	79	Ø	Ø	1ØØ
Cuddapah	47	53	Ø	Ø	1ØØ
Chittoor	1Ø	9Ø	Ø	Ø	1ØØ

- Source: C. W. B. Zacharias, Madras Agriculture, p. 15.

As regards the pattern of rainfall, the region receives rainfall mainly from the South-West monsoon. Since RAP falls under the rain shadow region of the Western Ghats, the precipitation is quite scanty. The average rainfall was not only low (27.2 inches) but also varied significantly across the districts; while the average rainfall was as much as 33.47 inches in Chittoor district during the period 187Ø-192Ø, it was only 23.29 inches in Bellary district during the same period[2]. There were variations even within a district; for instance, in the Kurnool district the rainfall was higher in the eastern taluks such as Nandikotkur and Nandyal, while it was comparatively lower in western

taluks such as Pattikonda and Kurnool[3]. Year to year variation in the average annual rainfall was as much as Ø.2Ø8 in RAP during the period 1891 to 192Ø; thus it is worth noting that not only was the average rainfall low, but its variability was high at the same time[4].

Such a low and unequal distribution of rainfall necessitated the artificial irrigation facilities. Though the region was said to have benefited by 17 canals supplemented by hundreds of wells till the middle of the 16th century[5], they were subsequently ruined by the neglect of the traditional water management institutions and a process of bureaucratization that had set in during the early part of the 19th century[6]. State initiated efforts to provide irrigation facilities in the region commenced only in the 186Øs. Encouraged by the success of anicuts across the rivers Krishna and Godavari in Coastal Andhra, the Madras Irrigation Company[7] entered into an agreement with the government of Madras to build the Kurnool-Cuddapah canal in the region. The company successfully bargained for a five per cent guaranteed rate of interest on the capital invested in this venture. The canal was designed to carry water for irrigation as well as for navigation. But this venture was a disaster. Though the construction of the canal was started in 1863, by 187Ø-71 only one section was complete. Due to the defects in the engineering design, the water availability was uncertain. Besides, the water tax imposed by the company was high ranging from Rs. 6 to 12 per acre[8]. The net result of all this was the failure of the system in extending the irrigation facilities in the region. By 1882, the government was compelled to take over the enterprise. It initiated several measures such as appointment of special Deputy Collector to look after the canal, reduction in the water tax and encouraging the immigration of enterprising farmers from coastal Andhra and so on. However, even

these measures failed to produce significant effects. Consequently, the area irrigated by the canal continued to be small; by 1882, an area of only 1800 acres and by 1898-99 a little over 48000 acres were irrigated[9].

Table 3.2: Percentage of Net Area Irrigated (NAI) to Net Area Sown (NAS) in Rayalaseema and Coastal Andhra (Acres in '000s).

	Rayalaseema			Coastal Andhra		
Year	NAI	NAS	Per cent	NAI	NAS	Per cent
1891/2	455	4366	10.4	1214	4182	29.0
1895/6	545	5099	10.7	1404	4522	31.0
1900/1901	541	4964	10.9	1574	4620	34.1
1905/06	493	5042	9.8	2008	5148	39.0
1910/11	928	5674	16.4	3568	8359	42.7
1915/6	767	5888	13.0	3741	7940	47.1
1920/21	779	5178	15.1	2900	6887	42.1
1925/6	634	5095	14.4	3285	8766	37.5
1930/31	811	6634	12.2	3259	9017	36.1
1935/6	800	5698	14.0	3293	7901	41.7
1945/6	741	5546	13.4	3737	8004	46.7

Source: G.N.Rao and D.Rajasekhar (1986), 'Irrigation, Agrarian Expansion & Comercialization in Andhra- A Long Term Overview'.

With the failure of the Kurnool-Cuddapah canal and a progressive ruin of the tanks, the percentage area irrigated remained small in the region during the period 1891-92 to 1945-46 (Table 3.2). The little increase that could be seen in 1910-11 was due to the inclusion of the Chittoor district into the region in that year. For the rest of the period the area under irrigation fluctuated between 12 per cent and 15 per cent. During the same period the area under irrigation increased significantly in Costal Andhra as compared to Rayalaseema. The area irrigated in coastal Andhra increased from 29 per cent in 1891-92 to 46.7 per cent in 1945-46.

An analysis of the source-wise irrigation in RAP reveals that canals contributed about one fifth to total irrigated area in the

region during the period 1891-92 to 1946-47.

Table 3.3: Source-wise Irrigation (%) in Rayalaseema, (Percentage) (total in Acres)

Triennium ending with	Canals	Tanks	Wells	Others	Total irrigated area
1893/4	22.25	34.63	39.40	3.72	557190
1896/7	21.22	34.69	39.88	4.21	528254
1899/1900	21.95	36.07	38.69	3.54	524251
1902/03	19.42	37.46	38.40	4.72	527193
1905/06	21.36	35.52	37.17	4.63	501343
1908/09	23.01	36.22	38.28	2.49	511244
1909/10*	21.07	40.81	34.47	3.65	549065
1912/3	19.28	42.80	30.73	7.19	800614
1915/6	18.16	43.51	33.35	4.98	731634
1918/9	17.91	44.26	32.00	5.18	792337
1921/2	20.66	42.50	32.10	4.74	798890
1924/5	20.66	41.09	33.74	4.51	713492
1927/8	19.57	43.39	33.45	3.59	727694
1932/3	17.93	46.81	24.91	10.35	755902
1935/6	19.85	45.61	27.11	7.43	746980
1938/9	19.47	42.77	28.91	8.85	784494
1941/2	17.26	44.63	27.95	10.16	814887
1944/5	20.74	46.32	27.65	5.29	854784
1946/7**	20.96	45.20	29.48	4.36	823363

Source: Indian Agricultural Statistics, Various Issues.
Note: * One year figure. ** Two year average.

* (In 1910 Chittoor was added to the Rayalaseema. Hence TIA increased from 5.5 to 8.0 lakh acres)

The predominant sources of irrigation in RAP were tanks and wells and consequently, the irrigated area heavily depended on a precarious and uncertain rainfall. It was found that the correlation between the net area irrigated and rainfall in RAP was 0.20 during the period 1890-1920. In others words, nearly 20 percent of total irrigated area was dependent on the rainfall[10].

Thus, the foregoing discussion reveals that the Rayalaseema region had abundant black soil, which facilitated the cultivation of industrial crops such as cotton and groundnut. However, the scanty and uncertain rainfall coupled with inadequate and unassured irrigational facilities resulted in several famines and crop-failures. The region

was worst affected by the widespread famines during the years of 1876-78, 189Ø-91, 1896-97 and 1899/19ØØ; the cultivated area and population in the region declined[11]. In the first half of the 2Øth century also, there were crop failures. These crop failures, however, did not result in widespread loss of human and cattle population due to the improvement in transport and better state relief. They nevertheless interfered in commodity production and resulted in periodic fluctuations in the cultivation of cash crops.

SECTION 2

3.2.1 Cropping-Pattern in Rayalaseema (c.18ØØ-c.1945):

The discussion on cropping pattern in this section is presented in two sub-sections. The first sub-section briefly discusses the crop production in the region during the period 18ØØ to 189Ø, while the second sub-section analyses the same (somewhat extensively) for the period 1891 to 1945.

3.2.2 Crop production in Rayalaseema region (c.18ØØ-c.189Ø):

Prior to 18ØØ, Rayalaseema region had by and large a subsistence economy with a low level monetization. Though cotton was grown, it was mainly used for self requirement. On the eve of transfer of the region to the East India company in 18ØØ, the conditions were not conducive for the development of the economy, as the region was passing through a phase of political turmoil and unsettled agriculture. Land revenue rates were high and ryots were compelled to occupy and cultivate as much land as possible. The occurrence of famines along with an unbearable taxation and depression in the prices were not conducive for the cultivation of cash crops.

The available qualitative information for the period 1800-1860 shows that cash-crops like cotton and indigo were grown in the districts of Cuddapah, Bellary and Kurnool. The chief indigo-growing district was Cuddapah "which produced a fine variety greatly in demand in Europe"[12]. The area under indigo increased in the first half of the 19th century. The exports of indigo from Ceded Districts were also significant. The value of indigo exports from Cuddapah and Bellary districts 1806/7 amounted to Rs. 4.37 lakhs, while in 1853 the value of indigo exported from Cuddapah alone was as much as Rs. 13.75 lakhs[13]. Given the fact that the prices of indigo declined during this period, an increase in the value of exports meant that , "the quantity exported must have been even greater"[14]. Similarly, the quality of cotton grown in the Cuddapah district was ranked as one of the best among the varieties of cotton grown in the Madras Presidency. The area under this crop also increased during the period 1800-50. It has been noted that in the Bellary district there was an addition of nearly 130,000 acres, and by 1850 the area under cotton in this district was nearly 214,000 acres[15]. This increase was possible because of an increased demand for cotton in England and China and also due to the encouragement given by the East India Company[16]. But this increase was far less compared to the ultimate potential in terms of soil of the region to cultivate this crop. Ceded Districts alone contained at least a million and quarter acres fit for cotton, and yet only 214000 acres were put under cotton cultivation by the middle of the century[17].

The reasons for such retardation in the cultivation of cash crops were the following: The ryots could not afford to grow cotton without raising the food grains for themselves and hay for the cattle. And after cultivating the latter crops they were

hardly left with means enough to cultivate anything else with the result that not even one-fifth of the land fit for cotton was cultivated[18]. Besides, cotton cultivation not only exhausted the soil but was also expensive[19]. Cotton, therefore, was cultivated on small patches of land except by rich ryots who could withstand the loss of a year's crop. "Even in Cuddapah where very large crops were grown, the farmer seldom allotted more than a third or fourth of his lands and all his best lands were reserved for grains"[20]. .The oppressive land revenue rates also contributed to the lack of a rapid increase in the area under cotton. Moreover, prices were low during this period. The period from mid 1820's to early 1850's witnessed a severe depression in agricultural prices. The cultivators were forced to sell more produce to meet land revenue demand and the result was that in the end they were left with hardly anything to reinvest in agriculture. All these factors resulted in a slow agrarian expansion in general and decline in the growth of cash crops in particular till the mid 19th century.

During the period 1850-1875, the situation had somewhat improved. The prices of food-grains as well as cash crops such as cotton increased, especially in the sixties partly due to the occurrence of a famine in 1866 in the region and partly due to the civil war in U.S.A, leading to a reduction in the cotton exports and consequent increase in demand for Indian cotton. This induced the cultivation of cotton on a large scale in this region[21]. The transportation facilities also had improved with the advent of railway line connecting Madras and Bombay across the Rayalaseema region in 1866. Development in transport played an important role in the cultivation of cash crops. As noted by Sarada Raju, the cultivation of cotton in the first half of the 19th century was limited by the

"proximity of towns or the means of transporting the surplus". In view of the enormous extension of cultivation in the latter half of the century with the introduction of railways etc, the inadequate progress in the cultivation of cash crops in the first half of 19th century may certainly be attributed to the difficulties of communication and marketing[22].

Table 3.4: Cropping pattern in Rayalaseema (1871-2 to 1889-90)

Years	Rice	Jowar	Other food crops	Total food crops	Cotton	Indigo	Other non-food crops	Total non-food crops	Total (in '000 acres)
1872-73	3.92	34.97	44.13	83.00	9.96	1.36	5.56	16.96	7151
1874-75	6.02	34.85	42.93	83.80	8.22	1.29	6.69	16.18	7496
1877-78	5.28	39.50	42.06	86.83	7.71	0.62	4.83	13.16	4679
1880-81	4.72	34.23	42.48	81.43	10.35	2.32	5.90	18.56	5616
1885-86	4.06	30.16	47.23	81.43	9.00	2.03	7.52	18.66	6531
1889-90	5.76	28.33	42.76	81.43	11.67	2.59	8.89	23.16	7204

Source: Statistical Returns Of Madras Presidency

We have data on cropping pattern for the period 1872/3 to 1889/90. Table 3.4 shows that the total cultivated area declined from 71.5 lakh acres in 1872/73 to 46.8 lakh acres in 1877/78.

During the period 1872/3 to 1877/8, the area under food crops increased from 83 to 87 per cent, while that of non food crops declined from 17 to 13 per cent. The sharp increase in the area under food crops was due to the famine of 1876/78. The percentage area under jowar increased sharply from 35 in 1872-73 to 40 in 1877-78 during this period. But the share of non food crops like cotton decreased from 10 per cent to 8 per cent and that of indigo from 1 per cent to 0.62 per cent (Table 3.4). Similar pattern and trends in crop-pattern were observed for the Madras Presidency as a whole[23]. Thus, the area under food grains increased during and after the famine period.

However, as the decade of 188Ø's was free from famines, there was a shift towards the cultivation of non-food crops in this decade. The total cultivated area increased from 56 lakh acres to 72 lakh acres. The area under cotton increased from 8 per cent to 12 per cent, while that under indigo increased from Ø.62 to 2.59 per cent during the period 1877/78 to 1889/9Ø. Among the food crops the area under rice increased marginally, while that of Jowar declined (Table 3.4).

The foregoing discussion on the changes in cropping pattern in the region during the period 18ØØ to 189Ø reveals that till the mid of 19th century agriculture in the region was subsistence in nature. Though cash crops such as cotton and indigo were cultivated, the area under these crops remained small due to exorbitant land revenue rates, and low prices of agricultural produce. With an increase in prices from 186Ø's, the cultivation of cash crops picked up. But the famine of 1876/77 reversed the situation. The cultivation of cash-crop had declined. Once again the revival can be seen in 188Ø's, as this decade was free from natural calamities. Hence, there was an agrarian expansion and an increase in the area under cash crops.

3.2.3 Cropping pattern in Rayalaseema (c.1891-c.1943):

We have reliable data on cropping pattern for the period 1891/2-1942/3. The volumes of Indian Agricultural Statistics formed the data-base for our analysis on changes in the cropping pattern in the region. It has been argued that the data on crop statistics were not comprehensive as they excluded the Zamindari areas. However, this region did not consist of any Zamindari areas. Only Chittoor district had Zamindaris of Karvetinagar, Kalahasti and Punganur. But by the time Chittoor was formed and included in our region, the coverage problem of Indian Agricultural Statistics ceased to exist[24]. In order

to circumvent the problems posed by the boundary changes, the analysis on cropping pattern during the period c.1891-c.1945 is presented in two sub-periods, viz., 1891/2 to 1909/10 and 1910/11 to 1940/1. The figures for the first sub-period are not comparable with those for the second sub-period.

3.2.4 Total Food Crops and Total Non-Food Crops:

The analysis of growth rates reveals that the cultivated area increased at an average annual growth rate of 0.82 per cent in the first sub-period and at 0.04 per cent in the second sub-period (Table 3.5). The area under food crops increased at a faster rate compared to that under non-food crops during the first sub-period. This is further corroborated by Table 3.6. The percentage area under food crops increased from 77.87 in the triennium ending with 1893/4 to 79.48 in 1909/10. The reason for an increase in area under food crops was perhaps due to the occurrence of wide-spread famines in the region in the years 1891/2, 1896/7, and 1899/1900.

Table 3.5: Compound Growth Rates (%) of Various Crops in Rayalaseema (1891/2 to 1940/41)

	1891/2-1909/10	1910/11-1940/41
Crop	Growth rate	Growth rate
Rice	0.33	0.32
Jowar	0.11	-0.05
Bajra	1.58*	-0.20
Ragi	-0.006	-0.22
Other food crops	1.73*	-0.14
Total food crops	0.90*	-0.027
Oilseeds	-0.2	-1.2
Cotton	1.74*	-0.38
Groundnut	nil	6.53*
Other non-food crops	-0.96	-1.14
Total non-food crops	0.55	1.60*
Total Area	0.82*	0.04

Source: Indian Agricultural Statistics, Various Volumes.
* Significant

In the second sub-period the area under food crops declined at an average annual rate of Ø.33 per cent, while the area under non-food crops increased at a growth rate of 1.6Ø per cent. Given the fact that the increase in cultivated area was only marginal, a faster growth rate of area under non-food crops implies that the area under food crops was displaced by those under non-food crops.

Table 3.6 also shows that during the period 191Ø/11 to 1942/3, the percentage area under food crops declined, while that under non-food crops increased. Thus, we can conclude that although the area under non-food crops increased during the first sub-period, the displacement of area under food crops by non-food crops was rapid in the second sub-period.

Table 3.6: Percentage Area Under Food and Non-food Crops in Rayalaseema (1891/2 to 1942/3)

Triennium ending with	Total food crops	Total Non-food crops	Total (in 'ØØØ acres)
1893-94	77.57	22.43	69Ø8
1896-97	76.59	23.42	7287
1899-19ØØ	79.18	2Ø.81	7195
19Ø2-Ø3	79.79	2Ø.22	7735
19Ø5-Ø6	76.84	23.16	7757
19Ø8-Ø9	78.23	21.77	7896
19Ø9-1Ø*	79.48	2Ø.53	7741
1912-13	77.62	22.38	8427
1915-16	75.12	26.9Ø	8514
1918-19	72.52	27.58	8121
1921-22	77.41	22.58	7958
1924-25	71.97	28.Ø3	789Ø
1927-28	68.42	31.57	8595
193Ø-31	68.16	31.85	872Ø
1933-34	67.49	32.51	8733
1936-37	7Ø.46	29.54	8535
1939-4Ø	66.8Ø	33.19	8878
1942-43	68.55	31.45	8597

Source: Indian Agricultural Statistics, various volumes.
Note: * One year figure

3.2.5 Individual Crops:

Table 3.5 shows that the area under rice during the first sub-period increased at an annual average growth rate of Ø.33 percent, while in the second sub-period it increased at the rate of Ø.32 per cent. This can be further corroborated by Table 3.7 which shows that the area under rice increased from 5 per cent during the triennium ending with 1894 to 5.28 per cent in 191Ø, whereas in the triennium ending 1913 it increased from 6.26 per cent to 6.44 percent in 1943.

Table 3.7: Cropping Pattern in Rayalaseema (1891/91 to 1942/43)

Triennium ending with	Rice	Jowar	Other food crops	Groundnut	Cotton	Other non-food crops	Total ('ØØØ acres)
1893-4	4.9Ø	31.19	41.48	-	9.93	12.5Ø	69Ø8
1896-7	4.38	3Ø.ØØ	42.21	-	9.6Ø	13.82	7287
1899-19ØØ	4.6Ø	31.68	42.9Ø	-	1Ø.51	1Ø.3Ø	7195
19Ø2-Ø3	3.87	3Ø.12	45.8Ø	-	9.4Ø	1Ø.82	7735
19Ø5-Ø6	4.58	27.87	44.39	-	12.12	11.Ø4	7757
19Ø8-Ø9	4.Ø3	27.97	46.23	-	1Ø.79	1Ø.98	7896
19Ø9-1Ø*	5.28	27.85	46.35	-	1Ø.77	9.76	7741
1912-3	6.26	25.Ø9	46.27	-	12.37	1Ø.Ø1	8427
1915-6	5.24	26.84	43.Ø4	6.Ø2	11.99	8.89	8514
1918-9	7.52	24.Ø4	4Ø.96	5.13	14.57	7.78	8121
1921-2	6.76	29.77	4Ø.88	4.16	11.69	6.73	7958
1924-5	5.15	25.94	4Ø.88	7.52	14.77	5.74	789Ø
1927-8	5.22	22.1Ø	41.1Ø	13.74	12.1Ø	5.73	8595
193Ø-31	6.1Ø	22.28	39.78	15.96	11.16	4.73	872Ø
1933-4	5.9Ø	2Ø.73	4Ø.86	17.Ø8	1Ø.Ø7	5.36	8733
1936-7	5.78	25.ØØ	39.68	11.99	12.Ø3	5.52	8535
1939-4Ø	6.37	21.26	39.17	17.32	1Ø.75	5.12	8878
1942-3	6.44	21.86	4Ø.25	15.Ø9	11.23	5.13	8597

Source and Notes as in Table 3.6.

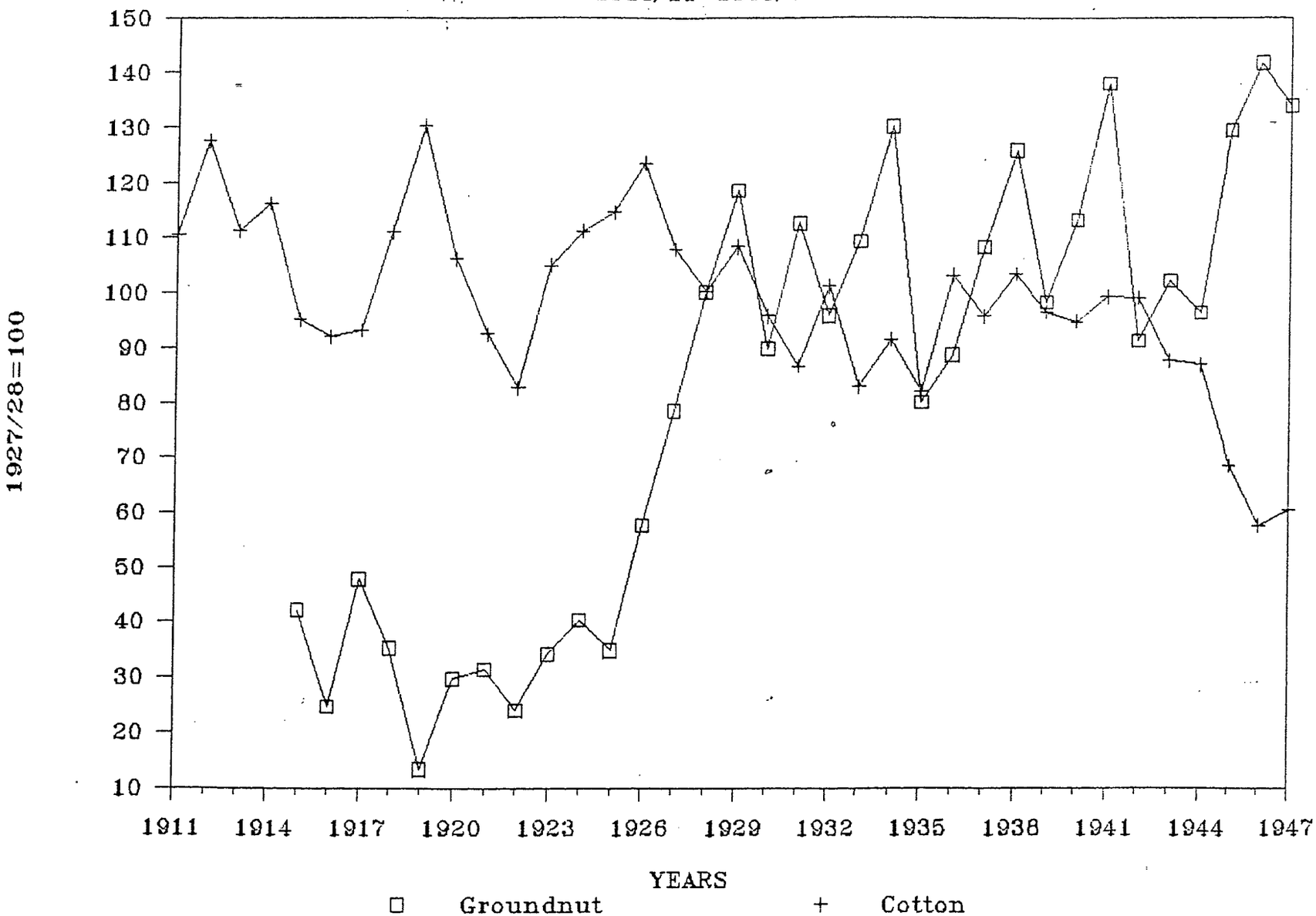
In the case of Jowar, the average annual growth rate was Ø.11 percent in the first sub-period, but in the second sub-period the area declined (Table 3.5). The percentage area under Jowar declined in both the sub-periods, but the decline was faster in the second (Table 3.7). Similar pattern can be seen in the case of bajra and other food

crops. The area under these crops increased in the first sub-period, while it declined in the subsequent period (Tables 3.5 & 3.7). Thus, there was a displacement of the area under food crops by that under non-food crops. The same was observed by Brackenbury when he stated that "the marked predominance of Cholam is at length threatened up by the enormous increase in the cultivation of groundnut ... Improved varieties of cotton plant have been introduced and they are making headway"[25]. Similarly, in Pattikonda taluk of Kurnool district, "there was a large displacement of cholam in favour of other crops. However there was distinctive increase under industrial crops such as cotton and still more in the case of oilseeds"[26]. Thus, the traditional crop structure of the region was gradually eroded by the commercial crops. In some of the taluks in the region, roughly half of the total area was cultivated with the commercial crops[27].

Among the non-food crops, the growth rate as well as the percentage area under cotton increased in the first sub-period, but declined in the second sub-period. The cotton-area experienced an annual growth rate of 1.74 per cent in the first sub-period; it increased from 10 per cent of the total sown area in the triennium ending with 1893-4 to 11 per cent in 1909-10. The percentage area under this crop went on increasing till mid-1920's (Table 3.7 and Figure 3.1). Thus, cotton was the major cash crop in the region till the mid-1920's. It was noted in the early 1920's that, "a remarkable feature of the tract is the extensive cultivation of cotton, the chief industrial crop of the black soil ... It had displaced many less important food and industrial crops and promises in the fullness of the time a powerful rival to korra and cholam"[28]. However, the area under cotton declined in terms of both absolute figures and percentages from the mid-1920's.

Indices of Groundnut & Cotton Areas

1910/11-1946/7



This was due to several factors. From the mid-192Ø's onwards, the over-production of cotton in the U.S.A resulted in a decline in the prices of American cotton. As we shall see in the ensuing chapter, the foreign markets were dislocated during the depression period and external exports of cotton had sharply declined. These factors contributed for the decline in cotton area in the region.

Groundnut cultivation was non-existent in the first sub-period[29]. However, the area under groundnut experienced a phenomenal growth rate of 6.53 per cent in the second sub-period. Even in terms of percentage, groundnut-area increased from 6 per cent to 15 percent during the period 1916-43. On the other hand, the area under other non-food crops declined in both the sub-periods. A rapid increase in the area under groundnut and a decline in the area under all other crops (except rice) in the second sub-period suggests that groundnut displaced the area under all other crops including cotton. The qualitative information also reveals that the groundnut crop displaced the area under both food and non-food crops. It was remarked in 19Ø9 that, in Cuddapah district, "of all the industrial crops however the most remarkable development is shown in the case of groundnut ... oilseeds ... finds a ready market ... the average area devoted to such crops is now double than what it was at the time of last settlement (1878). The market for these products is so brisk that even in the rise of prices of food grains has not induced the farmer to devote a large area to them"[3Ø]. In Bellary district, a village survey noted that, " there has been increase in groundnut cultivation as the ryots derive greater profits by that cultivation on account of groundnut cultivation. There is a slight fall in the cultivation of cholam and cotton"[31]. In red soil taluks of Bellary and Anantapur districts, the displacement of cotton area by groundnut was rapid[32].

Table 3.8: District-wise Area (%) under Cotton in Rayalaseema

Triennium ending with	Anantapur	Bellary	Cuddapah	Kurnool	Chittoor	Rayalaseema (000 acres)
1893-94	16.24	36.05	15.34	32.37	0.00	689
1896-97	17.60	36.51	14.92	30.97	0.00	702
1899-1900	16.20	38.76	14.31	30.73	0.00	756
1902-03	18.33	41.01	12.14	28.52	0.00	728
1905-06	16.73	40.36	13.52	29.39	0.00	937
1908-09	17.33	44.49	10.43	27.75	0.00	852
1909-10*	15.64	42.87	11.88	29.60	0.00	834
1912-13	14.74	44.56	10.41	30.22	0.06	1039
1915-16	14.01	46.36	9.82	29.77	0.04	1017
1918-19	14.38	47.79	9.77	28.01	0.05	1162
1921-22	12.71	45.45	8.90	32.87	0.07	928
1924-25	13.99	48.54	8.23	29.16	0.08	1166
1927-28	16.53	53.47	5.81	24.15	0.05	1037
1930-31	13.91	55.06	6.70	24.31	0.02	972
1933-34	13.13	62.27	4.40	20.19	0.00	877
1936-37	13.91	54.49	6.98	24.61	0.01	1028
1939-40	13.84	58.42	6.09	21.64	0.02	954
1942-43	15.17	56.12	7.69	20.97	0.04	967

Source and Notes are as in Table 6.

The phenomenal growth of groundnut area was mainly confined to the districts of Kurnool, Chittoor and Bellary. Although the shares of Anantapur and Cuddapah declined, the absolute area under groundnut in these districts was increasing over a period of time (Table 3.9). A marked increase in the area under groundnuts in Kurnool, Bellary and Chittoor can be attributed to the nature of groundnut crop which could be grown even on infertile red soils. With the increase in the exports of groundnuts from the Madras Presidency, the demand for groundnuts increased till the onset of the depression. Consequently, it was reported that, the groundnut cultivation was extended to inferior red soils.

Table 3.0: District-wise Area (%) under Groundnut in Rayalaseema

Triennium ending with	Anantapur	Bellary	Cuddapah	Kurnool	Chittoor	Rayalaseema (000 acres)
1915-16	41.24	10.08	25.66	17.63	5.39	518
1918-19	38.19	9.94	23.71	17.29	10.87	431
1921-22	29.70	4.18	38.78	17.05	10.29	331
1924-25	22.12	9.10	28.57	31.76	8.45	592
1927-28	21.36	15.40	21.37	32.44	9.43	1184
1930-31	23.14	22.63	15.94	29.92	8.37	1393
1933-34	22.99	22.03	15.23	33.45	6.31	1496
1936-37	24.51	15.99	14.52	34.71	10.27	1026
1939-40	23.58	21.02	13.56	30.48	11.36	1537
1942-43	24.08	23.71	12.34	28.32	11.54	1300

Source: Indian Agricultural Statistics, Various Volumes

Several factors accounted for the extensive cultivation of cash crops. With the increase in prices of cash crops till the mid-1920s, several farmers in the region became prosperous. Commenting on the prosperity that the cultivation of cash crops brought into the region a Settlement Officer remarked that, "the much larger extent now grown with industrial and miscellaneous crops, shows prosperity of the tract ... The ryots have more capital and can devote a larger extent of the land to the production of the crops for the market thus taking the advantage of the great improvement in transit facilities"[33]. Regarding the commercial instinct among the farmers another Settlement Officer noted that although the high prices and low cost of cultivation were responsible for the popularity of the commercial crops, "the commercial instinct to take the advantage of these circumstances was not slow among the farmers"[34].

These statements reveal that the increase in prices and improvement in transport made the cash crop cultivation profitable. This is further corroborated by the studies on price movements and acreage response at both micro and macro levels. For instance, Dharm Narain's study on price movements and acreage response in the whole of

the Madras Presidency showed that Cotton prices alone accounted for most of the change in area under cotton crop[35]. Similarly, for groundnut crop he noted that, "the directional affinity between the movement of price and area is persistent"[36]. Parikh also noted that the Madras farmers growing commercial or non-food crops did respond to the change in prices or profitability. His analysis on price movements and response of groundnut acreage shows that, "it is not the general deflated price ratio but the competitive crop price which has played the dominant role in guiding acreage decisions made by the farmers growing groundnuts. The competitive crop however is Jowar and it is probably the subsistence needs which may dominate over profitability at times of bad monsoons, but this has not happened"[37].

Micro level studies also come to similar conclusions. In Bellary district, "the higher prices for the farm commodities induced cultivation on new lands as witnessed by the growth of pattadars by 30 percent and an increase in total area cultivated by 22 percent for the 30 years period between 1890 and 1920. This phenomenon was also reflected in acreage under major cash crops cotton and groundnut. From 1902/03 to 1928/29 cotton and groundnut expanded at an annual average rate of 1.8 percent and 14 percent respectively. Over the same period, however the major food crop, Jowar declined at an average annual rate of - 0.87 percent"[38]. An analysis of regression based on simple cropping model revealed that the relative prices of cotton and jowar explain 62 percent annual variation in cotton area in Kurnool district during the period 1900-1920[39].

The cultivation of cash crops such as cotton and groundnut was profitable as compared to that of jowar and bajra.

Table 3.1Ø: Cost of production of Important Crops in Bellary District (Per Acre Averages for the years 1933-35)

Crop	Cost of production (R-A-P)	Business Income (R-A-P)
Sugarcane	258-14-4	136-ØØ-4
Cotton	12-Ø7-2	7-12-1
Paddy	87-11-9	32-14-3
Groundnut	16-Ø8-3	6-Ø5-1
Cholam	9-ØØ-1	3-14-6
Korra	1Ø-11-3	4-11-9

Source: Cited in G.N.Rao and D.Rajasekhar, 'Agrarian Transition in Telgu Countryside: An Inter-regional Comparison, c.1910-c.1947', (1988) p.29.

The survey on the cost of cultivation in principal cotton and sugarcane growing tracts of the Presidency in the early 193Øs shows that in the Bellary district per acre income from the cultivation of crops such as cotton and groundnut was twice higher than the cultivation of coarse grain such as jowar and korra (Table 3.1Ø)[40].

Apart from these market factors, there were some non-market factors which contributed to the extensive growth of non-food crops. For example, the cultivation of groundnut led to a reduction in the dependence of small farmers on the moneylenders. One informed person told the Madras Provincial Banking Enquiry Committee at Bellary that:

> Hitherto there was not much of groundnut trade in these parts. But now groundnut is sown in plenty ... they (small farmers) were growing only cotton and they used to borrow because cotton crop comes in about April and May and then they have to borrow from the money lender at a high rate of interest. But now the groundnut season has helped them very much, because they get groundnut crop at a much earlier period, say in December and January and when they sow the groundnut crop, there is no necessity to borrow so much"[41].

Such non-market factors acted as an additional factor in the expansion of groundnut acreage. Technological improvements like the introduction of higher yielding varieties of groundnut (186 Nandyal) and overcoming of dreaded diseases such as Tikka, also contributed to the increase in the cultivation of this crop[42].

The foregoing discussion on changes in cropping pattern in the Rayalaseema region for the period 1891-1943, reveals that in response to market as well as non-market factors, the area under commercial crops increased at the expense of that under food crops. The cultivation of non food-crops had increased progre-ssively except during the depression period. Such an increase in the area under commercial crops would have enhanced the share of produce marketed in the towns and thereby stimulated the marketing activities. Therefore, one expects an increase in the urban population of the region. Now let us see how the impact of commercialization of agriculture on the development of selected markets towns.

SECTION 3

3.3.1 Impact of Commercialization on the Development of Market Towns:

In order to see the association between commercialization of agriculture and the development of market towns, rank correlations between the degree of commercialization (percentage area under commercial crops to total cropped area in hinterland) and degree of urbanization (town population as a ratio to total urban population in a taluk) are worked out for the period 1891 to 1941 for the selected towns in the region. Before inter-preting the results, it is necessary to discuss the crops taken to calculate the degree of commercialization and the concept of hinterland.

3.3.2 What are commercial crops?

To begin with, notionally all the crops cultivated in any region can be sold in one market or the other. There were three types of market places in the country-side: the shandy, the fair and the market town. The shandies were periodic markets which used to take place in small villages or even at lonely cross roads. Petty transactions were carried on here. The fairs were usually annual meetings associated with cattle trade, with religious festivals or with both. The market towns acted as wholesale markets for the shandy traders and also points from which important crops were exported. In shandies and market towns, food grains such as jowar were sold, but the quantities traded were small. On the other hand, the quantity of cotton, groundnut and paddy sold in these market places was somewhat large and these crops acquired a commercial character over time. Hence, we have taken these three crops to work out the degree of commercialization. The inclusion of paddy is justified on the grounds that since jowar was the staple food for the people in this region, paddy grown was more or less marketed. For instance, a study on the Cuddapah district noted that paddy was not the staple food of the masses. Small and middle farmers, if they happened to produce paddy, were primarily selling it in the market[43]. Vempalli town in Cuddapah district used to export large quantities of rice. to the less favoured villages of the taluk as well as to Rayachoti and Kadiri[44]. Besides, paddy from this region was sent to Andhra ports for export.

3.3.3 What is a hinterland?

Hinterland for a town constitutes the area from which the town would receive the surplus produce for marketing purpose. However, in the absence of quantitative data on the exact quantity of surplus

produce coming from various villages to a town, it would be difficult to work out the hinterland. Hence, one can take the area under commercial crops in a locality as the hinterland. But a question arises; which area should be taken as hinterland? An easy way out is to take the area under commercial crops in a taluk in which a town is situated as hinterland for it. But this is again problematic. We have qualitative infor-mation which suggests that a town was extracting surplus not only from the taluk in which it was situated but also from the neighbouring taluks.

The hinterland for Nandyal town, for instance, includes the taluks of Nandyal, Sirvel, Koilkuntla and Nandikotkur. It was reported that Nandyal town was attracting the produce from Sirvel and Koilkuntla taluks of the Kurnool district[45].

Tadpatri town, apart from Koilkuntla and Pattikonda taluks, used to get produce from Pulivendla, Jammalamadugu, and Anantapur taluks. Produce from some of the villages of Pulivendla taluk, Jammalamadugu and Koilkuntla taluks used to reach Tadpatri. Similarly, produce from Pattikonda taluk used to come to Gooty town for commercial purpose[46]. Hence, the taluks of Gooty and Pattikonda formed the hinterland for Gooty town. Kadiri town used to receive produce from the taluks of Kadiri, Pulivendla, Hindupur and Penugonda. Large quantity of rice produced in Pulivendla taluk was exported to the Kadiri market[47]. Hindupur town obtained produce from the taluks of Hindupur, Madakasira and Penukonda. From Madakasira, grain was exported to Hindupur market[48]. Penukonda taluk produced cholam and grain on dry lands, and rice, sugarcane and to limited extent ragi on the irrigated land. This produce was sent for sale to the Hindupur market[49].

Bellary town drew surplus from the taluks of Bellary, Rayadrug, Hospet, Hadagalli, and Alur. Surplus rice from Hospet, cholam and

cotton from Hadagalli and Alur taluks used to go to Bellary market for commercial purpose[50]. And since Rayadrug taluk had a good road communication with Bellary town, it acted as a hinterland to Bellary town[51]. For Adoni town, the taluks of Adoni, Siruguppa, Alur and Pattikonda acted as hinterland. Considerable quantities of cotton used to be sent from these taluks to Adoni as the town had one of the biggest cotton markets in the region along with cotton presses[52].

Proddatur town used to receive produce from Pulivendla, Badvel and Sirvel taluks. The large movement of the trade in grain, cotton and groundnut used to be engineered by large sowcars merchants and their agents from Cuddapah and Tadpatri towns[53]. Similarly, most of the produce from Badvel, Siddhout, Pulivendla and Rayachoti passed through Cuddapah as this town is situated on the main railway line from Bombay to Madras[54]. Vempalli used to export large quantities of rice to the less favoured villages of the taluk as well as to Rayachoti and Kadiri, with which it carried on a pretty brisk trade by means of the weekly markets[55]. Rajampet town got the status of a trading town with the opening of the Madras railway some fifty years ago. It served as a principal centre of distribution not only for Pullampet but for much of Siddhout and Rayachoti[56].

Pattikonda taluk was surrounded by market centres such as Gooty and Tadpatri on the south, Kurnool on the east, Guntakal, Bellary, and Adoni on the west, where commercial activities were taking place briskly. It has been noted that merchants from these towns used to visit several villages in this taluk to buy industrial products and ryots of this taluk did not have difficulty in disposing of their surplus produce[57]. Similarly, Koilkuntla taluk acted as a hinterland for market towns like Nandyal, Jammalamadugu and Tadpatri. Settlement Report of the taluk stated that the external commerce of taluk was

carried on by the local sowcars of whom there are one or two in every village of importance and by the big merchants of Nandyal, Proddatur and Tadpatri and their agents who go round the villages buying Cotton, Indigo, Grain and Turmeric etc[58]. The qualitative information presented above shows that a town was drawing surplus produce from more than one taluk. At times, one taluk acted as a hinterland for more than a town.

While selecting the hinterland of a town not only qualitative information was used, the proximity of a taluk to a town is also taken into consideration. The following table furnishes the details on towns and their hinterland.

List of Towns and their Hinterland : RAP

Towns	Hinterland (Taluks)
Cuddapah	Cuddapah, Siddhout, Badvel, Pulivendla, Rayachoti
Bellary	Bellary, Rayadrug, Hospet, Alur.
Badvel	Badvel, Siddhout
Vempalli	Vempalli, Rayachoti, Kadiri
Hospet	Hospet, Kudligi, Hadagalli, Alur.
Gooty	Gooty, Pattikonda.
Tadpatri	Tadpatri, Pulivendla, Jammalamadugu,
Anantapur	Koilkuntla, Pattikonda, Anantapur.
Hindupur	Hindupur, Madakasira, Penukonda.
Proddatur	Proddatur, Badvel, Sirvel.
Kadiri	Kadiri, Pulivendla, Hindupur, Penukonda.
Rajampet	Rayachoti, Rajampet, Siddhout.
Kurnool	Ramallakot, Pattikonda, Nandikotkur.
Adoni	Adoni, Pattikonda, Alur, Siruguppa.
Jammalamadugu	Jammalamadugu, Pulivendla, Koilkuntla, Tadpatri.
Nandyal	Nandyal, Sirvel, Koilkuntla, Nandikotkur.
Rayadrug	Rayadrug, Kudligi.
Madakasira	Madakasira, Penukonda.
Harpanhalli	Harpanahalli, Kudligi, Hadagalli.

We have worked out the degree of commercialization (DC)in the hinterland and degree of urbanization (DU) for all the selected towns (Appendix 1). A comparison of DC and DU for the selected towns does not show any consistent relationship. There is no one to one

correspondence between these two variables. For instance, DC in the hinterland of Bellary increased between 1891 to 1911, but DU declines during this period. On the other hand, the decline in DC of the hinterland of Nandyal town during the period 1891 to 1901 was associated with an increase in DU (Appendix 3.1).

Hence, we have worked out rank correlation between DC and DU for selected towns. This has been worked out both by taking into consideration only the core taluk as a hinterland but also the core and surrounding taluks as hinterlands.

Table 3.11: Rank Correlation between Degree of Urbanization and Degree of Commercialization
(Core taluks as Hinterland)

Years	Correlation
1891	-0.4737
1901	-0.4142
1911	-0.0093
1921	-0.0795
1931	0.3622
1941	0.4757

The rank correlation between DC and DU by taking into consideration only core taluk as a hinterland shows that the relationship between these two variables was negative (though not statistically significant) till 1921. After 1921, the relationship became positive but it was not significant at any point of time. Let us examine the relationship between these two variables by taking surrounding taluks as hinterland.

Table 3.12: Rank Correlation between Degree of Urbanisation and Degree of Commercialization (core and surrounding taluks as hinterland)

Years	Correlation
1891	-.5418
19Ø1	-.1956
1911	-.3375
1921	+.1125
1931	+.4138
1941	+.6429*

Note: * Significant

Table 3.12 shows that the correlation between these two variables was negative (though not statistically significant) till 1911. From 1921 onwards, the correlation became positive and it was significant in 1941.

Hence it is clear that commercialization of agriculture did not provide any momentum for the growth of the towns during the period 19Ø1 to 1921, where as it did so for the period after 1921, despite the fact that the changes in cropping pattern occurred from the beginning of 2Øth century. Hence one can say that the reasons for the fall in the population of the towns can not be attributed to this factor. There must be in operation of some other factors which in fact inhibited the benefits of commercialization of agriculture and thus the growth of the towns during this period.

Notes and References

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2. Statistical Atlas of Madras Presidency 1920-21, Madras, Govt. Press, 1924.

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4. G.N.Rao, Chandan Mukherjee and D.Rajasekhar, 'Irrigation and cropping pattern in Andhra, 1891-1981', in Irrigation in South India, Centre for Development Studies, Trivandrum, (forthcoming).

5. Cited in G.N Rao and D. Rajasekhar, ' Irrigation and Agrarian change in Andhra 1860-1945', Paper presented in South Indian History Congress, held at Osmania University, Hyderabad, 1985.

6. A study on the indigenous system called Dasabandham in Rayalaseema advances an interesting proposition on the disintegration of this system. The survival of this system, which was evolved through indigenous initiatives as well as state patronage, depended on the involvement of the people at the grass root level. The process of incorporation and the resulting subordination of all the institutions to subserve the metropolitan interests brought a revenue orientation to the utter neglect of the regional specifications in the evolved productive forces. A process of bureaucratization was set in. Grass root level initiatives and people's involvement disintegrated and with it the Dasabandham. However, this proposition does not capture internal dynamics of Dasabandham holders, viz., the process of disintegration of the families by way of the subdivision of their families. For details see, V. Subbalakshmi, 'Incorporation of India and the Indigenous Irrigation Institutions: The case of Dasabandham in Rayalaseema', conference papers of Andhra pradesh Economic association, Sixth Annual Conference, January, 1988.

7. The company which was floated in England in 1858, sought to construct four closely connected schemes in Costal plains of Orissa. But like Kurnool-Cuddapah canal in Rayalaseema the Orissa venture was also a dismal failure. For details see, Central Board of Irrigation in India, 1965, p. 47.

8. For details see G.N. Rao and D. Rajasekhar, "Irrigation, Agrarian Expansion and Commercialization in Andhra - A long Term Over View", Paper presented in the workshop on Political economy and rural development in Andhra Pradesh, Feb, 6 & 7, 1986, Kakatiya University, Warangal, A.P. Also see, Atchi Reddy, "Private investment in Public works: The Rise and Fall of Madras Irrigation Company, 1857-1882" Conference Paper of Andhra Pradesh Economic Association, Sixth Annual Conference, January, 23-24, 1988.

9. For details, see Proceedings of Board of Revenue, (hereafter PBR) No. 24 , May 25th, 1893.

10. See G.N.Rao, Chandan Mukherjee and D.Rajasekhar, "Irrigation and Cropping Pattern in Andhra, 1891-1981" in Irrigation in South India, Centre for Development Studies, Trivandrum, forthcoming.

11. For a detailed analysis of the impact of famines on agrarian expansion and various sections of the peasantry in Kurnool district, see D.Rajasekhar, "Famines and Economic Mobility; Changing Agrarian Structure in Kurnool District, 1860-1900", Working Paper, Centre for Development Studies, Trivandrum. For an analysis of the impact of the 1876-78 famine on agrarian expansion in the Rayalaseema region, see G.N.Rao and D.Rajasekhar, "Land Use Pattern and Agrarian Expansion in the Rayalaseema Region of Andhra", paper presented in a seminar on Structural Changes in Agriculture and Industry in Colonial India, Jammia Millia Islamia, New Delhi, March 3-6, 1989, here after Rao and Rajasekhar, Land Use Pattern.

12. Sarada Raju, Economic Conditions in the Madras- Presidency 1800-1850, University of Madras 1941 here after Sarada Raju, Economic Conditions, p.76.

13. Ibid., p.80.

14. Ibid.

15. Ibid., p.90.

16. The loss of American colonies at a time when Lancashire's cotton industry was being built up induced the British manufacturers to turn to India for the supply of cotton and the company was asked to look for an improvement in quality and quantity of the Indian cotton. They were successful to some extent and the exports of England which had been negligible at the beginning of the 19th century, amounted in 1850-51 to

Rs.1163,422. There was a growing demand for cotton from China. In the case of China in 1811 the Canton Supra Cargoes requested that all the surplus cotton should be sent to China, since there was endless demand. The exports to China rose rapidly and in 1851-52 amounted to Rs.1345,296. Ibid.

17. Ibid.

18. Nilmani Mukherjee, The Ryotwari System in Madras 1792-1827, Firma K.L. Mukhopadhyay Calcutta, 1962, p.266.

19. The cultivation of cotton in black cotton soils was expensive owing to the growth of 'nath' which had to be eradicated at a high cost every 12 to 20 or atleast every 30 years. It was also entirely dependent on the monsoons and hence extremely precarious. For details see Sarada Raju, Economic Conditions, p.90.

20. Ibid., p.91.

21. The ryots in the Bellary district alone made 1 and half millions sterling by the sale of cotton in the three years of the American War. Quoted in D.R. Gadgil, Industrial Evolution of India in Recent Times, Oxford University Publication 1942, Madras, p.17-18.

22. Sarada Raju, Economic Conditions, p.64-65.

23. This pattern of crop production can be corroborated by the Famine Commission Report. The Commission estimated that in the early 1870's nearly 87 per cent of the total area was under food crops, while the non-food crops constituted only 13 per cent of the total area. Cholam being the primary food crop occupied 27 per cent, cumbum 21 per cent and pulses as much as 10.7 per cent of the total cropped area. Among the non food crops cotton was the major crop and indigo was next in importance. The share of the food crops in the total cropped area increased both during the famine and post famine periods significantly. For details see Commission of Inquiry of Indian famines, appointed by Government of India, May 16, 1878, General.R.Strachey, President. Part 11, p.5.

24. Rao and Rajasekhar, Land Use Pattern.

25. C.F Brackenbury, Madras District Gazetteer, Cuddapah, Madras 1915, p.79-80.

26. PBR, No.132, April 27th, 1906. p. 9.

27. It has been noted that the largest percentage of total cultivated area in the Koilkuntla taluk of Kurnool district was allotted for the production of industrial crops. The percentage area under non-food crops in this taluk was larger than that in any other taluk of the district. See PBR, No.2, January 4, 1926, p.4.

28. Resettlement Scheme Report of the Black soil taluks of Bellary and Anantapur districts , PBR, No.170, October 29, 1920, hereafter, Report on Black Soil Taluks, p.11.

29. In the Red Soil taluks of Anantapur district groundnut was non existent in 1894-95, but it occupied 10 percent of the total sown area by 1923-24. Resettlement Report of Red Soil taluks of Anantapur and Bellary, PBR, No.2, January 4, 1926, hereafter Report of Red SOil Taluks, p.4.

30. PBR, No. 428, November 4th, 1909. Para 18.

31. The Madras Provincial Banking Enquiry Committee Report, Vol.V, Madras,1930, p 297.

32. Report of Black Soil Taluks, G.O No.1992, September 13, 1922, p.13.

33. PBR, No. 31, January 27th, 1905.

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36. Ibid., p. 71.

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4Ø. G.N.Rao and D.Rajasekhar, 'Agrarian Transition in Telugu Countryside: A study in inter regional variations,(191Ø-1947)'. Paper presented in a Seminar on South Indian Economic History, (1988) Centre For Development Studies Trivandrum.

41. Oral Evidence by Krishnama Chetty to The Madras Provincial Banking Enquiry Committee, Oral evidence , Vol.1V , Calcutta, Govt. Press, 193Ø, p.79.

42. V.V. Sayana, Agrarian Problems of Madras Province, Business Week Press, Madras 1949, p.25.

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44. C.F.Brackenbury, op.cit., p.2Ø9.

45. PBR, No. 31, January 27th, 19Ø5. p. 1Ø.

46. Report of Black Soil Taluks, p. 23.

47. C.F Brackenbury, op.cit., p.2Ø9.

48. John Kelsal, District Manual of Bellary, Govt. Press, Madras 1872, p. 65.

49. Ibid., 61.

50. Ibid., p.15.

51. Report of Red Soil Taluks, p. 14.

52. Ibid., p.32. & Report of Black Soil Taluks, p. 23.

53. PBR No. 428, November 29th, 1909.

54. Ibid., p. 181.

55. C.F Brackenbury, op.cit., p.209.

56. Ibid., p. 242.

57. PBR, No. 132, April 27th, 1906. p. 7.

58. PBR, No.31, January 27th, 1905. p. 10.

Appendix 3.1: Association between Degree of Urbanization (DU) and Degree of Commercialization (DC) in 18 selected Taluks of Rayalaseema

Kurnool

Decade	DU	DC
1891	19.30	27.71
1901	17.76	21.71
1911	18.55	22.82
1921	20.05	26.32
1931	22.70	38.83
1941	25.52	45.48

Nandyal

Decade	DU	DC
1891	11.15	35.75
1901	13.72	28.53
1911	17.77	29.71
1921	19.63	31.66
1931	22.37	41.91
1941	23.13	41.80

Cuddapah

Decade	DU	DC
1891	11.21	22.63
1901	10.56	29.76
1911	17.71	29.30
1921	19.11	32.18
1931	20.92	37.68
1941	22.63	34.69

Adoni

Decade	DU	DC
1891	16.32	22.52
1901	17.01	23.01
1911	17.85	24.26
1921	18.17	31.22
1931	18.44	40.21
1941	17.60	46.93

Hospet

Decade	DU	DC
1891	13.92	25.44
1901	18.12	27.07
1911	18.38	25.54
1921	22.29	27.22
1931	24.19	36.17
1941	25.40	45.17

Rayadrug

Decade	DU	DC
1891	13.20	22.85
1901	12.66	26.54
1911	10.48	25.32
1921	12.02	31.01
1931	12.98	57.71
1941	15.00	45.09

Kadiri

Decade	DU	DC
1891	4.49	31.00
1901	7.21	29.29
1911	7.09	25.09
1921	7.73	31.18
1931	5.40	35.72
1941	6.14	35.64

Madaksira

Decade	DU	DC
1891	7.20	34.11
1901	13.09	34.47
1911	6.46	32.05
1921	4.25	28.95
1931	4.66	32.88
1941	4.98	34.78

Vempalli

Decade	DU	DC
1891	5.32	28.48
1901	10.43	27.24
1911	9.62	30.98
1921	6.33	23.17
1931	6.53	36.65
1941	6.48	32.64

Jammalamadugu

Decade	DU	DC
1891	5.79	34.Ø8
19Ø1	13.35	3Ø.8Ø
1911	15.14	3Ø.49
1921	14.8Ø	41.78
1931	15.49	44.99
1941	8.35	39.62

Proddatur

Decade	DU	DC
1891	6.95	3Ø.86
19Ø1	14.Ø1	29.75
1911	16.35	27.85
1921	16.6Ø	34.89
1931	18.69	39.75
1941	21.95	41.81

Bellary

Decade	DU	DC
1891	32.41	19.68
19Ø1	3Ø.11	21.57
1911	23.81	23.24
1921	33.41	31.Ø7
1931	36.ØØ	36.17
1941	37.Ø8	44.Ø3

Hindupur

Decade	DU	DC
1891	9.77	34.1Ø
19Ø1	21.25	33.Ø4
1911	11.34	31.7Ø
1921	12.4Ø	29.73
1931	12.9Ø	32.84
1941	14.9Ø	35.4Ø

Tadpatri

Decade	DU	DC
1891	9.12	29.62
19Ø1	9.92	27.53
1911	11.Ø2	27.7Ø
1921	1Ø.12	42.Ø9
1931	1Ø.75	52.29
1941	11.89	4Ø.4Ø

Gooty

Decade	DU	DC
1891	6.65	25.69
19Ø1	6.77	24.45
1911	6.43	23.5Ø
1921	6.49	26.27
1931	6.Ø8	37.28
1941	6.92	43.72

Rajampet

Decade	DU	DC
1891	1Ø.35	29.41
19Ø1	1Ø.65	31.68
1911	1Ø.89	29.99
1921	3.91	36.43
1931	2.14	36.42
1941	8.Ø7	39.ØØ

Harpanahalli

Decade	DU	DC
1891	9.53	25.87
19Ø1	9.74	28.86
1911	9.Ø7	26.7Ø
1921	8.78	28.83
1931	8.77	37.48
1941	9.Ø8	43.98

Badvel

Decade	DU	DC
1891	8.14	22.92
19Ø1	12.17	26.Ø2
1911	12.ØØ	24.97
1921	5.77	29.72
1931	5.58	22.Ø6
1941	5.54	34.51

CHAPTER IV

TRANSPORT AND TRADE IN RAYALASEEMA (c.189Ø-c.1945)

4.Ø Introduction:

As discussed in chapter 3, we found no association between the degree of urbanization and the degree of commercialization and hence, by implication, the latter could not possibly account for the process of de-urbanization observed in the region during the period 19ØØ-192Ø. However, commercialization of agriculture seems to have had a positive impact on the rapid process of urbanization in the region from 193Ø onwards. Now let us see whether development in transport and trade would explain the process of de-urbanization in the region during the period 19ØØ-192Ø.

The logic of colonialism dictates that transport in colonies should be well developed not only to gain political control but also facilitate easy procurement of the agricultural raw materials for the metropolitan industry. So, it is hardly surprising that when Britishers found the transport system in India in a lamentable state, they gave priority to its development. The transport development in India was brisk in the second half of the 19th century. It led to changes in the cropping pattern in favour of industrial products required for the metropolitan industry as prices rose steadily and fluctuations in prices were greatly reduced. As a result, there was an increase in external trade and the interior countryside was progressively brought into the vortex of the international market. It also resulted in quick commodity circulation. For such a quick commodity circulation, efficient marketing facility was a pre-requisite. Consequently, the towns where marketing activities were taking place also experienced a rapid development.

The purpose of this chapter is to document and analyze the transport development in the Rayalaseema region of Andhra Pradesh during the period c.189Ø-c.1945. It also seeks to bring out the impact of trade and transport on the development of selected towns. This chapter is presented in three sections. The first section deals with the development of transport (both roads and railways) in the region, while the second section analyses the impact of transport development on trade. The last section examines the impact of transport development on the selected market towns.

SECTION 1

4.1.1 Development of Transport in Rayalaseema, c.189Ø-c.1945:

This section documents and analyses the development of transport in the region during the period c.189Ø-c.1945. As navigation was almost non-existent in the region, our discussion centres around the development of the road and rail transport. Although Kurnool-Cuddapah Canal was designed for both irrigation and navigation, its contribution in terms of navigation was meager. Initially, the expectations on the utility of this canal in famine stricken zone were high. However, soon it was found that the alignment of the canal could not bear the pressure of the navigation. So, this canal was not used for navigation except "in the times of scarcity"[1].

4.1.2 Road Development in Rayalaseema:

Prior to the advent of British regime, an efficient network of transportation system was non-existent in the Madras Presidency. The fear of enemy's attack kept most of the erstwhile kingdoms in isolation. People lived in isolated villages and depended almost entirely on local produce. There was very little movement of goods,

except in the case of a few articles of small size and high value such as drugs, silks and precious stones and a few commodities which were more universally used such as iron and salt. So, when the Britishers arrived in South India, they found, "no roads or bridges whatsoever in Madras territory. None existed beyond the town of Madras"[2]. The Report of the Public Works Commission noted that, throughout the Madras Presidency "there was not one complete road ... to employ wheeled traffic. The only made roads were those constructed for the use of army during the Mysore wars, but because of monsoons, they were of very little use"[3]. However, the colonial government showed little interest in the development of transport till mid 19th century. An Enquiry into the state of communication in the province in the early 181Ø found little or no improvement in transport since the advent of the British and on the contrary, several of the old roads were rapidly approaching ruin[4]. Though the transport in some parts was tolerable, the state of roads in many districts, the collector's replies revealed, was 'wretched', 'intolerable, 'lamentable', 'execrable' and so on[5].

The roads were very bad in Rayalaseema region around 185Ø. The first report on roads in Kurnool district stated (in 1846) that there were two lines of roads though they scarcely deserved that denomination[6]. In Bellary district, the Civil Engineer did not find any roads "deserving the name" in 1861[7]. The district of Anantapur did not possess even a single road for the wheeled traffic in the early 185Ø. A Famine Commissioner wrote in 1853 that the district possessed no arched bridges and there existed only 13 miles of made road[8]. On the other hand, the Cuddapah district had a road connecting it with Madras through Arcot.

Such a poor state of roads in the region was due to inadequate

expenditure on the roads. The Commissioner of Public Works lamented (in 1851) that, "eleven years have elapsed since Kurnool became British Province and I believe, I am correct in declaring that during the whole of that period nothing has been done towards the improvement of the existing line of communication"[9]. Although the district was poor and famine stricken, it was remitting a large amount of revenue. The commissioner on examining the revenue accounts for seven years found that after meeting all the expenses, the district could send Rs. 16 lakhs to the government as a surplus revenue. Inspite of that, very little amount was spent on the construction of the roads[10]. Added to that, the expenditure alloted for the maintenance of roads was very meager. In Bellary, which consisted of 13000 square miles, only Rs. 650 were spent for the maintenance of minor roads in 1850. "It worked out to be 9 pies per square mile per annum"[11].

In 1852, the Public Works Department submitted a report on the development of roads in the presidency. Consequently, several new roads were constructed in the region (Chart 4.1).

Chart 4.1: New Roads in Rayalaseema (1852-76)

Year of construction	From and To	Via
1852	Kurnool & Bellary to East coast	Nandikanuma
1852-76	Kurnool to Bellary	-
1851-76	Kurnool to Gooty	-
- do -	Kurnool to Nandyal	-
- do -	Nandyal to Cumbum	Nandikanuma
- do -	Cumbum to Cuddapah	-
1852	Bellary to Dharwar	Hospet and Hampasagar
- do -	Bellary to Kurnool	Moka
1861	Rayachoti to Rajampet	-

Source: Based on qualitative information in the District Gazetteers of Bellary, Cuddapah and Kurnool.

Added to that, the coming up of a railway line between Madras and Bombay which passed through this region, necessitated the laying up of feeder roads[12].

Greater impetus was given to the road construction during the famine years in all the districts. For instance, since Bellary district had very few tanks or irrigation channels at that time, the improvement of roads was the only relief work[13]. Consequently, by the year 188Ø almost all the districts experienced increase in the road mileage except Bellary
(Table 4.1).

Table 4.1: Road Development in Rayalaseema (1871/2 to 1886/7) (in miles)

Year	Kurnool	Bellary	Anantapur	Cuddapah
1871-72	4Ø5	548	77Ø	1Ø91
1876-77	417	57Ø	461	829
1881-82	49Ø	526	826	1Ø81
1886-87	523	987	68Ø	1146

Source: Statistical Appendices to Gazetteers of Respective Districts, 19Ø5.

But the condition of the roads had hardly improved. Most of the roads were either graveled or were only rough tracks. Though the responsibilities of maintenance and construction were shifted from the Public Works Department to the Local Fund Boards, the condition of the roads was getting progressively worse due to insufficient and inelastic income[14].

The decade of 189Ø witnessed changes in policies relating to the road development. Madras Local Board Act of 1884 removed the stipulation that all the income derived from the tolls and a sum not less than two thirds of land cess should be spent on communication. It further aggravated the situation. To overcome this a directive was given to the local boards to spend half of the income from land cess

on road maintenance but this was withdrawn in 1900 and instead grants were allotted to the local boards at the ratio of 25 percent of their land cess along with some funds from Imperial grants. But all this was a big failure. Except Anantapur where roads were in better state due to the hardness of the surface soil, other districts did not show any significant improvement[15].

At the turn of the century, though the prospect of road development became bright, no additional work was done to increase the mileage of roads in the Cuddapah district[16]. In 1903-04, roads in Kurnool district were classified as District, Taluk and Village roads. By 1914, steps were initiated to undertake regular programmes for road development. However, World War I impeded the progress of the construction of roads in the district. Added to that, widespread floods in 1919-20 also deteriorated the condition of roads. Efforts were made to over- come this situation but they were hindered by the prevalence of epidemic diseases, namely influenza and plague, which posed problems in respect of the recruitment of labourers. By the end of 1919-20, the road mileage in the district was 780 miles but their conditions varied from very good to very bad[17].

In the Anantapur district, with the provision of additional grants by the government, the expenditure on communications gradually increased and by 1913-14 there was marked improvement in the existing roads in the district[18]. However, in the following year the roads in the district fell into a'disgraceful state', mainly due to extreme slackness and indifference of the engineering staff[19]. This state of affairs was checked by a thorough overhauling of the engineering staff and a special grant of over Rs. two lakhs was made in 1918/19 for the development of roads.

Table 4.2: Development of Roads in Rayalaseema Districts (in miles)

Year	Kurnool	Bellary	Anantapur	Cuddapah
1891-92	590	1033	686	1200
1896-97	725	1034	742	1214
1901-02	768	842	756	1227
1911-12	767	961	881	868*
1918-19	780	n.a	895	n.a
1925-26	888	1061	1073	1004
1930-31	867	1019	1106	895

Source : Statistical Appendices to Gazetteers of Respective Districts, for the years 1905, 1915, 1933

Note: This decline was due to the transfer of some of the taluks to the newly formed Chittoor district in 1911.

Consequently, the road mileage increased from 895 in 1919/20 to 1040 in 1921/22 of which 77 percent was metalled (Table 4.2).

The period 1920-35 witnessed changes in the policy relating to road development and a shift in emphasis from total length to better quality of the existing roads. With the enactment of the Madras Vehicles Taxation Act of 1931 and the introduction of Motor Vehicles tax in 1930-31, the tolls were abolished. However, the local bodies were compensated for the loss of income. The government also became road conscious. In 1927, the council of state stressed the desirability of developing an organized road system in India. A committee was formed under the chairmanship of M.R. Jayakar and it emphasized the imperative need for road development, for facilitating the marketing of agricultural produce, bringing villages into more intimate contact with the towns and aiding the process of railway development[20].

Efforts were also made to improve the quality of existing roads. Several bridges and causeways were constructed across the rivers[21]. Most of the roads in the region were metalled and the percentage of the metalled roads to the total roads increased (Table 4.3) and

consequently they could be used for motor traffic.

Table 4.3: Percentage of Metalled to Total Roads (PMTR) in Rayalaseema

Years	Anantapur		Bellary		Cuddapah		Kurnool	
	PMTR	Total	PMTR	Total	PMTR	Total	PMTR	Total
1891-92	24.19	686	100	1033	26.83	1200	80.00	590
1896-97	33.69	742	100	1034	47.52	1214	72.13	725
1901-02	33.06	756	-	-	52.02	1227	71.22	768
1911-12	100.00	881	100	943	82.14	868*	98.43	767
1925-26	76.42	1073	97.05	776	-	-	96.84	888
1930-31	77.12	1106	-	-	88.49	895	93.77	867

Source: Madras District Gazetteers, Statistical Appendices of Anantapur, Bellary, Cuddapah, and Kurnool Districts for the Years 1905, 1915, 1933.

Note :(1) * The decline in total mileage of roads in Cuddapah district was due to the transfer of some areas to Chittoor district in 1910/11

To highlight the benefits which accrued from the construction of the bridges and causeways, the Collector of the Anantapur district noted in 1933:

> the completion of these causeways and bridges rendered easy communication with Chittoor on one side and Bellary on the other side and journey to Bellary which used to take Sir Thomas Munro three days is now accomplished in two hours whether or not Pennar is in floods[22].

However, these statements seem to have been tall claims. Although the quality of the existing roads seemed to have somewhat improved, much was left to be done. Mitchell's Report observed that:

> The mileage of metalled roads both in respect of the total and on the basis of the area is in excess of that in any other province and the cost of maintenance is relatively low ... the reduction in the income of District Boards by the loss of toll revenues ... led to enforced neglect of roads to rapid deterioration and to the accumulation of arrears of maintenance and renewal which will ultimately be more costly to repair than if taken in hand in due time[23].

In 1933 the Madras government appointed A. Vipan to prepare a comprehensive report on road development. This report which was submitted in 1935, highlighted the need for allotting more funds to the District Boards. Metalling of existing roads and proper reclassification of all the important roads was also emphasized. Vipan suggested the development of roads in various districts along the following lines.

Regarding the Kurnool district he suggested development of the inter district roads. He was of the opinion that the development of a road between Koilkuntla and Jammalamadugu would help both the places which were important commercial centres. Atmakur to Vinukonda road would help the agriculturist in marketing their produce. Regarding the road from Banaganapalle to Tadpatri, he stated that there was considerable traffic on this road. Tadpatri was a commercial centre and hence improvement of this road was necessary[24]. He also suggested the development of the following marketing roads in the district[25].

Chart 4.2: Development of Marketing Roads in Kurnool District

Kurnool-Bangalore Road
Kurnool- Guntur Road
Chittor- Kurnool Road
Atmakur- Kurnool Road
Bellary- Kurnool Road
Koilkuntla- Nandyal Road
Atmakur- Nandyal Road
Banganapalle- Tadpatri Road

In the Bellary district there was no dearth of suitable material for the road construction and maintenance. The condition of two trunk roads connecting Hospet with Anantapur and Mysore was unsatisfactory. He recommended the improvement of the following marketing roads[26].

Chart 4.3: Development of Marketing Roads in Bellary District

Madras-Bombay Trunk Road
Bellary-Kurnool Road
Alur-Adoni road
Emmiganur-Adoni road
Siruguppa-Bellary road
Kampli-Hospet road
Harpanahalli-Kottur
Kudligi Sandur Torangallu
Kalyanadrug-Rayadrug Road

Vipan also emphasized the need to construct the bridges. This would improve the commerce in the district. Commenting on the benefit which this district could get by constructing a bridge across the Madras Bombay Trunk Road, he explained that such a thing close to Bellary town, the biggest trading centre of the district, would facilitate an easy movement of both goods and passenger traffic. Similarly, the construction of bridges over the Chintakunta road would serve a rich black cotton area in the interior areas then unconnected by the railway. Since this route has been established as a through communication from Bellary to Alur and Adoni, the big cotton centres in the north, it would help in the trade in cotton[27].

The Collector of Bellary district applauded Vipan's scheme and felt that it would stimulate communications and afford added facilities for the marketing of goods in the district. All these new roads would connect the important centers of trade of Mysore and Hyderabad with those in the district[28].

Vipan felt that many roads in the Cuddapah district were in poor condition. They "were not being regularly maintained at all for want of funds and the neglect has been so perceptible that certain roads, which were in very fair order some years back and fit for motor traffic are now unfitted for such traffic"[29]. The reasons for such

unsatisfactory condition of the roads were the poor quality of material available locally, lack of water in certain areas of the district, difficulties encountered in the construction and maintenance of roads in black soils, a difficult labour situation, inadequate resources of the local boards and lack of experienced technical personnel[30].

Vipan suggested the development of both inter-district and marketing roads. According to him the development of Cuddapah to Cumbum road in the ghat section serves not only as an inter- district communication but also as a feeder to railway station to Cuddapah and Cumbum on the Madras and Southern Mahratta Railway. The other inter-district roads recommended for development were Pulivendla and Raipur to Chitvel. The important marketing roads which he emphasized for the development were the following:

Regarding the road from Muddanur to Jammalamadugu, he felt that since Jammalamadugu is a big trading centre, it should have an easy and quick access to the nearest railway station at Muddanur[31].

Chart 4.4: Development of Marketing Roads in Cuddapah District

From		To
Chittoor	-	Kurnool
Yerraguntla railway station	-	Proddatur
Muddanur railway station	-	Pulivendla
Muddanur	-	Jammalamadugu
Cuddapah railway station	-	Vempalli
Jammalamadugu Badvel Nellore frontier		
Vempalli Yerraguntla road		

Regarding the Anantapur district, Vipan felt that as several roads of great economic benefit were under construction both by Public Works Department and District Board as famine works, no proposal for new district roads needs to be made. He, however, suggested the improvement of inter-district roads and recommended the construction

of a causeway across the penneru near Tadpatri on Cuddapah-Bellary road[32]. Expressing the usefulness of this bridge, he explained that Tadpatri is one of the biggest marketing centres of the Anantapur district, where agriculture products worth Rs. 3Ø to 4Ø lakhs were marketed annually. The absence of causeway across the Pennar was a hindrance across the river. If this is constructed it would be helpful to both produce and passengers[33].

However, Vipan's scheme of road development could not be immediately taken up. The outbreak of World War II put considerable strain on the resources. Consequently, the decade ending with 194Ø did not show much improvement. The Local Boards Act of 192Ø which was amended had asked for the distribution of land cess among districts, taluks, and panchayat boards. Such policy reduced the income of the boards. The story of poor state of roads did not end here. World War II aggravated it more. A heavy wear and tear caused by the incessant movement of military vehicles on the roads led to their speedy deterioration.

Various administrative and financial measures were adopted for the improvement of roads, but till the end of 194Ø not much could be done. In 194Ø, a separate High Ways Department was set up and some of roads of first and second class and also some marketing roads were transferred to it. The conference of chief engineers at Nagpur adopted a resolution in 1943 that, "no village should remain far from more than five miles of metalled road and there should be complete integration of urban and rural areas for the purpose of providing an efficient road system"[34]. In order to prepare an action plan incorporating Nagpur resolution a special officer was appointed in 1945. The officer recommended the preparation of a five year post war road development scheme and reclassification of the existing

roads. All these measures were taken into account but not much real improvement in the road development took place in the region[35].

4.1.3 The Rail Transport

With the construction of Madras-Bombay line in 1860, the age of railways began in the region. Cuddapah district was the first to be linked with the railways. Between 1864 and 1870, the Madras-Raichur section was completed and this line ran in the very heart of the region. The towns of Rajampet, Cuddapah (in Cuddapah district), Tadpatri, Gooty (in Anantapur district) and Adoni (in Bellary district) were on the main line. Since Bellary (an important marketing town in the region) was not connected by this line, a branch line between Guntakal and Bellary was opened in 1871. Thus, this line touched all the districts (including Kurnool) and placed the region in the railway net work as early as in 1870[36].

However, some parts of the region were still unconnected with the railway lines. The western portion of Bellary district was far away from the line and there was a need for a railway line. During the famine of 1876-78, the foodgrains could go up to Bellary by railway line, and from there they had to be transported by tardy means of bullock carts and so on. Hence, in 1884, a meter gauge line between Bellary and Hospet was constructed[37].

Similarly, the absence of a railway line in the heart of Kurnool district was felt during the famine period of 1876-78. The foodgrains which came up to Cuddapah or Guntakal by a railway line, could not be transported quickly into the interior of the district. Moreover, there was a need to connect this famine stricken zone with the food surplus region of costal Andhra. Hence, a meter gauge line between Guntakal and Tadepalli (in Guntur District) was constructed between

1887 and 1891. This line not only connected the districts of Anantapur and Bellary and Kurnool with Coastal Andhra but proved to be immensely useful during the famine years 1891/92, 1896/97 and 1899/1900. This line passed through the towns of Nandyal and Cumbum in Kurnool district[38].

Anantapur and the silk weaving town of Dharmavaram were also not connected with the railways. In 1892 this district got two lines; one from the Guntakal junction to Hindupur connecting it to Bangalore and another line from Dharmavaram junction to Pakala on Guntakal Hindupur line[39]. Though the construction of these lines started in 1883, owing to scarcity of labour and prevalence of severe fever in some parts of the district, it took some time for the economy to open up[40].

The first decade of the present century witnessed the coming up a few important railway feeder lines in the region. The Bellary district obtained two feeder lines in 1905, one running from Bellary to Rayadrug and another from Hospet to Kottur in Kudligi taluk. Both these places were important commercial centers[41]. Kurnool town was connected with Guntakal on one side and Hyderabad on the other by 1909[42].

Inspite of the efforts made by the local administration, the Rayalaseema region did not get any more important railway lines after 1909[43]. Although many towns in the region were connected with important cities such as Madras, Bombay, Hyderabad, Bangalore and Vijayawada, there were towns and taluks which remained far from the railway net work. For instance, although Cuddapah got a railway line as early as in 1870, this solitary line was inadequate to fulfil the needs of the district. This line remained inaccessible to several towns. Not only towns like Rayachoti and Porumamilla were situated as far as 30 miles away from this line, but important marketing towns

like Proddatur and Jammalamadugu were not connected with any railway station[44]. Added to that, except Cuddapah and Rajampet taluk, all the other six taluk headquarters were in the interior at a distance varying from 6 to 35 miles with unbridged rivers or ghat sections if roads intervening[45]. Similarly, the headquarters of five out of nine taluks in Bellary district were situated away from the railway line[46]. Nevertheless, one can conclude that railway net work in the region was fairly well developed in the region.

4.1 4 Market Integration:

The development of road and rail transport resulted in the integration of markets in the region. John Hurd's study on Railways and the expansion of Markets in India for the period 1861-1921 showed that as railroads expanded, prices in districts across India began to converge toward a single price[47]. In Madras Presidency also, prices prevailing at several places were gradually getting equalized. The memorandum on the Moral and Material Progress of Madras Presidency remarked in 1912 that, "the main feature of decade has been the high range of prices for all the foodgrains. The general levelling of rates throughout the presidency was noticed in the last decennial report and this movement has continued. Prices are indeed governed not only by the local market but by the rates prevailing in the other parts of India and even beyond India"[48]. And the prices prevailing in several places had nothing to do with the local conditions. A Settlement Officer remarked that, "one noticeable feature about the prices of the chief food crops is that the variations in them were quite in accord with the general trend of the prices of these crops in the presidency as a whole, which indicates that local conditions played only a minor part in their rise or fall ... the prevalence of

high prices ... indicates that the local plenty or scarcity has least influence on prices"[49]. Similarly the jowar prices in the region, "closely followed the Hyderabad prices, with which it had considerable trade"[50].

To see the price integration in the region under study, we have collected data on prices of rice and jowar from 39 and 35 reporting stations in the region respectively for the period 1891/92 to 1940/41. Our attempt to disaggregate these reportedplaces in terms of those connected with and without railways did not show any startling difference between the pattern of price integration. The reason for this can be attributed to the availability of feeder lines, which linked up the interiors of the region to the railway line. We have worked out the coefficient of variation of prices for all the reported places for rice and jowar. The results have been presented in Figures 4.1 and 4.2 and Appendices 4.1 and 4.2.

Figures 4.1 and 4.2 reveal that the prices of rice and jowar were progressively getting converged during the last decade of the 19th century. However, the famine of 1899/1900 seemed to have disrupted the markets and consequently, one finds a divergence in the prices. From about 1904 to 1913, prices were getting equalized albeit with fluctuations. From 1914 onwards once again divergence in the prices of rice and jowar is seen. The same is evident from Appendices 4.1 and 4.2. While the minimum and maximum prices of these crops were moving together till 1913/14, they started diverging from then onwards. Such a divergence in prices was attributed to the occurrence of world war 1. It has been noted that during the war period the coastal shipping declined and there was shortage of wagons. This resulted in a great pressure on the railways, with large bribes being paid for wagons. It was common,"when the trader applied at a station

Fig 4.1: Variation in Rice Prices

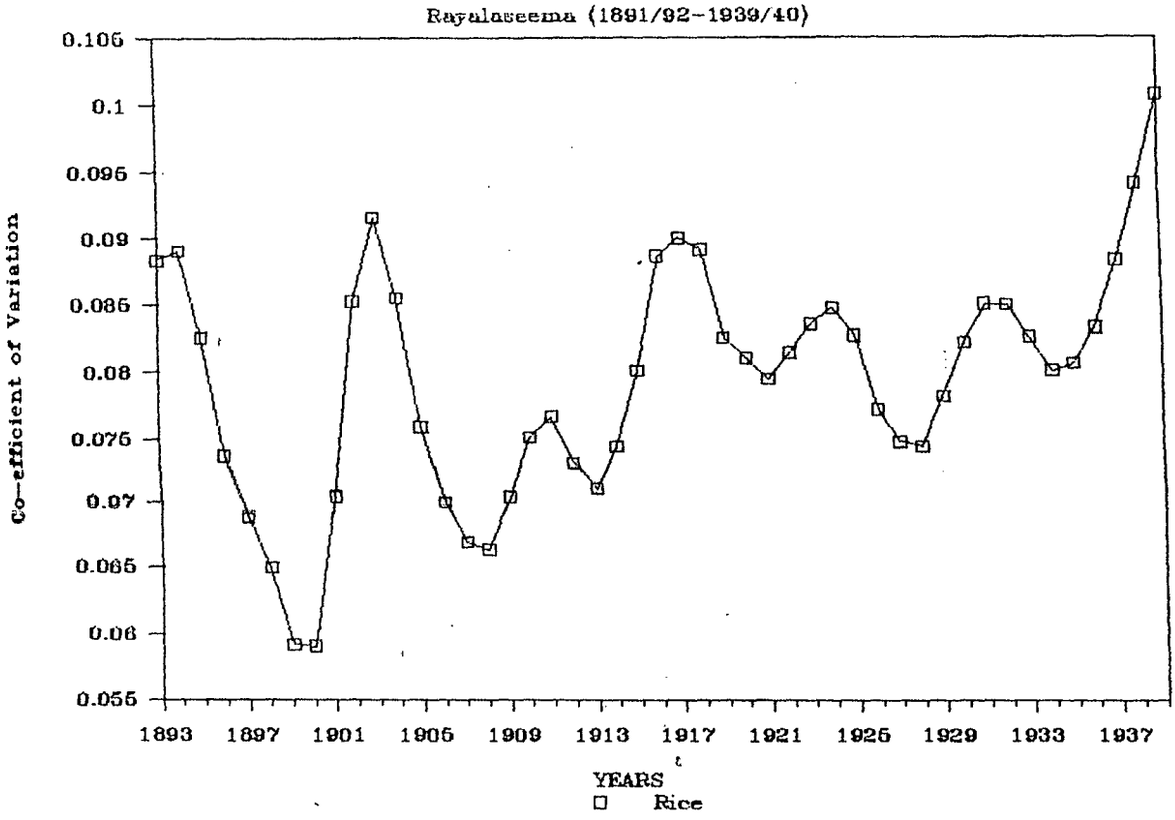
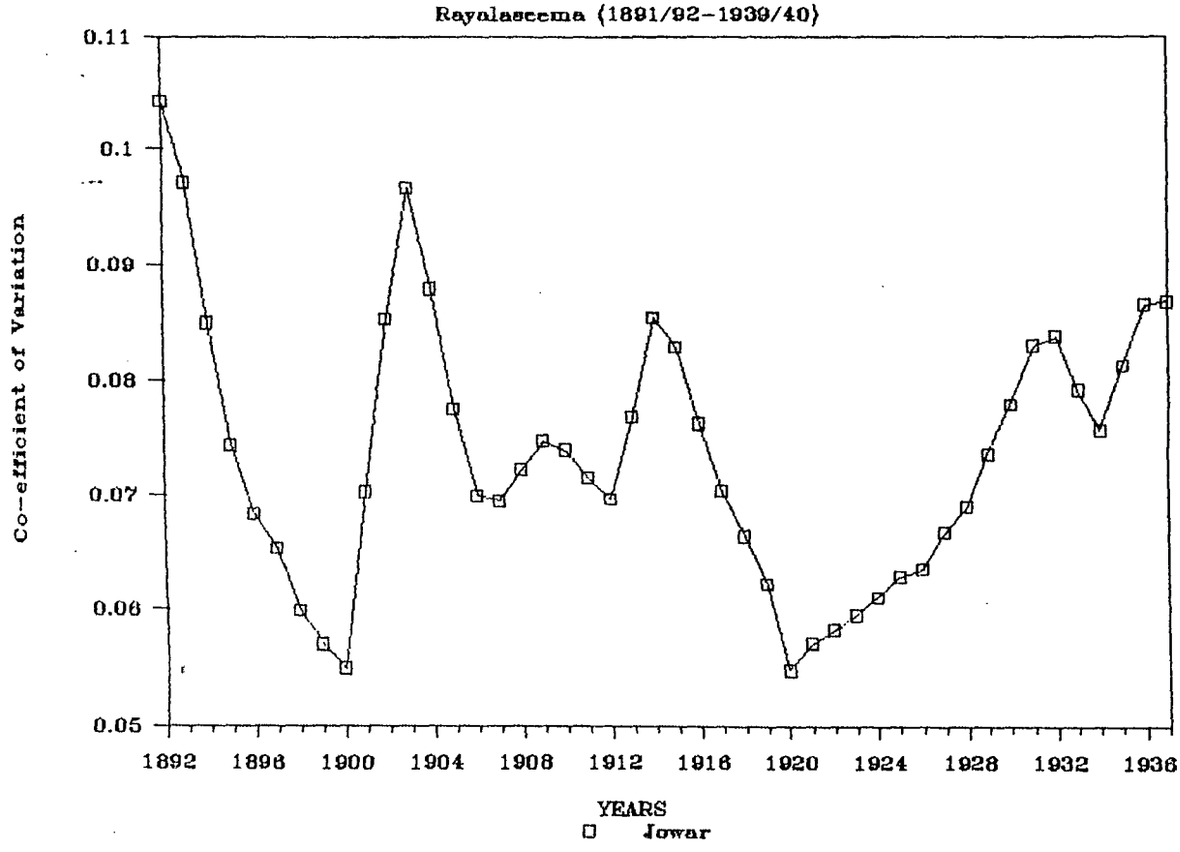


Fig 4.2: Variation in Jowar Prices



for the use of a wagons, to pay some small fee 8 annas or Rs.1. In recent years, the supply of wagon being utterly inadequate to meet the demand ..., these small fees have grown to pertinatous dimensions"[51].

However, the prices of both the crops started diverging from 192Ø onwards. This could be attributed to the depression of 193Ø and World War II, which dislocated both the foreign and domestic markets. On the whole, one can conclude that prices were converging till 1913/14 and from then onwards they started diverging. Such a divergence was not due to the inadequate development of transport but due to some global factors.

SECTION 2

4.2.1 Impact of Improved of Transport on Trade:

Development of transport was an important pre-requisite for the commodity trade. The inadequate development of transport in this region and also in coastal Andhra[52] around 185Ø had adversely affected the commodity trade and resulted in the slow expansion of cash crop cultivation. As the region did not possess roads suitable for a wheeled traffic, the movement of agricultural produce was tardy and often times risky for the traders. For instance, "all the cotton which proceed to the coast from Bellary district requires to be conveyed across (the Hagari river) and it is ferried over in a coracle ... The detention of hundred of carts which crowd to this ferry is most inconvenient to the merchant and all the cotton which is in loose bales, is unloaded to be placed on the coracle, and then reloaded on the opposite bank, it is subject to great injury"[53].

The loss and impediment to trade resulting from the absence of a proper road from these districts to the Madras Port, becomes clear

from the following incident. In 1851, "the cotton of Bellary district was in great demand as an article of profitable shipment. There was abundance of cotton in the district, but in consequence of the tardy and uncertain means of transport to the port (of Madras), the merchants could not venture to send for it, lest shipping should have become scarce and dear before it could arrive; and yet the distance from Madras to the very center of the cotton country is not more than 250 miles"[54]. Consequently, this region was actually locked up from the surrounding provinces with out means either for export of its produce or for the introduction of European articles of commerce[55].

With the advent of the railways in 1870 and increase in the road mileage, the commodity trade started developing in this region. At the Presidency level, it was remarked that, "the volume of trade by rail with other parts of India nearly trebled during the decade (1891-1901) ... the volume of goods moved from the section of the presidency to another increased, more than a third ... chiefly in the traffic of those parts of the presidency outside the sea-borne blocks. In this branch of traffic, grain accounts for about 1/3rd of the volume. The expansion of the internal trade is largely attributed to the general expansion of railway"[56]. The exports of food crops from this region, as the Settlement Officers noted, were quite substantial at the turn of the century. The export trade in cholam was active in Cuddapah district, especially in the taluks of Jammalamadugu and Proddatur, where "the entire area under dry grains has been devoted to meet the increased demand of this crop"[57]. Koilkuntla taluk of Kurnool district was able to meet a large external demand and also contributed to a large exportation of the cholam crop from the district[58]. On an average 20000 tons of jowar was exported from this region[59]. Such a large exportation of food grains from this region resulted in an

increase in the prices of jowar. For instance, the Collector of Kurnool district noted that, "there has been a rise in the prices of cholam, which is mainly due to the very large exports to Kathiawar in Bombay Presidency[60]".

Besides the food grains, the region also exported cotton and oilseeds (especially groundnut). In fact, this region was known for the cotton exports. In the early 187Ø, cotton accounted for more than 9Ø per cent of exports from the principal railway stations in the region to Madras[61]. Similarly, in the late 188Ø, cotton accounted for the bulk of the exports from this region[62]. Table 4 also reveals that cotton and oilseeds, the principal cash crops in the region, accounted for more than 5Ø per cent of total exports from the Rayalaseema districts. The available qualitative evidence also makes it clear that cotton was the principal commodity exported from this region in the early decades of the present century. For instance, on an average Rs. 231 lakhs worth of cotton was exported from the black soil taluks of Bellary and Anantapur during the period 1916/7-1918/9[63].

Table 4.4: Rail-borne Trade from Rayalaseema
(1915/6 to 1917/8) (%)

Article	1915-16	1916-17	1917-18
Jowar and Bajra	15.77	1.45	13.15
Rice	2.69	2.93	12.Ø1
OFC	2.44	1.63	2.87
Cotton	14.88	23.Ø1	15.63
Oilseeds	4Ø.Ø3	52.57	43.5Ø
Others	24.17	18.41	12.84
Total Exports	12.35	14.84	2Ø.71

Source: Rail Borne Statistics for Madras Presidency, Various Volumes
Note : Total exports In Maunds.

Similarly, the exports of groundnut were also picking up with the expansion of the area under cultivation of this crop. It was

noted that, "the groundnuts grown in the Ceded Districts hitherto enjoyed an excellent reputation with European customers[64]". Commenting on the extent of the groundnut exports, Department of Industries noted in its annual report that the "trade in groundnut is of economic importance to Madras". The annual average value of exports in the triennium ending with 1927 was over Rs. 1000 lakhs; which on an average was about 24 percent of the total foreign exports trade of the presidency[65].

However, an analysis of trends in the exports of these cash crops from the region during the period 1890-1950 is difficult due to the non-availability of rail-borne trade data from 1920 onwards. The data for the post-1920 are relatively more important in our analysis as the export market was severely affected during the period of depression. Moreover, the rail-borne trade data are not reliable because any conclusion drawn from these data would be affected "by the fact that the figures of terminal stations ... include the products of areas unconnected with the region"[66].

Consequently, we have used the exports of cotton and groundnut from the whole of the Presidency as a proxy for the exports of these crops from the region. This is justified on two grounds: Firstly, this region accounted for 36 per cent to 44 per cent of total cotton area in the Presidency during the period 1910/11-1945/6 (Table 4.5). Secondly, although the percentage area under groundnut in the region to total groundnut area in the Presidency was small in 1920/21, it was gradually increasing in the 1930 and 1940. By 1945/6, this region accounted for more than 43 per cent of the total groundnut area in the Presidency. Now, let us analyze the trends in the exports of cotton and groundnut from the Madras Presidency.

Table 4.5: Area under Cotton and Groundnut (%) in Rayalaseema to the total area in Madras Presidency.

Years	Cotton area (%)	Groundnut are (%)
191Ø-11	42.78	-
192Ø-21	44.25	17.95
1929-3Ø	4Ø.87	34.95
1945-46	36.34	43.1Ø

Source: Indian Agriculture Statistics, Various Volumes.

4.2.2 Exports of Cotton and Groundnut:

The total value of cotton exports from the Madras Presidency was Rs. 4Ø7 lakhs in the triennium ending with 1912/3. However, there was a decline in the value of cotton exports in the next triennium (Table 4.6). This was due to the uncertainty then prevailing about the emergence of new cotton crop in the U.S[67], and also due to the want of tonnage[68].

Table 4.6: Value of Cotton Exports from Madras Presidency

3-Year averages ending with	Total Value from Madras Presidency (in Rs. lakhs)	Value per ton (in Rs.)
1912-13	4Ø7.53	4Ø3.98
1915-16	174.1Ø	26Ø.68
1918-19	1Ø7.73	181.63
1921-22	187.72	28Ø.Ø2
1924-25	673.13	5Ø2.82
1927-28**	3Ø6.94	365.96
193Ø-31*	164.ØØ	-
1933-34	-	-
1937-38	2Ø7.37	2ØØ.3Ø
194Ø-41	172.2Ø	146.19

Source : Sea-borne Trade Statistics for Madras Presidency Various Volumes

Note : * One Year Figure.
** Two Years average.

In the case of groundnut, it was mentioned that, in the year 1914-15, there was a decline of 42 per cent in quantity and 45 per cent in value, but much of the unsupplied balance went to Calcutta.

In 1915-16, however, the trade with foreign countries was revived and large consignments of nuts were sent to Marseilles. The high prices prevailing in 1915-16, induced cultivators to expand groundnut on a larger area and the area under groundnuts in 1916-17 increased by 60 percent. This was particularly so in the Deccan districts where groundnut cultivation was extending on Black cotton soils[69]. The exports of groundnut, however, declined during the World War I.

The departure from this low value of cotton exports (Table 4.6) and also low quantity of groundnut exports occurred from 1920 onwards (Table 4.7).

Table 4.7: Exports of Groundnuts from Madras Presidency
(Quantity in '000 tons)

3-Year averages ending with	From Madras Ports	From Andhra Ports	Total from Madras Presidency
1913-14	-	-	173
1916-17	51	1	111
1919-20	33	-	47
1922-23	85	10	173
1925-26	130	60	308
1926-27*	162	49	318
1929-30	-	-	546
1932-33	186	126	434
1935-36	415	130	408
1938-39	154	284	651
1940-41**	105	135	362
1945-46	71	79	217

Source: Sea- Borne Trade Statistics of Madras Presidency, Various Volumes.
Note : (1) * One Year Figure.
(2) ** Two Year Figure.

An increase in the value ofcotton exports from 1920 was due to an enhanced demand of cotton from Japan, chief customer of Madras cotton, whose trade in the earlier years had diminished, and secondly due to an increase in the exports to China[70].

An increase in both the value and volume of exports of groundnut from Andhra ports can be seen from Table 4.8. The quantity of groundnut exports from Andhra ports increased from 10,000 tons to

60,000 tons and prices from Rs 265 to Rs 280 during the period 1922/3-1925/6 (Table 4.8). Due to a plentiful supply of freight and favourable exchange, the exports of groundnut from the whole of Presidency increased. The quantum of exports increased more than three times and it surpassed the pre-war dimensions also[71]. The annual exports to overseas averaged nearly Rs. 920 lakhs in the triennium ending with 1927, which amounts to about 23 per cent of the total foreign export trade of the presidency and over 93 per cent of the total foreign exports of oilseeds[72].

The slump in the exports of both cotton and groundnut had once again occurred from the mid 1920 onwards. There was a decline in the shipments of cotton to all the destinations. Besides, there was an abnormal production of cotton in America during the year 1926-27, which lowered the prices of American cotton and consequently, the European countries and Japan started buying cheap American cotton instead of Indian cotton. By then the prices of American Cotton were quite low as compared to Indian cotton[73].

Cotton prices, which were already on the declining trend, had further declined due to the onset of the depression in the late 1920s. Indian cotton markets were also affected by the then prevailing political conditions in the country. The civil disobedience movement with its unsettling effects, the frequent hartals and civil disturbances demoralized the Indian Cotton market to a great extent[74]. Apart from this, as the All India Congress Committee noted the decline in the cotton exports was also due to the preferential policy adopted by the colonial government towards the foreign cotton. With the fall in the prices of foreign cotton in parity with Indian cotton, the imports of the former were encouraged at the expense of the latter[75].

In the case of groundnut, there was not much increase in the exports from the Madras Presidency during the period 1925/6-1926/7 (Table 4.7) because of marked decrease in the quantum of exports to almost all the regular customers in Europe except U.K and Italy. France which was the largest consumer, reduced its share by 32 percent. The heavy shortage in shipments to France and other northern continents occurred because of decrease in production, failure of rains, unsettled state of France's exchange and unstable political atmosphere in France. Apart from this, the non-availability of freight at reasonable prices and supply of other oilseeds which were coming up as possible substitutes also contributed to the decline in the exports of groundnut[76].

The situation became all the more worse by the end of 192Ø and it continued so till the mid 193Ø for both cotton (Table 4.6) and groundnut (Table 4.7).

The prices of groundnut declined due to the following factors: firstly, due to the general trade depression and decline in commodity values, which resulted in the falling off demand for cattle feeding stuff, which in turn had affected to a marked extent the prices of and the demand for oilseeds cake and compounds made therefrom; secondly, the existence of increasing sources of oil of similar type; and thirdly, the formation and development of powerful combine[77].

The European combine controlled 75 per cent of oil mills in Europe. It had a central buying organization, which worked towards reducing the prices of Indian groundnuts. As the oilseeds Association noted, "it was responsible for the present unprecedented slump"[78].

Table 4.8: Average Value of Groundnut Exports from Andhra Ports

3 Years average ending with	From the Andhra Ports (in 'ØØØ tons)	Value of Total Exports (in Rs. Lakhs)	Value of Export per ton (Rs.)
1916-17	1	1.32	125.6Ø
1919-2Ø	-	-	-
1922-23	1Ø	26.47	264.9Ø
1925-26	6Ø	169.ØØ	28Ø.41
1928-29*	65	164.78	252.11
1931-32	132	23Ø.1Ø	173.87
1934-35	136	178.73	131.Ø9
1937-38	2ØØ	3Ø9.Ø4	154.52
194Ø-41**	2Ø6	282.Ø2	137.Ø8

Source : Sea-Borne Trade Statistics of Madras Presidency Various Volumes

Note : (1) * One Year Figure
(2) ** Two Year figure

The depression had a severe impact on the groundnut prices. The market for groundnuts declined especially in Europe. The speculators started selling the standing winter crop at about $ 11-1Ø per ton. This fetched the ryot the equivalent of about Rs 25 per candy, and did not even cover the costs of the producer[79].

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Regarding the prevalence of supply of alternative oilseeds, it was stated that, "even at the low prices that prevailed during the year (1932-33), the competition of soyabean and whale oil in the continent was very severe, and Germany amongst other countries increased largely the imports of these products at the expense of groundnut kernels"[8Ø].

This state of groundnut exports continued even till the mid 193Ø, but cotton experienced some improvement. It was reported that, "due to the cheapness of Indian cotton compared with American cotton, exports increased from 1Ø514 tons valued at Rs. 69.8 lakhs in 1932-33 to 1786Ø tons valued at 111.33 lakhs in the year 1933-34. This amounts to 7Ø percent increase in quantity and 59 per cent in value"[81].

To improve the groundnut trade, the Depression Enquiry Committee suggested that the government should organize the trade through the co-operatives and develop oilseed crushing industries to absorb a good portion of the crop and give steady prices to the ryots. If these suggestions were accepted, it would help the producer in the following ways; (1) when the trade is organized, the European speculators would no longer be able to dictate the prices and (2) it was mentioned that if 25 percent of the produce was dealt by the Co-operative societies and proposed Madras Seeds Traders Association, the market would balance the disproportion between current prices and the cost of production[82].

Not much was to be expected from the first suggestion. It was noted in one of the newspapers that normally government did not adhere to the findings of the committees, most of the time. The findings of all the committees, " are sleeping in the shelves of the Secretariat ... Judging from the past precedents experience, this new committee is certain to go the way of all the previous ones[83]".

The benefits of establishing oilseeds crushing industry were thought to be quite effective as well as permanent, since it would stimulate demand for groundnut oil both at home and in the foreign market. It was proposed to increase the consumption of groundnut oil at home, because there was no scope for glut in the market, since people from both poorer sections and middle classes were using this oil for indigenous consumption. It was noted that the potentialities of local consumption was proved earlier also. Immediately after the World War I, groundnuts were not exported and prices were low, all seeds were crushed and whole production was consumed within the country. Since the same conditions were prevailing, it was thought that it would be propitious for starting oil mills all over the

country, small or big[84].

Government accepted the second suggestion and argued in favour of establishing the oil industry. Government felt that the,"industrial potential of Madras Presidency is quite high". If the manufacturer of ghee substitutes from vegetable oils were developed, it would result in the utilization of an increasing quantity of oil seeds produced in the Presidency in the country itself[85].

Nevertheless, the export market did not regain its earlier position; however, the loss was made up by the expanding domestic market. For example, the average exports of groundnuts from Madras to other states in the country were only 29748 tons during the period 1937-38. During the period 1939-40 to 1943-44, the average exports from this province was as much as 119002 tons[86]. Similarly, the estimated annual utilization of groundnut for oil extraction also increased in the presidency. The average estimated annual utilization of groundnuts for oil extraction during the period 1933-34 to 1937-38 was 48500 tons. It increased to 966000 tons during the period 1943-44 to 1947-48[87].

SECTION 3

4.3.1 Impact of Transport on the Development of Market Towns:

The foregoing discussion on the development of transport and its impact on the trade pattern in the region, brings out the point that as transportation system was developing in the region, trading activities started picking up. The available qualitative evidence reveals that the impact of transport (especially the railways) was quite striking on the development of the market towns. It has been noted that Razampet received a greater stimulus to its trading

activities with the opening of Madras-Bombay railway line in 1870[88]. C.Benson, who analyzed the economic conditions of Kurnool district, predicted that the growth of the Nandyal town would exceed that of Kurnool when the railway from Bezawada to Guntakal which passes through this town is complete[89]. His prediction came true, Nandyal went to become the important market town not only in the district but also in whole of the region. Similarly, as Cuddapah town was situated on the main railway line of Bombay to Madras the trading in many commodities had immensely increased[90].

Examples of this kind can be multiplied; but an empirical verification of the impact of trade on development of towns is somewhat difficult due to non availability of data on trade between the towns as well as for the region during the period of study.. However, we do have data on the exports from the Madras Presidency as a whole, but correlating Presidency-wise figures with population of the selected towns would be a hazardous exercise. Hence, we have tried to correlate the transport development with the growth of market towns.

To carry on this exercise the matrices of both rail and road transport have been prepared for the selected towns at two points of time viz, 1891 and 1941. The construction of matrices at two point of times is justified on the grounds that during the intermediate periods, as our discussion in sections 1 and 2 shows, there were no drastic changes in terms of transport development and hence, it will be futile to repeat the same exercise decade after decade. For example, in the case of railways after 1909 when Kurnool district got access to railways, there did not emerge even a single new line. Though there was some development in the quality of road transport, it would be difficult to capture this.

Transport matrix for both railways and roads contains the elements Ø and 1 (Appendices 4.3 to 4.6). The presence of the element 'Ø' implies indirect road and rail connection between the towns, whereas the presence of '1' implies the existence of direct road and rail connection.

The rail matrix of 1891 showed that the towns like Kurnool, Rayadrug, Harpanahalli, and Proddatur did not have any access to railways, but with the construction of the new rail line in the Kurnool district in 1909 only Kurnool and Rayadrug got benefited from this line from the above stated towns. And among the towns which already had access to railways, this new line did not provide much of a benefit, except for Hindupur, Kadiri Bellary and Hospet towns which got connected to Kurnool. On the whole, the increase in the number of direct connections among the towns increased from 50 in 1891 to 64 in 1941 (Appendices 4.3 & 4.4). This depicts that in terms of rail connections this region did not show a drastic improvement.

Contrary to this, road development showed significant development; the road connections among the sample towns increased from 96 in 1891 to 150 in 1941 (Appendices 4.5 & 4.6). A close look at the road matrix showed that except Harpanahalli town, all other towns experienced an increase in the road connections over the period.

The district-wise analysis of road connections among the towns showed that the towns in Cuddapah district were inter- connected poorly with the towns of Bellary district. But the towns in Kurnool district had good road connections with those from Cuddapah both in 1891 and 1941. In the case of Anantapur district, except Badvel town which did not have any connection with any town of Anantapur both in 1891 and 1941, all other towns were linked to one or the other town of Anantapur district.

In the case of Kurnool district, towns like Kurnool and Nandyal did not possess direct road connection with the towns in Anantapur district except that of Kurnool town with Gooty town in 1891, but by 1941 Kurnool got connected with three more towns viz., Tadpatri, Hindupur, and Kadiri, where as Nandyal with two towns, viz., Tadpatri and Gooty. But in the case towns of the town in Bellary district, Nandyal town did not have any connection in 1891, but in 1941 it got connected to Bellary and Hospet. Kurnool town was already connected to Bellary and Hospet in 1891 but in addition it got connected to Adoni in 1941. Both Kurnool and Nandyal towns were not connected to Rayadrug and Harpanahalli at any point of time.

For Anantapur district there was not much improvement in terms of its connections to Bellary towns, but with Kurnool towns it was well connected by 1941. In the case of Cuddapah district on the whole it was well connected.

Now to see the impact of the transport on the development of selected market towns we have worked out the rank correlation between the level of urbanization and total number of transport links.

Table 4.9: Rank-Correlation Between Transport Development and Development of Towns

Decade	Correlation
1891	.54ØØ
1941	.5821*

Note : * significant at 1Ø per cent level.

Table 4.9 shows that in 1891 the correlation was positive between these two variables but was not significant. However, by 1941, not only the relationship became stronger but also significant. This implies that transport had a positive impact on the development of selected market towns. This analysis, however, does not capture the impact of the transport on the growth of the towns for the

intermediate period which pertains to World War I and Depression. As noted earlier, the trading activities were affected during the period of World War I, but how far this left an impact on the town economy is difficult to capture because of the non-availability of both qualitative and quantitative information. But the impact of the depression and World War II on the town economy can be captured. This is precisely what we do when we analyze the relationship between the agro-processing industries and marketing towns in the next chapter.

Notes and References

1. Proceedings of Board of the Revenue, No.31, January 27, 1905, (hereafter PBR), p. 11.

2. Cited in D.H. Buchanan, The development of Capitalistic Enterprise in India, Frank Cass and Co Ltd, London 1966, p.176.

3. A. Sarada Raju, Economic Conditions in Madras Presidency, 1800-1850, University of Madras, Madras, 1941, p.217.

4. Ibid.

5. Ibid., p. 221.

6. Report of Several Commissioners on Public Works at Bengal,Madras and Bombay, Madras, 1953, hereafter Report of the Commissioners on Public Works, p. 143.

7. The Civil Engineer elaborated that "there are certainly tracks through some parts marked out by aloe and milk bush hedges, but from want of bridges and drains these tracts are divided into isolated portions by the rivers that earlier intersected them. At present there is not a single bridge through out the district, though it is intersected by a river and stream in every direction. For details see W.Francis, Madras District Gazetteer, Bellary District, Government Press, Madras, p. 121.

8. Cited in John Kelsal, District Manual of Bellary District, Govt. Press, Madras, 1872, p.237.

9. Report of the Commissioners on Public Works, p.143.

10. Ibid.

11. Cited in Mysore State Gazetteers, Bellary District, Govt. Press, Bangalore, 1972, hereafter District Gazetteer of Bellary, p.288.

12. Andhra Pradesh District Gazetteers, Cuddapah , Govt. Press, Hyderabad, 1972, hereafter District Gazetteer of Cuddapah, p.425.

13. In the Bellary district alone a sum of Rs 561 lakhs was spent on the construction of new roads, and Rs.12 lakhs for the repair during the famine of 1876-78. For details see District Gazetteer of Bellary, p. 289.

14. District Gazetteer of Cuddapah, p. 426.

15. Andhra Pradesh District Gazetteers, Anantapur, Govt. Press Hyderabad, hereafter District Gazetteer of Anantapur, p.436.

16. District Gazetteer of Cuddapah, p.426.

17. Andhra Pradesh District Gazetteers, Kurnool, Govt. Press, Hyderabad, 1974, hereafter District Gazetteer of Kurnool, p.129.

18. District Gazetteer of Anantapur, p.436.

19. Administrative Report of Anantapur District Board, 1917-18.

20. District Gazetteer of Anantapur, p. 439.

21. A bridge costing Rs. 9.10 lakhs was constructed across the Hagari river in Bellary district in 1925. For details See, District Gazetteer of Bellary, p. 289.

22. District Gazetteer of Anantapur, p. 438.

23. Cited in A. Vipan, Scheme of Road Development for Madras Presidency, Govt. Press, Madras, 1935, hereafter A. Vipan, Scheme of Road Development. p. 8.

24. A. Vipan, Scheme of Road Development, pp.20-22.

25. Ibid., p.20.

26. Ibid., p. 48.

27. Ibid., p.53.

28. Ibid., p.49.

29. Ibid., p.78.

3Ø. District Gazetteer of Cuddapah, p. 428.

31. A. Vipan, Scheme of Road Development, p.77.

32. Ibid., p.36.

33. Ibid., p.37.

34. District Gazetteer of Anantapur, p. 441.

35. **Total Road Mileage in miles in Cuddapah and Anantapur Districts (1946 to 1951)**

Year	Cuddapah	Anantapur
1946-47	1ØØ7	1317
1947-48	1ØØ7	1295
1948-49	1ØØ9	1294
1949-5Ø	1Ø1Ø	13Ø4
195Ø-51	1Ø22	1321

Sources: (1) Andhra Pradesh Gazetteer of Cuddapah District, p.429.
(2) Andhra Pradesh Gazetteer of Anantapur District, p.443-44.

36. District Gazetteer of Cuddapah, pp.433-4; District Gazetteer of Anantapur, pp. 451-2 and District Gazetteer of Kurnool, pp.133-4.

37. District Gazetteer of Bellary, p. 3Ø1.

38. C.Benson, An Account of the Kurnool District Board, An Analysis of Statistical Information Relating There to, and on Personal Observation, Madras, Govt.Press, 1889 p.16.

39. PBR, No.3Ø5, October 3 1899, p.16.

4Ø. District Gazetteer of Anantapur, p. 452.

41. Resettlement Report of Red Soil Taluks of Bellary and Anantapur, PBR, No. 8, January 8, 1923 p. 14-15.

42. A.Vipan, Scheme of Road Development, p.49.

43. It was proposed in 1897 to construct a line from Kalikiri to Nandyal traversing the whole of the district from south to north and passing through Rayachoti, Yerragudipad, Proddatur and Jammalamadugu. But it was not accepted on the grounds that conditions of the district with regard to population, roads and the routes of communication had become established for cart traffic, hence it would prevent the Rayachoti from becoming an efficient center of distribution. In 1905, the collector of the district urged a reconsideration of earlier decision. Government adhered to the request and proposed to construct the line between Cuddapah and Nandyal. But this venture was later on dropped. For details see C.F Brackenbury, Madras District Gazetteers, Cuddapah, Vol 1. Government Press, Madras, 1915, p.122.

44. C.F Brackenbury, p.121.

45. A. Vipan, Scheme of Road Development, p. 78.

46. Ibid., p.49.

47. John Hurd II, 'Railways and the Expansion of Markets in India, 1861-1921', Explorations in Economic History, Vol.12, No.3, July, 1975, pp.263-288.

48. PBR, No.403, August 2nd, 1912. p. 3.

49. PBR, No.278, October 29th, 1901. p. 4.

50. PBR, No.2385 (special), June 22nd, 1918.

51. Buchanan, p.187.

52. Due to transport bottlenecks, the Godavari rice growers could not take full advantage of commodity production in second half of the 19th century. For details, see G.N.Rao, "Canal Irrigation and Agrarian change in Colonial Andhra; A study of Godavari District, c. 1850- 1890", Indian Economic Social History Review, January- March, 1988.

53. J.C. Marchman, Journal of Royal Asiatic Society, Vol. 19 article 16, March 22, 1862, cited in K.E. Verghese, The development and significance of Transport in India, 1834-1882, New Delhi, 1976, p.100.

54. Report of the Commissioners on Public works, p. 143.

55. W. Francis, District Gazetteer of Bellary, p.121.

56. Memorandum on the Material Progress of the Madras Presidency, G.O. (Revenue) No.711, August 11th, 1902. pp. 205-06.

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58. Settlement Report of the Koilkuntla taluk of Kurnool district, G.O No,882, September 11th, 1906. p. 205.

59. A.Satyanarayana, "Agrarian Relations under the Impact of Colonial Rule, 1900-190: A Case Study of Andhra Districts", Unpublished Ph.D thesis submitted to Heidelberg University, Heidelberg, 1983, hereafter Agrarian Relations, p.

60. Letter from the Collector of Kurnool to Board of Revenue, September 5, 1900, G.O. No, 1982, 24 Sept,1900.

61. D.Rajasekhar, 'Famines and Economic Mobility: Changing Agrarian Structure in Kurnool District, 1860-1900', (mimeo), Table 7.

62. Ibid., Table 21.

63. Exports of Cotton from the black soil taluks of Bellary and Anantapur districts (1916/7 to 1918/9).

Years	Qty Exported in Railway maunds	Rate per Maund (Rs)	Value (Rs)
1916-17	549361	32.28	17733373
1917-18	536279	44.15	28676719
1918-19	402249	69.45	27936193

Source : Resettlement Report of Black Soil Taluks of Bellary and Anantapur District, PBR, No 170, October 29 1920 p.22.

64. A.Satyanarayana, 'Commercialization, Money, Capital and Class Differentiation amongst the Peasantry in Andhra, 1900-1940', Paper presented in a Seminar on South Indian Economy c.1914-1945, Center For Development Studies, Trivandrum p.12.

65. Report of the Department of Industries, Madras for the year ending 31 March, 1928, hereafter Report on the Industries Department, Government Press, Madras, 1928, p.27.

66. Report of Red Soil taluks of Bellary and Anantapur district, PBR No. 8 January 27, 1923. p.20, para 28.

67. Review of Sea Borne trade data of Madras Presidency, (hereafter RSTMP), 1913-14, p.19.

68. RSTMP, 1917-18, p.18.

69. RSTMP, 1916-17, p.18.

70. Ibid., p.21.

71. RSTMP, 1921-22, p.19.

72. Report of Industries Department, 1926-27, G.O.No, 1472, September 16, 1927.

73. RSTMP, 1926-27, p. .

74. RSTMP, 1926-27, pp. 85-86.

75. All India Congress Committee's Report, Area under Cotton; The Plight of Cotton Cultivators in view of Decline in Cotton Prices, G.O.No. 1420, June 6, 1938.

76. Report of the Industries Department, p.

77. Report of the Industries Department, 1929-30, G.O. No.1930, p.32.

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81. Report of the Industries Department, 1933/34, Madras, Government Press, 1934, p. .

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83. The Swarajya, February 2Øth, 1931.

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86. Report on Marketing of groundnuts in India, Government of India, Second edition, Calcutta, 1953, p. 49.

87. Ibid., p. 36.

88. C.F Brackenbury, p.242.

89. C.Benson, p.15.

9Ø. C.F.Brackenbury, p.181.

Appendix 4.1: Variation in Rice Prices of Rayalaseema Region (1891/92-1940/41)

Years	Minimum Price	Maximum Price	Average Price	Co-efficient of Variation
1891	3.48	4.82	4.91	-
1892	2.80	4.21	3.62	0.079
1893	2.55	5.92	3.34	0.088
1894	2.37	3.77	3.28	0.097
1895	2.37	4.00	3.25	0.081
1896	3.48	4.60	4.06	0.069
1897	3.96	5.13	4.52	0.071
1898	2.74	4.08	3.42	0.066
1899	3.05	4.49	3.93	0.058
1900	4.08	4.82	4.38	0.053
1901	3.54	5.10	4.17	0.066
1902	2.92	4.08	3.56	0.092
1903	2.17	4.21	3.04	0.098
1904	2.78	3.92	3.30	0.085
1905	3.04	5.07	4.09	0.074
1906	3.57	5.36	4.42	0.069
1907	4.30	5.80	4.94	0.067
1908	4.40	6.62	5.65	0.064
1909	3.88	5.63	4.80	0.068
1910	3.39	5.12	4.22	0.080
1911	4.00	5.88	4.78	0.078
1912	5.19	7.07	5.69	0.072
1913	4.71	7.02	5.51	0.069
1914	4.60	6.78	5.19	0.072
1915	4.00	6.06	4.97	0.082
1916	3.74	6.78	5.11	0.086
1917	4.26	6.90	5.44	0.097
1918	6.45	9.76	7.93	0.086
1919	8.00	11.76	9.90	0.084
1920	6.67	11.11	8.52	0.078
1921	7.14	10.52	8.00	0.082
1922	6.15	9.52	7.34	0.079
1923	6.45	9.09	7.66	0.084
1924	6.35	10.81	8.01	0.084
1925	6.15	10.52	7.50	0.088
1926	6.06	9.30	7.65	0.078
1927	6.35	9.80	7.72	0.071
1928	6.06	8.33	7.06	0.075
1929	5.88	7.84	6.71	0.077
1930	3.85	6.35	5.11	0.082
1931	3.30	5.20	4.41	0.087
1932	3.08	5.20	4.31	0.085
1933	2.73	4.74	3.59	0.082
1934	3.71	4.83	4.25	0.080
1935	3.51	5.19	4.33	0.078
1936	3.43	4.69	4.17	0.084
1937	3.73	4.94	4.34	0.088
1938	3.41	4.91	4.24	0.092
1939	3.65	5.56	4.63	0.101
1940	4.06	6.57	5.23	-

Source: Statistical Atlas Of Madras-Presidency, 1920/21 & 1940/41.

Appendix 4.2: Variation in Cholam Prices of Rayalaseema Region (1891/92-1940/41)

Years	Minimum Price	Maximum Price	Average Price	Co-efficient of Variation
1891	1.96	2.80	2.29	-
1892	1.30	2.60	2.04	0.102
1893	1.41	2.42	1.82	0.111
1894	1.22	2.04	1.53	0.100
1895	1.10	1.75	1.37	0.081
1896	1.95	2.82	2.33	0.074
1897	2.14	3.01	2.61	0.068
1898	1.31	2.19	1.61	0.063
1899	2.16	3.08	2.44	0.065
1900	2.55	3.33	2.91	0.052
1901	2.23	2.94	2.59	0.054
1902	1.39	2.13	1.77	0.059
1903	1.08	1.54	1.26	0.098
1904	1.38	3.25	1.81	0.099
1905	1.88	2.53	2.25	0.093
1906	2.12	2.88	2.49	0.072
1907	2.33	3.51	2.91	0.068
1908	2.56	3.57	3.04	0.070
1909	2.22	3.23	2.69	0.071
1910	2.14	3.19	2.46	0.076
1911	2.25	3.42	2.68	0.077
1912	2.50	3.57	2.99	0.068
1913	2.48	3.39	2.93	0.069
1914	2.27	3.10	2.56	0.072
1915	1.92	2.86	2.33	0.090
1916	1.91	3.15	2.61	0.095
1917	2.65	4.17	3.48	0.064
1918	4.55	7.41	5.67	0.070
1919	5.56	7.27	6.64	0.077
1920	4.82	6.67	5.82	0.052
1921	4.40	5.63	5.02	0.057
1922	3.57	4.54	3.97	0.055
1923	3.81	5.48	4.49	0.059
1924	4.00	5.26	4.54	0.061
1925	3.05	4.65	3.62	0.059
1926	3.31	4.88	3.95	0.063
1927	3.67	4.68	4.31	0.066
1928	3.31	4.49	3.84	0.061
1929	2.90	4.12	3.48	0.073
1930	1.53	2.88	2.23	0.073
1931	1.59	3.24	2.34	0.075
1932	1.80	2.70	2.31	0.086
1933	1.32	2.39	1.97	0.088
1934	2.14	3.07	2.59	0.078
1935	2.03	2.56	2.33	0.072
1936	1.84	2.73	2.29	0.078
1937	2.00	2.83	2.42	0.095
1938	1.85	2.67	2.26	0.088
1939	2.02	2.76	2.36	0.079
1940	2.08	2.95	2.44	-

Source: Statistical Atlas Of Madras-Presidency,1920/21 & 1940/41.

Appendix 4.3: Rail Matrix for Rayalaseema Region (1891)

	KNL	NDL	TDP	HPR	KDR	GTY	MSR	BLY	HST	ADI	RDG	HLI	CDH	PDR	JMU	RJT	VPL	BDL	TAL
KNL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NDL	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	4
TDP	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	1	0	0	5
HPR	0	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	4
KDR	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4
GTY	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	5
MSR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BLY	0	1	1	1	1	1	0	0	1	1	0	0	1	0	0	1	0	0	9
HST	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
ADI	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	5
RDG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HLI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CDH	0	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	5
PDR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JMU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RJT	0	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	5
VPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BDL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAL	0	4	5	4	4	5	0	9	4	5	0	0	5	0	0	5	0	0	50

Note: KNL=Kurnool, ND=Nandyal, TDP=Tadpatri, HPR=Hindupur, KDR=Kadiri
GTY=Gooty, MSR=Madaksira, BLY=Bellary, HST=Hospet, ADI=Adoni
RDG=Rayadrug,HLI=Harphanhalli,CDH=Cuddapah, PDR=Proddatur
JMU=Jammalamadugu, RJT=Rajampet, VPL=Vempalli,BDL=Badvel TAL= Total

Appendix 4.4: Rail Matrix For Rayalaseema Region (1941)

	KNL	NDL	TDP	HPR	KDR	GTY	MSR	BLY	HST	ADI	RDG	HLI	CDH	PDR	JMU	RJT	VPL	BDL	TAL
KNL	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	4
NDL	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	4
TDP	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	1	0	0	5
HPR	1	1	0	0	1	0	0	1	1	0	1	0	0	0	0	0	0	0	6
KDR	1	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5
GTY	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	5
MSR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BLY	1	1	1	1	1	1	0	0	1	1	1	0	1	0	0	1	0	0	11
HST	1	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5
ADI	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	5
RDG	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	4
HLI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CDH	0	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	5
PDR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JMU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RJT	0	0	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	5
VPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BDL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAL	4	4	5	6	5	5	0	11	5	5	4	0	5	0	0	5	0	0	64

Note: KNL=Kurnool, NDL=Nandyal, TDP=Tadpatri HPR=Hindupur, KDR=Kadiri
GTY=Gooty, MSR=Madaksira, BLY=Bellary HST=Hospet, ADI=Adoni
RDG=Rayadrug,HLI=Harphanhalli,CDH=Cuddapah,PDR=Proddatur
JMU=Jammalamadugu, RJT=Rajampet,VPL=Vempalli, BDL=Badvel TAL= Total

Appendix 4.5: Road Matrix For Rayalaseema Region (1891)

	KNL	NDL	TDP	HPR	KDR	GTY	MSR	BLY	HST	ADI	RDG	HLI	CDH	PDR	JMU	RJT	VPL	BDL	TAL
KNL	0	1	0	0	0	1	0	1	0	1	0	0	1	1	1	1	0	0	8
NDL	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	4
TDP	0	0	0	0	0	1	0	1	0	1	0	0	1	1	1	0	0	0	6
HPR	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
KDR	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	1	0	5
GTY	1	0	1	0	0	0	0	1	0	1	0	0	1	1	1	0	0	0	7
MSR	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
BLY	1	0	1	0	0	1	0	0	1	1	1	1	1	0	0	0	0	0	8
HST	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	4
ADI	1	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	5
RDG	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
HLI	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
CDH	1	1	1	0	1	1	0	1	0	0	0	0	0	1	1	1	1	1	11
PDR	1	1	1	0	0	1	0	0	0	0	0	0	1	0	1	0	1	1	8
JMU	1	1	1	0	0	1	0	0	0	0	0	0	1	1	0	0	1	1	8
RJT	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	4
VPL	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	4
BDL	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	4
TAL	8	4	6	2	5	7	3	8	4	5	3	2	11	8	8	4	4	4	96

Note: KNL=Kurnool,ND=Nandyal, TDP=Tadpatri HPR=Hindupur, KDR=Kadiri
GTY=Gooty, MSR=Madaksira, BLY=Bellary HST=Hospet, ADI=Adoni
RDG=Rayadrug, HLI=Harphanhalli, CDH=Cuddapah, PDR=Proddatur
JMU=Jammalamadugu, RJT=Rajampet, VPL=Vempalli, BDL=Badvel
TAL= Total

Appendix 4.6: Road Matrix For Rayalaseema Region (1941)

	KNL	NDL	TDP	HPR	KDR	GTY	MSR	BLY	HST	ADI	RDG	HLI	CDH	PDR	JMU	RJT	VPL	BDL	TAL
KNL	0	1	1	1	1	1	0	1	1	1	0	0	1	1	1	0	0	1	12
NDL	1	0	1	0	0	1	0	1	0	1	0	0	1	1	1	1	0	1	10
TDP	1	1	0	1	1	1	1	1	0	1	0	0	1	1	1	1	0	0	12
HPR	1	0	1	0	1	1	1	0	0	0	0	0	1	0	0	1	0	0	8
KDR	1	0	1	1	0	1	1	0	0	0	0	0	1	0	0	1	1	0	9
GTY	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	0	0	0	12
MSR	0	0	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	5
BLY	1	1	1	0	0	1	0	0	1	1	1	1	1	0	0	0	0	0	9
HST	1	0	0	0	0	1	0	1	0	1	1	1	0	0	0	0	0	0	6
ADI	1	1	1	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	7
RDG	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	4
HLI	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
CDH	1	1	1	1	1	1	0	1	0	0	0	0	0	1	1	1	1	1	12
PDR	1	1	1	0	0	1	0	0	0	0	0	0	1	0	1	1	1	1	9
JMU	1	1	1	0	1	1	0	0	0	0	0	0	1	1	0	1	1	1	10
RJT	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0	1	1	9
VPL	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1	0	1	7
BDL	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	7
TAL	12	10	12	8	9	12	5	9	6	7	4	2	12	9	10	9	7	7	150

Note: KNL=Kurnool,ND=Nandyal, TDP=Tadpatri HPR=Hindupur, KDR=Kadiri
GTY=Gooty, MSR=Madaksira, BLY=Bellary HST=Hospet, ADI=Adoni
RDG=Rayadrug, HLI=Harphanhalli, CDH=Cuddapah, PDR=Proddatur
JMU=Jammalamadugu, RJT=Rajampet, VPL=Vempalli, BDL=Badvel
TAL= Total

CHAPTER V

GROWTH OF AGRO-PROCESSING INDUSTRIES AND DEVELOPMENT OF MARKET TOWNS

5.Ø Introduction:

As we have argued in the last two chapters, Rayalaseema region experienced a rapid development of product market from the turn of the century. The area under cash crops increased at the expense of area under food grains and crop specialization was taking place. The development of transport and trade helped the cultivation of the cash crops on a large scale. The development of transport also integrated the markets and resulted in the convergence of prices atleast till the 192Øs. Such a rapid development of the product market in the region also meant the emergence of agro-processing units. The number of agro-processing industries in the region increased by nearly five times during the inter-war period. However, the development of these units was uneven (both spatially and temporally).

More importantly, the level and the growth in the number of agro-processing industries was extremely uneven across the marketing towns of the region. The fluctuations in the number and employment provided by these industries also resulted in fluctuations in the fortunes of the market towns.

An attempt has been made in this chapter to study the impact of agro-processing industries on the development of the selected market towns. This chapter has been divided into three sections. The first section discusses the policy changes relating to the industrial development in the Madras Presidency. The second section deals with the growth of agro- processing industries in Rayalaseema region of Andhra-Pradesh. The last section discusses the impact of agro-

processing units on the development of the market towns.

SECTION 1

5.1.1 Industrial Policy in Madras Presidency:

Prior to the advent of the Britishers, South India was known for high quality handicrafts, especially hand woven cloth. However, the dumping of cheap mill made cloth in the Madras markets, crippled the traditional handloom industry and weakened the industrial base of the Madras Presidency. The industrial development was further hindered because of the Laissez-faire policy of the colonial government[1]. It was argued that since the state was ill qualified for the development of industries by direct action, hence all these matters should be left to the private enterprise[2].

This policy continued in the Madras Presidency despite the fact that the memoranda regarding the industrial work done in Madras spelt out the commitment of the Madras Government for industrial development in the region. The colonial government labelled the government's involvement as an unwarranted intervention, and a serious menace to private enterprise[3]. This resulted in a slow development of industrial base in the Presidency.

In December 1905, a proposal was submitted to the government for sanctioning a Department of Industry which would not only look into the state of existing industries, but also explore the scope for the new units. It was stated in the proposal that the government would initiate the experiments which would assist the private enterprise to take up the industrial undertakings and supply information and advice to persons desirous of adopting new methods and appliances[4].

Lord Morley, who at that time was the Secretary of State,

however, did not favour the intervention of the government in creating industries. But he sanctioned the opening of the Department of Industries and appointed Chatterton as the "Director of Industrial and Technical Enquiries". Chatterton undertook the work relating to Aluminium, Chrome Leather and Weaving industries along with the development of industrial and technical education[5]. His conclusions on the state of these industries referred to the unanimity among the officials in the provincial government regarding the importance of state assistance in fostering the indigenous industries and in helping the new industries. Every little success achieved by the Department strengthened this belief and led them to seek the sanction from government not only for the permanency of the department but also to extend the scope of its functioning[6].

In this connection an industrial conference was held at Ootacamund in 1908. The conference urged the government to appoint a special officer under the title of Director of Industries to control the pioneer enterprises and initiate practical industrial education along with the Establishment of Bureau of Industrial Information[7]. When these proposals were put forward for the approval, the Secretary of State refused to accept the essential features of the proposal like experiments and demonstration by the government agency on a commercial scale. He noted that, "the results of the attempts to create new industries were not of a character to remove his doubts as to the utility of State effort in this direction, unless it were strictly limited to industrial instruction and avoided the semblance of a commercial venture". "The policy", which he was prepared to sanction was that, "State funds might be expended upon familiarizing the people with such improvements in the methods of production as modern science and practice of European countries could suggest. Further than this

the state should not go, and it must be left to the private enterprise to demonstrate that these improvements could be adopted with commercial advantage[8]."

These views of Lord Morley on prohibiting the employment of state funds in the pioneering industries gave rise to a very widespread feeling of disappointment among sections of business community in the Madras-Presidency[9]. In 1911, a resolution was passed by the government of Madras in the Legislative Council, asking the Secretary of the State Lord Crewe (who succeeded Lord Morley) to review his decision regarding the non-diversion of funds for the development of industries. It was made clear in the resolution that since there was difference in terms of industrial conditions existing in India and Europe, it would be difficult for a country especially Southern India to bridge the gulf between a mere scholastic instruction and practical application of industrial teaching unless factories under the state management were established[10].

But Lord Crewe, reaffirmed the decision of his predecessor in not extending the functions of the Department of Industries to trade on commercial lines[11]. But he sanctioned the demand for the constitution of a Department of Industries with the following functions:

> (1) To collect the information as to existing industries, their needs and the possibility of improving them or of introducing new industries;
>
> (2) To carry out and direct experiments connected with such enquiries;
>
> (3) To keep in touch with local manufacturers, to bring the results of his experiments to their notice and to obtain the co-operation in the conduct of operations on a commercial scale;
>
> (4) To supervise the training of students; and

(5) To advise government with regard to technical matters involving legislation[12].

Since these functions of the department were restrictive in nature, the Madras government was left in a much more vulnerable state. It became difficult for the government to decide their justification in sanctioning proposals for demonstration plants, financial assistance and other forms of direct aid to the industries. The difficulties were increased by the fact that the government neither had an organization nor the equipment to give effect even to the comparatively limited policy sanctioned by Lord Morley[13].

The Indian Industrial Commission which was appointed in 1916 made the following recommendations and which were accepted by the government. (1) In future the government should play an active part with adequate administrative equipment and forearmed with reliable scientific and technical advice. (2) An Imperial and Provincial Department of Industries should be set up, on the lines laid down by the Commission and sanctioned by the government of India. As an interim authority a Board of Industries and Munitions should be set up which would close the war commitments of the Indian Munitions Board, take over from the Commerce and Industries Department certain items of work, undertake the initial organization and in particular frame detailed proposals for the new permanent department[14].

Though these recommendations broadened the participation by the government, as it was made clear by the commission, a new comprehensive policy was needed to make government participation a legitimate function[15].

The acceptance of these recommendations changed the attitude of the government towards the participation in the industrial development, but it was not encouraging at any point of time. This

can be seen from one of the reports of the industries department which noted that the government was aware of the fact that, it was economically unsound to export oilseeds in large quantities instead of manufacturing oil and oil cake because it not only takes away the useful material in the form of cattle food and manure, but also gives the manufacture to other countries[16]. In spite of such realization, the government did not encourage the oil milling industry on the grounds that the nascent industry would face a demand constraint.

The attitude of the government changed with the depression in 193Øs and consequent dislocation of foreign markets. There was a strong demand to establish the units in the Presidency not only from the rich ryots but also from the colonial bureaucracy. After a prolonged period of persuasion, government adhered to the plea of the peasants and traders and in fact helped the oil mills by providing the loans to the "enterprising ryots under the state aid to Industries Act"[17].

The participation of the government in developing the industrial base no doubt resulted in the development of many more industries in the presidency as well in the region. Now let us examine the growth of the agro-based industries in the region.

SECTION 2

5.2.1 Growth of Agro-based Units in Rayalaseema:

The available qualitative information reveals that Bellary district had two cotton steam presses as early as in 187Øs and the number increased to eight by 1911[18]. Similarly, Cuddapah district had six units till 1911 and the number increased to 11 by 1914[19]. This shows that till the first decade of the 2Øth century the number of

units in the region was quite low. The reasons for such a slow growth of agro-based units were: (1) Lack of sufficient development of commodity markets in the region (2) inadequate development of transport and (3) passive attitude of the government.

As we discussed in chapter 2, the state of commodity market was not encouraging till the end of the 19th century as agricultural economy remained by and large subsistence oriented. Added to that, the occurrence of severe famine in 1876 and again a series of famines during the last decade of the 19th century resulted in a dislocation of the markets, as well as in the slow growth of area under non-food crops. These famines may have resulted in smaller quantum of surpluses with the peasants; hence one would expect the investment in agro-processing units to be low. Besides, the region was not well equipped in terms of transport infrastructure. As discussed in Chapter 4, in the second half of the 19th century the state of transport in the region was lamentable. Most of the roads were either graveled or were only rough tracks. By the end of the 19th century there was a change in policies relating to the road development but all this was a big failure. Similarly, in terms of rail transport the prospects were not bright. Although commodity market started developing in the early decades of 20th century, the state policies were not conducive for the development of the industries.

Thus, these factors resulted in the slow growth of the agro-processing industries in the region till 1920. From 1920s onwards there was a rapid growth in the agro-processing industries. Now to look into the growth pattern of industries in the region, we will divide our discussion into three phases. The first phase (1918 to 1929) relates to a rapid development of the agro-based units. The second phase (1929-1935) depicts the slower growth of the units and

the third phase (1935-1951) is one of a rapid expansion.

5.2.2 The First Phase (1918-1929):

This phase witnessed a rapid growth in the number of agro-processing industries in the region. Table 5.1 shows that the number of agro-processing industries increased from 69 in 1918 to 317 in 1929. All the districts in the region experienced a faster development in the agro-processing industries. But growth was faster in the districts of Kurnool, Bellary and Cuddapah as compared to Anantapur.

Table 5.1: Growth in the number of Agro-Processing Units in Rayalaseema (1918 to 195Ø)

	Number of units in				
Year	Anantapur	Bellary	Cuddapah	Kurnool	Total
1918	19	26	11	13	69
1919	2Ø	27	9	13	69
192Ø	21	26	7	14	68
1921	2Ø	28	9	15	72
1922	23	32	16	2Ø	91
1923	29	5Ø	28	31	138
1925	44	69	33	49	195
1926	46	72	2Ø	59	197
1927	5Ø	31	37	6Ø	178
1929	74	113	49	81	317
1932	58	1Ø7	37	85	287
1933	51	1Ø7	43	67	268
1934	63	111	43	68	285
1935	49	89	3Ø	59	227
1938	5Ø	97	36	64	247
194Ø	66	1Ø8	37	68	279
1941	57	116	32	58	263
1942	62	1Ø7	38	68	275
1945	77	123	39	61	3ØØ
1947	7Ø	1Ø4	36	6Ø	27Ø
1949	116	176	74	11Ø	476
195Ø	137	2Ø7	79	112	535

Sources: (1) Report of Factories Act, for the Years 1918-1922.
(2) Large Scale Industrial Establishments in (Madras Presidency), Various Volumes.

Such a rapid growth in the number of agro-processing industries can be explained by the following factors. With an increase in the prices of agricultural commodities[20], the region experienced an intensive process of commercialization from the turn of century (as seen in Chapter 3). Such a process of was particularly beneficial to the rich peasants who owned large-sized land holdings and were relatively free from unproductive debts.

Commenting on this, a Revenue Official of the Madras government noted that, "the rich ryots have benefited by the rise in the prices much more than the poorer and this benefit is more conspicuous in the case of commercial crops"[21]. A recent study also concludes that commercialization of agriculture was beneficial to the richer segments of the peasantry in Kurnool district during the period 1900-1925[22]. However, it appears that the rich peasants showed interest in investing the surplus in channels of moneylending and the acquisition of land. Nevertheless, since most of the rich peasants were also traders, it was essential to establish agro-processing units. They realized that the prices of processed produce would not only be high but also fluctuate less. The Provincial Banking Enquiry Committee also noted that the best prices for cotton and groundnut were obtained by those sellers who processed the raw produce[23]. Besides, the ryot-trader it was noted that the, "purchases cotton (Kapas) of different qualities at different prices and mixes them together while ginning and brings the lint to the market and gets a fairly good price for his trouble"[24]. Thus, they needed the agro-processing units not only for obtaining high prices but also for adulteration. Hence one would expect the diversion of some of the surplus funds into the establishment of agro-processing industries. Consequently, as the Settlement Report of Black Soil taluks of Bellary and Anantapur

pointed out, the number of agro-processing industries started increasing and many of them were owned and managed by wealthy ryots[25].

Now let us turn to analyze the type of units that were coming up in the region. Table 5.2 shows that the maximum number of units in the region were related to cotton ginning, pressing, and baling. Most of them were cotton gins. Groundnut decorticating and allied units occupied the second place in the region. The number of groundnut decorticating units registered a sharp increase in the late 1920s. This implies that groundnut decorticating units mainly contributed to a rapid growth of agro-processing units in the region.

Table 5.2: Type-wise Agro-based units in Rayalaseema

Year	Cotton ginning, pressing & baling	Oil mills	Groundnut decorti-cating units	Groundnut decorti-cating units & others	Cotton ginning and others	Others
1923	117	1	10	1	Ø	9
1925	158	Ø	30	Ø	Ø	7
1926	155	2	28	4	Ø	8
1927	119	2	48	Ø	Ø	8
1929	195	4	107	Ø	Ø	9
1932	189	2	87	Ø	Ø	8
1933	44	Ø	40	28	150	6
1934	36	Ø	49	27	165	6
1935	30	Ø	28	15	143	6
1938	42	1	33	14	149	8
1940	35	1	26	37	175	14
1941	37	3	27	33	160	4
1942	32	1	18	61	152	1
1945	59	Ø	20	63	125	37
1947	93	9	Ø	16	91	34

Source: Large Scale Industrial Establishments In Madras, Presidency, Various Volumes.

Majority of the cotton gins were found in Bellary and Kurnool districts (Appendix 5.1). The higher proportion of cotton ginning and pressing units was understandable because, as our discussion on

cropping pattern in Chapter 3 shows, cotton was the major cash crop in the region till mid-192Øs. The growth of the cotton gins and allied units from mid twenties was not appreciable. This was due to the replacement of the area under cotton by groundnut crop in the region[26]. Added to that, there was a decline in the prices of U.S cotton due to an abnormal rise in the production in the mid -192Øs. Consequently, India (especially Madras Presidency) lost its share in the exports to its regular customers such as Europe and Japan, who started buying cheap cotton of U.S rather than the dearer one from India[27]. After mid 192Øs the growth in the number of units was mainly in the groundnut decorticating and allied units. Anantapur and Cuddapah districts contributed more to an increase in the number of the groundnut decorticating and allied units in the region (Appendix 5.2).

Thus, we can conclude that the growth of agro-processing industries in the region was quite rapid during this phase and most of them were cotton gins and presses. However, the importance of groundnut decorticating factories started increasing from the late 192Øs.

5.2.3 The Second Phase (1929-1935):

During this phase the number of agro-processing industries had declined due to a world-wide depression which affected the economy at almost all levels. As discussed in Chapter 4, there was decline in the value of exports to foreign countries and dislocation of foreign markets during the period of depression. Consequently, the marketing and trading activities in the region were affected. These conditions had adversely affected the growth of agro-processing units as they were basically involved in the minimum processing of agricultural

produce (especially cash crops) for export. The number of agro-processing units declined from 317 in 1929 to 287 in 1932. As the conditions of depression continued till the mid 193Øs, the number of units had further declined to 227 in 1935 (Table 5.1). The decline was faster in the districts of Cuddapah and Anantapur as compared to the districts of Bellary and Kurnool (Table 5.1).

The units which survived during the period of depression were working with a lowered capacity. The average daily number of persons employed in each unit had declined during this phase (Table 5.3).

Table 5.3: Average number of workers employed in per unit in Rayalaseema

Years	Total Number of Units	Total Employment	Average Employment Per Unit Per Day
1923	138	6142	44.5Ø
1925	195	654Ø	31.49
1926	197	7162	36.35
1929	317	1Ø522	33.19
1932	287	9ØØ1	31.36
1934	285	8568	29.85
1935	227	8279	36.47
194Ø	279	11125	39.87
1941	263	9498	36.11
1942	275	9375	34.Ø9
1945	3ØØ	1271Ø	42.36
1947	27Ø	1Ø311	38.18
1949	476	1Ø274	21.58
1951	535	11292	21.1Ø

Source: Large Scale Industrial Establishments In Madras Presidency.

The average daily number of persons employed per unit declined from 36 in 1926 to 33 in 1929. This number declined further to 31 in 1932 and 3Ø in 1934 (Table 5.3). Thus, the capacity utilization of the agro-processing industries was by and large low during this phase.

The type wise analysis of agro-processing units in our region shows that the numbers of units serving with a single function of

cotton ginning or groundnut decorticating were on the decline and those units which were working as the multi-functional units, were on the rise (Table 5.2). The reason for the increase in the multi-functioning units, can be attributed to the depression. With the decline in exports and consequent dislocation of the foreign markets many units were closed down or worked for a smaller number of days in a year. It is possible that some of these small units were sold to the larger ones. Added to that, with the emergence of groundnut as an important crop, the owners of the units must have felt it advantageous to own multi-functioning units to have better utilization of their capital. Besides, with the uncertainty of supply of raw materials in the depression, the units had to resort to multi-functioning to survive during this period.

The cotton industry which already was experiencing a downfall suffered a drastic jolt from 1933 onwards (Table 5.2). This was due to the growing competition from Japan particularly in the early 193Øs. The spinning and weaving mills, suffered heavily from the trade depression but their lot got worsened because of heavy importation of cotton cloth and yarn from Japan at low prices. The dumping of cheap Japanese cloth in Madras markets had a disastrous effect on cotton mills in the Presidency. In a confidential letter written to the Department of Industry and labour, the Madras government noted that as a result of imports of Japanese cloth one cotton mill was already closed in the Presidency. Three mills faced the prospects of closing down in the immediate future. As many as eight mills faced the prospects of decreasing the production in the near future. And only 7 mills, were not affected by the depression[28]. Thus, many spinning and weaving mills in the Presidency were suffering acutely from the prevailing trade depression which was intensified by heavy

importation at uneconomic prices of cotton cloth and yarn from Japan resulting in heavy accumulation of stocks in all the main markets in India" and the Director of Industries Department warned that, "it was becoming apparent that unless an improvement sets in, most of the mills would have either to restrict production or reduce wages"[29]. Although, the Rayalaseema region did not have any spinning or weaving mills, the cotton gins and presses in the region suffered heavily from the reduced state of weaving and spinning industry as well as from the decline in cotton exports to the foreign markets.

The oil milling industry also experienced a severe setback during this period. The reason behind this setback was low prices of all the varieties of vegetable oils, because of world wide trade depression and lack of internal and external demand. It resulted in closing down of many units. It was reported that several mills either stopped working or reduced their output considerably, as the prices were declining constantly[30]. The attitude of the government had also contributed to the pathetic state of the oil milling industry in the Presidency. Government did not accept the recommendations put forward by the Director of Industries Department for the development of the industry in terms of (1) curtailing the imports of Ceylon coconut oil (2) developing indian oil crushing industry and (3) creating internal demand for the vegetable oils within the country and as a corollary to maintain their price[31]. Besides, the steps taken by the neighbouring Hyderabad state in 1935, on levying a duty on the groundnuts and permitting the exports of groundnut oil duty free, also adversely affected the growth of oil milling industry in the region[32].

The groundnut decorticating industries also declined from 107 in 1929 to 28 in 1935 (Table 5.2). It happened because of decline in the share of exports and fall in the prices of groundnuts. Prices of

groundnut declined not only because of the trade depression but also due to world wide over production of oilseeds[33]. Moreover, the steps taken by the French government in terms of issuing a decree to double the duties on oilseeds originating from the countries other than the French colonies and secondly, the endeavour of Germany to become as much self supporting as possible in the production of oil and fats[34] had also resulted in a fall in the exports of groundnut and thereby a decline in the number of groundnut decorticating units. Added to this, the formation of a powerful European Combine had also depressed the export prices of Indian groundnuts.

To overcome this situation, it was suggested that, an oil milling industry should be developed in the region. But the government felt that the development of oil crushing industry in the presidency would face problems of demand and bulk exports. It was noted that the difficulties involved in the extraction of oil were greater than was commonly believed. The Director of Industries Department noted that the oil-milling industry would face the following problems. Firstly, the foreign markets were highly protected by the high tariffs. Secondly, oils were vulnerable for adulteration and it would take much more time for Indian manufacturers to establish a reputation in the foreign markets. Thirdly, the internal demand for oil was not sufficient for the bulk production. Fourthly, in the absence of a developed industry for the manufacture of containers, the exports of oil in bulk would be difficult. And lastly, the freight rates on steamers and railways were heavy. Though the government realized that the exportation of groundnut was economically unsound[35], it continued to discourage the attempts to start the oil mills in the region on a large scale.

Thus, on the whole, the decline in the number of agro-

processing units was quite sharp during this period, and a revival can be seen only towards late 1930s.

5.2.4 The Third Phase (1935- 1951):

This phase witnessed a revival in the agro-processing industry. The growth of agro-processing industries, however, was somewhat slow till 1945. The number of agro-processing industries increased from 247 in 1938 to 300 in 1945. But after 1945 there was a rapid growth in the number. They increased from 300 in 1945 to 535 in 1950. The total number of units nearly doubled during this period not only in the region but also in all the districts (Table 5.1).

Such a rapid growth in the number of units was due to the following factors. The second world war revived the economy and there was an alround dynamism in the region. During the period of depression, the terms of trade between agriculture and Industry became favourable to the latter. The world prices of industrial products declined at a slower rate as compared to the foodgrains. Consequently, the demand for industrial goods was going up and the input prices were declining[36]. The policy of the government had also considerably changed during this period. State aid was also provided for setting up of the industries. At the same time, the imposition of new tariffs gave protection to Indian industries. It was also argued that the land acquisitive ethos of the rich peasants was weakened during the post depression period. The unprecedented market uncertainties during the period of depression had changed the investment habits of the rich peasants. The government intervention made credit market less attractive than before. Consequently, the rich peasants started diverting their surplus in setting up of agro-processing industries in the region on a large scale[37]. This can be

further corroborated by the data on imports of machinery and millwork into the Madras Presidency. The value of industrial machinery imported into Madras Presidency increased from Rs.129 lakhs in the triennium ending with 1933/4 to Rs. 243 lakhs in that ending with 1938/9[38].

The type-wise analysis of agro-based units in the region shows that the units relating to cotton ginning, pressing and baling got revived from 1935 itself. This was due to the increase in the prices of raw cotton and yarn[39] and also due to the pre- occupation of Japan in war with China. Consequently, the imports of cheap cloth from Japan dwindled. This gave an opportunity to the local mills to increase the production and revive the industry. There was an acute shortage of yarn in the presidency. In order to meet the demand of the local handloom weavers, the officials pleaded with the authorities to set up more spinning units in the presidency if not for any thing else atleast to cover the loss of the external market[40]. Consequently, spinning mills were opened in Adoni,Guntakal, Nandyal and Bellary in 194Øs. The number of units relating to cotton ginning pressing and baling also showed an increase in the region from 3Ø in 1938 to 93 in 1947 (Table 5.2).

Regarding oil mills, as discussed earlier there was a great scope for establishing the units in the Presidency itself. But government tried to discourage the ryots and traders by stating that the industry would face problems of demand constraint (both internal and external). However, the peasants and traders were not convinced by such arguments. They noted that there was a large market for groundnut oil both at home and abroad and the resultant cake would find a ready market within the country itself. They assured the government that there would not be any glut in the market at all. One

informed person wrote in the newspaper that in the years following the World War I groundnuts were not exported and prices were low. Oil seeds were crushed in the country itself and the demand for oil at the then prevailing low prices was so great that all the oil was consumed locally[41].

As a result of pressure exerted by the peasants traders and even colonial officials, the government had agreed to give external aid for the development of oil mill industry. This resulted in an increase in the number of oil mills both in the presidency[42] and in the Rayalaseema region. Besides these units, large scale oil milling industries came up in the towns of Kurnool, Adoni and Kadiri in 194Øs.

5.2.5 Joint Stock Companies in the Rayalaseema Region (19Ø7/8-1947/9):

The number of joint stock companies was small in the early decades of 2Øth century (Table 5.4). Most of these companies related to intermediate financial institutions such as banks, insurance companies, investment trusts, and cotton mills.

However, the depression brought in important changes in the growth and pattern of investment in joint stock companies. During the depression period, while the joint stock companies related to cotton mills and others declined, those related to the financial institutions increased.

The growth in the number of joint stock companies in the initial years of depression was not much due to "collapse of many speculative concerns set up in the boom years on the eve of depression"[43]. However, "the year 1933/34 witnessed the highest number of registrations recorded since the Indian Companies Act has come into force"[44].

Table 5.4: Joint Stock Companies in Rayalaseema

Year	Banking	Cotton Mills	Other	Total	Paid up Capital (%)			Total
					Banking	C,Mills	Others	in lakhs
1907-08	16	3	3	22	51.45	43.80	4.75	8.45
1912-13	10	3	0	13	57.77	42.23	0.00	8.77
1917-18	9	3	2	14	52.57	38.40	9.03	9.63
1918-19	10	3	3	16	41.91	26.43	31.66	14.00
1919-20	12	3	1	16	74.53	20.46	5.01	18.08
1920-21	13	1	4	18	57.03	13.18	29.79	11.37
1921-22	13	2	3	18	61.18	13.72	25.10	12.49
1922-23	16	4	4	24	55.09	29.13	15.76	13.77
1923-24	15	3	2	20	64.13	23.87	12.00	10.74
1924-25	15	1	3	19	66.50	7.47	26.03	10.70
1926-27	15	4	2	21	67.73	32.27	0.00	16.67
1927-28	17	1	5	23	69.83	8.09	22.08	11.49
1930-31	21	0	2	23	98.71	0.00	1.29	10.13
1931-32	24	0	3	27	85.68	0.00	14.32	9.98
1936-37	18	2	8	28	89.15	6.57	4.28	15.42
1937-38	20	2	10	32	46.32	4.53	49.15	22.33
1942-43	14	3	26	43	15.62	6.12	78.26	27.69
1948-49	15	5	66	83	20.84	5.18	73.18	44.53

Source: Joint Stock Companies in British India and in the Indian States, Various Volumes

C.J. Baker's discussion on the growth of joint stock companies in the Madras Presidency shows that the aggregate joint stock capital in the province grew at 37.2 per cent between 1935 and 1940 much faster than the rate in India as a whole, and five times faster than the rate per annum in Madras over the previous 20 years[45]. In Rayalaseema region also, the growth in number and capital in joint stock companies was faster in the post- depression period (Table 5.4).

In contrast to the old and family business companies which were floating in the 1920s, the companies which emerged after 1935 were public floatation. Most of them belonged to activities such as mining, transport and sugar factories. The same was true in our region also. In the post-depression period, the growth in the category of "others" was particularly marked. The category of others included all the above ventures.

Such an increase in the number of joint stock companies after 1935 was mainly due to the depression. The studies both at the provincial level[46] and district level[47] make it clear that the depression changed the investment habits of the rich cultivators. With the output and credit markets becoming increasingly uncertain, the rich peasants started investing their surpluses in the joint stock companies. Thus, "the wealthy land holders figured prominently in this new wave of investment[48]".

In this way, the region witnessed a revival in the agro-processing industries in the post-depression period. Unlike in the earlier phases, the large scale units in oil milling and cotton weaving and spinning were coming up in the region. Our discussion on joint stock companies also showed that, these companies were mainly floated for mining, transport, hotels and so on. Thus, one can conclude that the character of the towns also changed. The towns were gradually shedding the earlier character of 'market towns' and becoming 'multi-functioning' towns.

5.2.6 Summing up:

1) The increase in the number of agro-processing industries was rapid in the first phase. Most of these units were related to cotton ginning and groundnut decorticating. The rapid growth of the agro-processing industries in this phase can be explained by an intensive process of commercialization, which was beneficial mainly to the richer cultivators. The rich ryots, who were also traders, realized that the prices of processed produce would not only be high but also fluctuate less and consequently, they invested their surpluses in the agro-processing industries. The expanding trade in the cash crops also induced them to do so.

2) The increase in the number of units however did not continue for a long period. The second phase (1932-35), which pertains to the depression period, experienced a drastic fall in the number of units. Such a decline was largely due to the depression which dislocated the foreign markets and reduced the quantum of the exports from the region. This phase also witnessed a shift towards the multi-functioning units.

(3) The third phase (1938-1951) witnessed a revival in the number of industries. Till the end of World War II, the revival was slow. Between 1945 and 1951, the growth of agro-processing industries was rapid. Such revival can be attributed to the liberal attitude of the government towards industrial development and the dynamism that the second World War brought in the agrarian economy. Besides, the land acquisitive ethos of the rich peasants also changed due to depression for they started investing in agro-processing industries.

SECTION 3

5.3.1 Agro-Processing Industries and Market Towns:

In this section an attempt has been made to see the impact of the growth and fluctuation in the agro-processing units on the development of selected towns. As we discussed above, the number of agro-processing industries rapidly increased during the period from 1923 to 1929, declined during the period 1929-1935 and once again revived in the post depression period. Was this growth, contraction and revival uniform across the urban and rural areas?

Table 5.5: Index (1923=100) of Number of units (District-Wise) in Rural & Urban Areas of Rayalaseema

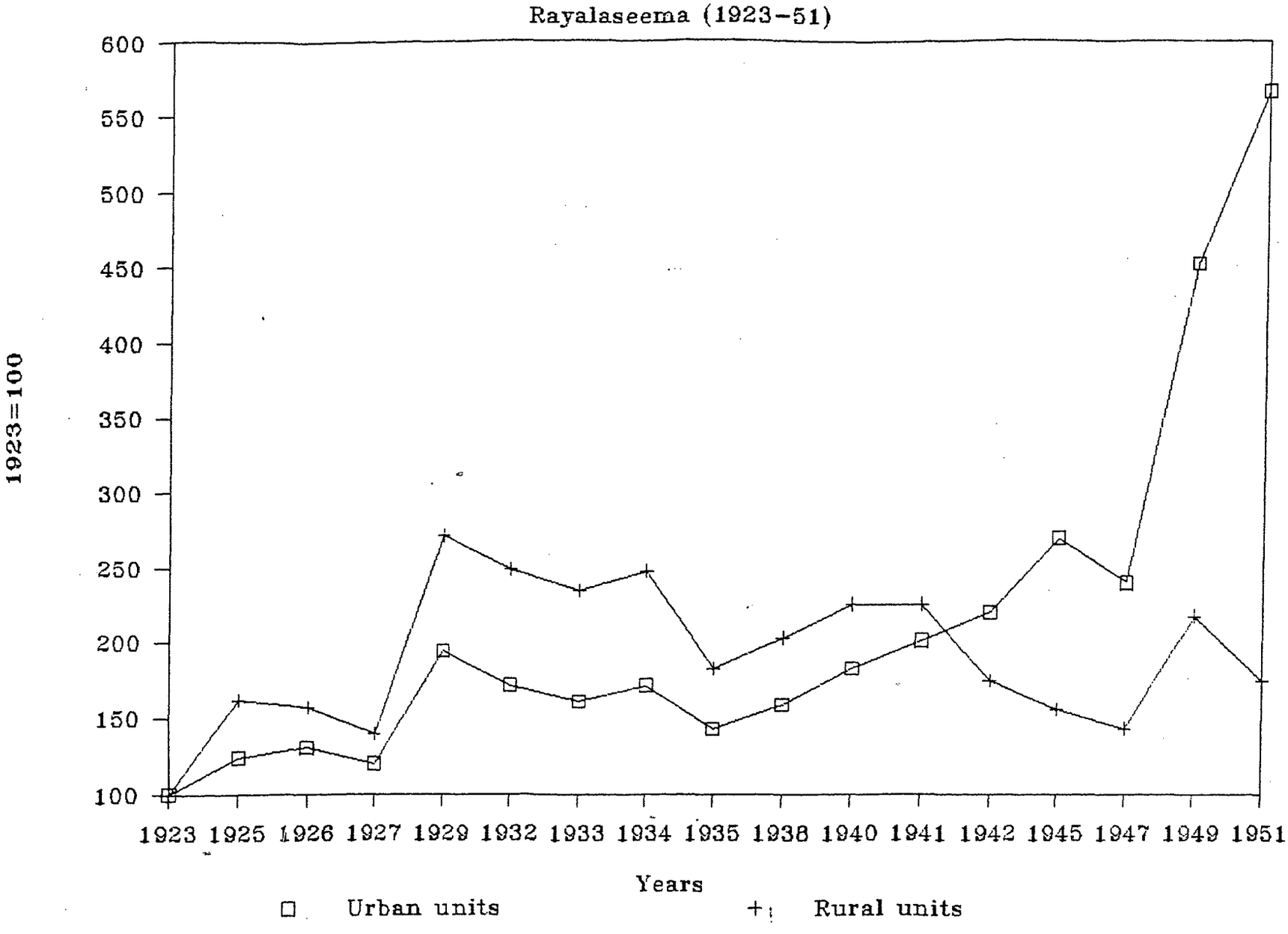
Years	Anantapur		Bellary		Cuddapah		Kurnool		Rayalaseema	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1923	100	100	100	100	100	100	100	100	100	100
1925	153	150	109	189	107	129	140	167	124	162
1926	158	160	122	183	86	57	170	200	131	157
1927	195	130	50	83	121	143	200	190	120	140
1929	263	240	166	333	143	207	230	276	195	271
1932	184	220	175	283	114	150	220	300	172	249
1933	163	210	172	289	114	193	190	229	161	235
1934	195	260	172	311	136	171	180	238	172	248
1935	158	190	156	217	79	136	160	181	143	183
1938	178	160	166	245	93	164	190	214	159	203
1940	226	230	191	261	121	143	160	248	183	225
1941	178	230	222	250	88	143	340	119	201	225
1942	210	220	213	217	136	136	380	143	220	175
1945	305	190	266	211	157	121	370	114	269	156
1947	242	240	234	161	121	136	420	86	240	143
1949	458	290	553	272	357	171	750	167	452	217
1951	542	340	516	233	400	164	1010	523	567	175

Source: Large Scale Industrial Establishments In Madras Presidency, Various Issues.

The available data on number of the units in the region shows that there was an increase in the number of units in both rural and urban areas, but the increase was not uniform across the three phases.

During the first phase (1923-29), the increase in the number of units was more in the rural areas as compared to the urban areas. Table 5.5 and fig. 5.1 shows that the number of units in rural areas increased from 63 in 1923 to 171 in 1929, while in urban areas they increased from 75 to 146 during the same period. But during the second phase (1929-35), both the areas experienced a decline in the number of units. This decline was comparatively more in rural areas as compared to urban areas. The number of units during this phase declined from 157 to 115 in rural areas and from 172 to 143 in urban areas (Table 5.5).

Fig 1: Index of Urban & Rural Units



However, after the depression, the growth in number of units was steady for both rural and urban areas during the third phase (1938-1951). This steady growth in urban areas continued till 1951 but it was seen only till 1940 for rural areas. The index (1923=100) of number of units in urban areas increased from 159 in 1938 to 567 in 1951, where as in rural areas they increased from 203 in 1938 to 225 in 1940. After 1940's the number of units declined in rural areas from 225 in 1945 to 175 in 1951.

Table 5.7 on the percentage change in the number of units also depicts the same pattern. For the period 1923 to 1951, the growth of units in urban areas was higher as compared to the rural areas; percentage change in the number of units was 467 in urban areas as compared to 75 per cent in rural areas. During the intermediate periods, that is in the first phase the percentage change for rural areas was 171 as compared to 95 for urban areas. For the second phase, the growth rate showed a decline for both rural and urban areas but the rate at which the number of units declined was relatively faster in rural areas. This declining trend changed for urban areas during the next phase, but it continued for rural areas (Table 5.7).

But these changes were not same across the districts. Table 5.6 shows that during the first phase the number of units in rural areas in the districts of Kurnool, Cuddapah and Bellary districts experienced higher growth as compared to these in urban areas.

However, in Anantapur district the growth was faster in urban areas. But during the second phase, all the four districts showed a fall in the number of units both in the rural and urban areas. But the decline in rural units was faster in Bellary and Kurnool districts. In Cuddapah district the urban units experienced a faster decline, while in Anantapur the rate of decline was more or less

equal. In the third phase, all the four districts experienced a rapid increase in the number of units in urban areas. The units in rural areas in these districts either slowly increased or remained constant or declined.

In terms of extent of employment available in these units our analysis showed that the region followed the same pattern as that of the number of units. Table 5.6 shows that the number of people daily employed in these units in the region during the first phase (1923-1929) was more in the rural areas. During the second phase, the employment in the units located both in rural and urban areas had declined, but the decline was more for the rural units as compared to urban units.

Table 5.6: Index (1923=100) of levels of Employment (District-Wise) in Rural & Urban Areas of Rayalaseema

Years	Anantapur		Bellary		Cuddapah		Kurnool		Rayalaseema	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1923	100	100	100	100	100	100	100	100	100	100
1925	68	80	96	132	133	81	137	134	100	118
1926	114	106	114	131	97	30	110	171	111	126
1929	148	201	148	210	106	165	164	256	147	219
1932	131	161	134	184	88	98	142	163	130	179
1934	122	172	131	198	101	104	128	173	124	169
1935	109	144	161	140	94	145	112	155	128	147
1940	161	235	205	205	148	166	123	209	169	203
1941	124	158	207	170	77	163	167	100	160	140
1942	97	217	216	163	143	117	154	92	160	134
1945	311	197	263	114	160	67	199	89	253	106
1947	171	178	208	84	93	108	202	59	203	90
1949	127	249	232	113	229	171	296	87	184	130
1951	140	273	365	114	166	74	131	13	228	87

Source: Large Scale Industrial Establishments In Madras Presidency, Various Issues.

Similarly, the extent of employment also increased for both the areas in the third phase, but this increase was more for the units in the urban areas. This can also be corroborated by the percentage

change in the extent of employment in the region at rural and urban levels. Table 5.7 reveals that the employment opportunities increased in urban areas, while they in fact declined in the rural areas during the period 1923-1951.

The employment opportunities in the units in urban area declined only during the second phase; whereas for rural economy, the decline could be seen in the second as well as in the third phase.

But this increase in employment in the urban units was not the same across the districts during the three phases. During the first phase, the employment opportunities in rural units in all the districts were increasing at a faster rate as compared to those in the rural areas.

Table 5.7: Percentage change in the Number of units and Employment in Rayalaseema.

	No of units		Employment	
Period	Urban	Rural	Urban	Rural
1923-29	94.67	171.43	47.Ø8	119.13
1932-35	-17.Ø5	-26.75	-1.49	-18.ØØ
1938-51	257.14	-14.Ø6	35.Ø5	-57.31
1923-51	466.67	74.6Ø	128.Ø6	-13.14

Source: Same as in Table 5.6.

During the second phase, the declinein employment opportunities in rural areas was more in Cuddapah and Bellary as compared to other two districts. In the third phase all the districts showed an increase in the employment in the urban areas (Table 5.7).

Not only level of employment, even the extent of average number of people employed per day per unit in the urban units was quite high in the region all through our period (Table 5.9).

Table 5.8: Average Number of Workers Employed in per unit per day in Rural and Urban areas

Year	No.of Units in		Employment in		Avg employment per unit per day	
	Urban	Rural	Urban	Rural	Urban	Rural
1923	75	63	4195	1986	56	31.52
1925	93	1Ø2	42Ø5	2335	45.21	22.89
1926	98	99	4666	2496	47.61	25.21
1929	146	171	617Ø	4352	42.26	25.45
1932	129	157	544Ø	3561	42.17	22.68
1934	129	156	522Ø	3348	4Ø.46	21.46
1935	1Ø7	115	5359	292Ø	5Ø.Ø8	25.39
194Ø	137	142	7Ø84	4Ø41	51.7Ø	28.45
1941	151	142	6711	2787	44.44	19.62
1942	165	11Ø	6711	2664	4Ø.67	24.21
1945	2Ø2	98	1Ø6Ø6	21Ø4	52.5Ø	21.46
1947	18Ø	9Ø	8522	1789	47.34	19.87
1949	339	137	7691	2583	22.68	18.85
1951	425	11Ø	9567	1725	22.51	15.68

Source: Same as in Table 5.6.

But this growth and of employment and in the number of units was not the same across the towns. Our analysis for the selected towns in terms of number of units as well employment opportunities reveals that towns like Bellary, Nandyal and Adoni had larger average number of units and as well as the extent of employment during 192Øs and whereas towns like Harpanahalli, Badvel, Razampet and Vempalli did not have any industrial units (Table 5.9).

During 193Øs towns like Tadpatri, Kurnool, Nandyal, Bellary, Adoni, and Rayadrug showed an increase in the number of units, but the increase in terms of employment was seen only in the Bellary town. The reason for a fall in the extent of employment despite the increase in number could be seen in the low level of work in these units because of low level of demand. But in the decade of 194Øs there was an increase in both the number of units and level of employment in all the towns under study. But few towns like Harpanahalli, Madakasira,

and Badvel did not have any industrial unit through out the period.

Table 5.9: Average Number of Units and Employment in Selected Towns

Towns	192Ø		193Ø		194Ø	
	No. of Units	Employment	No. of Units	Employment	No.of Units	Employment
Gooty	2	239	3	185	4	168
Hindupur	2	24	2	24	5	2ØØ
Madakasira	1	2Ø	Ø	Ø	Ø	Ø
Kadiri	7	87	3	33	6	95
Tadpatri	8	317	8	283	7	266
Kurnool	5	3Ø9	6	242	11	45Ø
Nandyal	11	8Ø5	1Ø	8Ø3	12	644
Bellary	11	6Ø3	28	777	27	1Ø6Ø
Hospet	3	52	2	69	4	666
Adoni	16	1Ø14	17	947	25	151Ø
Harpanahalli	Ø	Ø	2	7	3	4Ø
Rayadrug	2	83	3	57	4	143
Cuddapah	5	86	4	61	11	176
Badvel	Ø	Ø	Ø	Ø	Ø	Ø
Proddatur	6	291	6	251	7	3Ø9
Jammalamadugu	2	62	2	32	1	4Ø
Rajampet	Ø	Ø	Ø	Ø	1	15
Vempalli	1	19	1	21	1	39

Source: Large Scale Industrial Establishments In Madras Presidency, Various Issues.

Now to see the impact of the growth in number of units and employment opportunities on the selected towns we have worked out the rank-correlation between the number of units and employment in the units and level of urbanization. The results are presented in Table 5.1Ø.

Table 5.1Ø: Rank Correlation between Average Number of Units Average Employment and level of Urbanization

Decade	Average no. of units & level of urbanization	Average employment and level of urbanization
192Ø	Ø.8784*	Ø.8288*
193Ø	Ø.8324*	Ø.758Ø*
194Ø	Ø.87Ø3*	Ø.9327*

Note : * significant at .Ø1 level

The correlation between these variables in 192Øs was positive and significant at 1 per cent level. However, the correlation had slightly declined during the 193Øs. But it was still significant. In 194Øs the positive correlation between these variables was not only statistically significant but had also improved.

Thus, it is clear that the growth of agro-processing industries in 192Øs had a favourable impact on the town economy. However, a rapid decline in the number of units and employment during the depression had only a slight impact on the population of the selected towns. This could be because of the fact that the decline in the number and extent of employment in urban areas was slower as compared to the rural areas. A positive and significant correlation between these variables in the 194Øs implies that the rapid growth of urban population in Rayalaseema region in general as well as in the selected towns in particular was to a significant extent influenced by the revival of the agro-processing industries.

Notes and References

1. Ambirajan had argued that although Adam Smith's principle of lassiez-faire influenced the policies relating to Indian economic development, it was not a rigid lassiez-faire approach to economic development that was responsible for the British administration doing hardly anything to promote economic development. For details see S.Ambirajan, Colonial Political Economy and British Policy in India New Delhi, Vikas Publication House Pvt. Ltd., 1978, pp. 214-66.

2. The pursuit of this policy was borne out from the belief that the tropical countries were suitable only for the production of raw materials, rather than manufacturing industries. In the case of India this view became rather strong when East India Company tried to introduce in the country various manufactures with the state support and encouragement. Since there was absence of scientific knowledge and experts in India, it could not adopt the results of western experience and many of the enterprises ended in failure. For details see, Indian Industrial Commission Report, Calcutta 1918, hereafter IIC 1916-18, p. 1.

3. Ibid., p.78.

4. Report of Department of Industry for Madras Presidency for the Year 1919-20, Govt.Press, Madras 1921, (hereafter RADIMP), pp. 2-3.

5. Padmini Swaminathan, State Intervention in Industrial Development: A case study of Madras Presidency, Paper presented at the Seminar on South Indian Economy c.1914-c.1945, Vol.II, Centre for Development Studies April 1988, Trivandrum.

6. Proceedings of the Board of Revenue, No. 3446, (hereafter PBR), October 27th, 1910.

7. G.O NO. 2894, October 17th, 1908.

8. Despatch No. 50-Revenue, July 29th, 1910.

9. G.O.No. 385 (Revenue), December 30th, 1912.

10. G.O.No. 892- Revenue, March 3rd, 1914.

11. Despatch No. 24 (Revenue), March 12th, 1912.

12. G.O No. 368 (Development), April 1st, 1914.

13. IIC, 1916-18, p. 80.

14. RADIMP, 1919-20 pp.1-2.

15. Ibid.

16. RADIMP, 1926-27 in G.O.No. 1472, September 16th, 1927, p. 19.

17. A. Sathyanarayana, "Agrarian relations under the impact of Colonial Rule in Madras Presidency 1900-1940", Unpublished doctoral thesis submitted to the University of Heidelberg, 1983 hereafter A.Sathyanarayana, Agrarian Relations, p.35.

18. W.Francis, Madras District Gazetteers, Bellary, Govt.Press, Madras 1916, p. 114.

19. C.F.Brackenbury, Madras District Gazetteers, Cuddapah, Govt. Press, Madras 1915, p.113.

20. The prices of agriculture commodities started increasing from mid 1880s. The increase was faster in the first two decades of the present century. For details on price movements at a macro level, see M.B. MacAlpin, 'Price Movements and Fluctuations in Economic Activity, 1860-1947 Dharma Kumar (ed) The Cambridge Economic History of India, c.1757-c.1970, Vol.II, pp.878-904.

21. PBR, G.O.No.110, April 15th, 1914.

22. D.Rajasekhar Commercialization of agriculture in the Kurnool District of A.P (1900-1950).

23. The Madras Provincial Banking Enquiry Committee Report, Vol 1, Calcutta 1930, p.110.

24. Evidence of the agent to an European firm given at Nandyal, Evidence Before Cotton Committee, p.5.

25. Report of Black Soil Taluks of Bellary and Anantapur Districts, p.23.

26. See Discussion on Cropping Pattern in Rayalaseema Region from 1891-1951 in Chapter 3.

27. Review of Sea borne Trade of Madras Presidency, 1926-27, here after RSTMP, p. .

28. G.O.No. 869 (Confidential)-Revenue Department July 19th, 1933.

29. RADIMP, 1932-33, p.14.

30. RADIMP, 1930-31, p.20.

31. RADIMP, 1932-33, p. 18.

32. RADIMP, 1934-35, pp.28-29.

33. RADIMP, 1932-33, pp.17-18.

34. RADIMP, 1934-35, p.28.

35. RADIMP, 1926-7, 1927-8, 1928-9, pp. 19, 23, 22.

36. A.K.Bagchi, Private Investment in India, 1900-39, Cambridge, 1972, pp.89-99.

37. D.Rajasekhar, "Commercialization of Agriculture and Change in the Distribution of Land Ownership in Kurnool District, 1900-1950" and also see C.J.Baker The Politics of South India, 1920-1935, New Delhi, Vikas Publishing House Pvt. Ltd., 1976, hereafter C.J.Baker The Politics of South India.

38. These figures were obtained from C.J Baker, The politics of South India, pp.186-87 & Table 17.

39. RADIMP, 1938-39, p.58.

40. A.Sathyanarayana, Agrarian Relations, p.37.

41. The Hindu, November 2, 1930.

42. A. Sathyanarayana, Agrarian Relations, pp.37-38.

43. C.J.Baker, The politics of South India, pp.185-86.

44. Report of Department of Industries, 1933/34, p.14.

45. Baker, p.186.

46. C.J.Baker The Politics of South India.

47. D.Rajasekhar, "Commercialization of Agriculture"

48. Ibid., p.186.

Appendix 5.1: Type-Wise Units In Anantapur District

Year	Cotton ginning, pressing & baling	Oil mills	Groundnut decorti-cating units	Groundnut decorti-cating units & others	Cotton ginning and others	Others
1923	24	1	1	Ø	Ø	29
1925	27	Ø	14	Ø	Ø	3
1926	3Ø	1	Ø	4	Ø	2
1927	27	1	18	Ø	Ø	3
1929	33	1	36	Ø	Ø	4
1932	33	Ø	2Ø	8	Ø	4
1933	13	Ø	Ø	3Ø	7	2
1934	3	Ø	14	8	34	4
1935	3	Ø	7	6	29	3
1938	7	Ø	8	4	27	4
194Ø	3	Ø	9	12	37	5
1941	3	Ø	5	3	36	2
1942	1	Ø	6	21	33	1
1945	3	1	Ø	32	33	8

Source: Large Industrial Establishments in India

Appendix 5.2: Type-Wise Units In Bellary District

Year	Cotton ginning, pressing & baling	Oil mills	Groundnut decorti-cating units	Groundnut decorti-cating units & others	Cotton ginning and others	Others
1923	45	Ø	Ø	Ø	Ø	5
1925	65	Ø	Ø	Ø	Ø	4
1926	66	Ø	Ø	Ø	Ø	6
1927	25	Ø	1	Ø	Ø	5
1929	9Ø	Ø	18	Ø	Ø	5
1932	84	1	18	Ø	Ø	4
1933	31	Ø	8	7	14	4
1934	33	Ø	4	7	66	1
1935	27	Ø	2	3	56	2
1938	31	1	2	3	56	4
194Ø	31	1	1	5	62	7
1941	32	2	8	6	66	2
1942	29	1	2	16	53	6
1945	36	Ø	Ø	14	58	15

Source: Large Industrial Establishments in India

Appendix 5.3: Type-Wise Units In Cuddapah District

Year	Cotton ginning, pressing & baling	Oil mills	Groundnut decorti-cating units	Groundnut decorti-cating units & others	Cotton ginning and others	Others
1923	19	Ø	9	Ø	Ø	Ø
1925	19	Ø	14	Ø	Ø	Ø
1926	6	Ø	14	Ø	Ø	Ø
1927	19	Ø	18	Ø	Ø	Ø
1929	2Ø	2	27	Ø	Ø	Ø
1932	15	Ø	22	Ø	Ø	Ø
1933	Ø	Ø	13	12	18	Ø
1934	Ø	Ø	14	11	17	1
1935	Ø	Ø	7	5	17	1
1938	1	Ø	13	5	17	Ø
194Ø	Ø	Ø	7	12	16	2
1941	Ø	Ø	7	7	18	Ø
1942	Ø	Ø	4	16	18	Ø
1945	Ø	Ø	2	21	14	2

Source: Large Industrial Establishments in India

Appendix 5.4: Type-Wise Units In Kurnool District

Year	Cotton ginning, pressing & baling	Oil mills	Groundnut decorti-cating units	Groundnut decorti-cating units & others	Cotton ginning and others	Others
1923	29	Ø	Ø	1	Ø	1
1925	47	Ø	2	Ø	Ø	Ø
1926	53	1	5	Ø	Ø	Ø
1927	48	1	11	Ø	Ø	Ø
1929	52	3	26	Ø	Ø	Ø
1932	57	1	27	Ø	Ø	Ø
1933	1	Ø	19	2	45	Ø
1934	1	Ø	17	2	48	Ø
1935	Ø	Ø	12	1	41	Ø
1938	3	Ø	1Ø	Ø	51	Ø
194Ø	1	Ø	9	4	5Ø	Ø
1941	2	1	7	3	42	Ø
1942	2	Ø	6	8	48	4
1945	2Ø	Ø	18	3	2Ø	Ø

Source: Large Industrial Establishments in India

CHPATER VI

DEMOGRAPHIC FACTORS AND MARKET TOWNS

6.Ø Introduction:

The discussion on the trends in urbanization in Rayalaseema region during the period 1891 to 1951 in Chapter 2 showed two types of trends: firstly the de-urbanization in the region relatively from 19Ø1 to 1921 and secondly, a faster growth of urban population from 193Øs onward. Our attempts to account for the observed trends in the selected towns in the subsequent chapters in terms of variables like commercialization of agriculture, transport, trade and agro-processing industries provided some clues only for the faster growth of urbanization, but not for the process of de-urbanization.

In this chapter an attempt has been made to see whether demographic variables (birth rate, death rate and migration) and in particular epidemic diseases could explain the process of de-urbanization. This chapter is divided into three sections. The first section discusses the system of registration of births and deaths in the Madras Presidency to form an idea about the reliability of the data. The second section analyses the trends in birth and death rates and the factors that influenced these trends. The third section discusses the extent of rural-urban migration.

SECTION 1

6.1.1 The system of Registration of birth and deaths in Madras-Presidency:

The registration of births and death statistics in Madras-Presidency started as early as in the second half of the 19th century.

The registration of deaths started in 1865 and that of births in 1869 in the entire Madras-Presidency. The registration system became compulsory in rural areas under the Registration of Births and Deaths Act of 1899 and in urban areas with the passing of Madras Towns Improvement Act of 1871[1]. Let us examine the state of registration of births and deaths in the rural and urban areas.

6.1.2 Registration System in Rural Areas:

It was the duty of the Revenue Department to collect vital statistics in Madras Presidency. In the rural areas, the karanam (village accountant) collected information regarding both births and deaths. In 187Øs and 188Øs the registration work was carried on in a perfunctory manner with the faintest attempt at accuracy. The reasons for such inaccurate registration were the spread of villages in presidency having numerous outlaying hamlets, want of a proper system to ascertain the facts of the remote areas of the villages etc. In the absence of any legislation, officials as well as people residing in the villages did not feel the necessity and obligation to collect and report the births and deaths. The problems were all the more acute in the districts where Zamindari tenures largely prevailed. In these districts, the officials were powerless in getting the village officers to attend properly to this requirement of the state. Consequently, more than half of actual births in the Madras Presidency were not registered[2].

Notwithstanding the Act III of 1899, the registration system remained far from accurate both in numbers as well as in terminology. Instances were found where entries were not made for months together[3]. Village headmen bestowed little attention on the registration of births and deaths. And this pattern continued for a long time.

Though the Sanitary Commissioners called in stringent punishment on those who failed to register births and deaths, the response was quite low. The registration of birth and deaths gradually improved in the last quarter of 19th century. The Act III of 1899 made the registration of births and deaths compulsory in rural areas. Initially this was not implemented in all the villages, but gradually 635 villages and towns of the Presidency were brought under its purview[4]. By 1924, 5575 villages were brought under the Act[5].

In 1923, the Director of Public Health made a proposal for the transfer of work of registration from village officers to Union Boards. But on the applications of Local Boards concerned and after consulting the District and Union Boards it was seen that the majority were not in favour of transfer. Hence, the proposal was dropped[6]. Added to that, "the regrouping of villages and consequent increase in workload of the village headman has had a serious impact on the registration. Although, village panchayats have been entrusted with task, it hardly had any impact on the performance of the registration"[7]. Hence the Registration Act of 1899 applied extensively and by 1941 government extended this act throughout the province except some specified backward tracts and villages[8].

6.1.3 Registration System in Urban Areas:

The registration system of births and deaths in urban areas was somewhat better as compared to that in rural areas. In urban areas considerable improvement in the registration had been indirectly affected by the working of vaccination system. Under this system, the name of each infant was identified by a number. By means of special registers, the subsequent history of illness of child was traced till the vaccination was completed[9]. Added to that several sanitary

measures were effected in all the municipalities of the Presidency and the impact on trends in births and deaths was constantly monitored. These two factors led to a better registration of births and deaths in the urban areas.

The fact that registration was better in urban areas than in rural areas can be corroborated by the following evidence.
The Sanitary Commissioner estimated the population in both urban and rural areas of the Presidency. "Judging by the results gathered by registration, i.e allowing simply for gain by births and loss by deaths, the population on the last day of the year 1895 amounted to 3484Ø743 for rural district, as against the estimated population of number should be 36137558. For the municipalities the registration results threw up a figure of 215Ø9ØØ, as against the estimated population of 2259155. Thus, the difference was much smaller for the municipalities compared to the rural districts. The smaller difference in municipalities was due to compulsory registration[10].

But this system was not free from defects. It was reported that even in areas administered under the Municipal law where one would expect that the registration would be well conducted, inaccuracy and incompletehess were the rule and not the exception. In some of the towns, several births existed only in the imagination of Municipal subordinate who considered it their duty to maintain that they had, by their diligent searching, discovered a certain number of unreported deaths[11]. It was surprising that despite the employment of separate staff for this purpose the state of vital statistics was far from satisfactory. The reason behind the unsatisfactory state of registration were mainly the employment of incompetent and ill-qualified registrar and staff, lack of knowledge, funds with municipalities to employ the proper persons and lack of man-power to

carry the registration work.

These authorities used to collect statistics only regarding the events which would come to their notice, thereby resulting in delay of suppression of diseases like infection because of administrative delay in informing about prevalence of disease[12]. Not only this if the officials were incapable of finding out the reasons for the causes of the deaths, they used to report all those doubtful cases under the elastic head of fevers[13]. Hence incomplete enumeration of births and deaths and inaccurate compilation of returns, and posting of deaths, all this detract the value of registered statistics. This therefore resulted in drawing the incorrect inferences regarding the local health conditions in the urban areas.

To overcome these defects in the registration system it was proposed to employ medical men as registrars but this could not be done because of paucity of funds with municipalities to employ competent persons. Hence the request was made to local medical officer to pay more attention to the scrutiny of vital statistics records[14]. Not only this, only a couple of clerks were employed to collect the statistics regarding births and deaths, but they were also asked to do the work of other departments. Hence the Director of Public Health asked for the transfer of these people to the Health Department[15].

However, by 193Øs with the introduction of District Health Scheme of 1922-23 the state of vital statistics started showing some improvement. Steps were taken for better registration and compilation of vital statistics. Authorities were asked for more completeness and accuracy in registration and compilation. Tahsildars and Chairmen, Municipal Councils of all the districts were asked to report all the cases of epidemic disease occurring within their jurisdiction[16].

On the whole, we can conclude that the registration of births and deaths was better in urban areas. Till 1900 or so the registration had gradually improved. From 1900 onwards the under-registration in urban areas had declined. However, with a rapid population growth from 1930s onwards, the workload of the registration gradually increased. This must have resulted in under-registration from 1940s onwards. However, it has been noted that, "In practice Madras vital statistics are anything but above cavil"[17]. Hence we are using the figures on births and deaths only for the period 1900-1940 for the selected towns.

SECTION 2

6.2.1 Trends in the Birth and Death Rates in Urban Areas:

In the Madras Presidency birth and death rates were calculated till 1930 on the basis of preceding census of population figures. Such a method was defective, because population (denominator) remained the same for ten years. The result was that birth and death rates had a tendency to get inflated towards the end of each decade especially so when population grew rapidly. Hence, this method was abandoned in 1932 and it was replaced by the method of calculating births and deaths on the basis of estimated inter-censal population.

The birth and death rates presented in figures 1 to 18 are rates per 1000 population. These rates are worked out by first estimating the inter-censal population from 1901 to 1941, i.e

$$P_{n+1} = P_n + K\,(B-D)$$

Where,

P_n = Population of n^{th} year.
B = Number of births in $n+1^{th}$ year.
D = Number of deaths in $n+1^{th}$ year.
K = Extent of under-registration and/or net-migration.

K can be worked out on the basis of the following formula.

$$K = \frac{[P_{10} - P_0]}{\sum_{t=0}^{10} B_t - \sum_{t=0}^{10} D_t}$$

Once the population in $n+1^{th}$ year is obtained, the mid-year population can be worked out as follows.

$$P_{mid} = \frac{1}{2}[P_{n+1} + P_n]$$

However, this method works well only when the rate of population change (growth or decline) was fairly steady. When, as was the case in Madakasira, Rajampet, Hindupur Gooty, Kurnool · Cuddapah and Bellary towns during the period 1900-1921, the difference between endpoints is large and negative, this method gives ridiculous results. Hence, the population of these towns during the period 1901-1921 has been corrected by using an annual average growth (compound) rate. In other towns, the problems confronted are not serious enough to require any correction.

Let us examine the trends of births and deaths rates calculated on the basis of inter-censal population for selected towns.

The births and death rates for the selected towns are presented in graphs 6.1 to 6.18. We have data on birth and deaths, for the period 1901-1940. For some of the towns, the data for the year 1901 are not available. In the case of Rajampet and Madakasira the data are available for the periods 1902-1930 and 1902-1920 respectively.

6.2.2 Trends in Birth Rates:

A cursory look at the graphs would reveal that the birth rates fluctuated widely during the period 1901-1920, while they remained fairly steady during the period 1920-1940. Notwithstanding the

fluctuation in birth rates, on the whole, the birth rates increased till 1915 in most of the towns. The exceptions were Proddatur, Tadpatri, Gooty and Kadiri, where birth rates somewhat declined. In the towns of Nandyal and Jammalamadugu, the birth rates had almost remained constant during the period 1901-1915. The gradual increase in birth rates in most of the towns could be due to improvement in registration. The data on birth rates (infact vital statistics) in the towns of Jammalamadugu, Vempalli, Rajampet, and Badvel are suspicious. In these towns, the birth rates remained very low (Figures 6.9-6.12).

A second point that emerges from the figures is that birth rates had sharply declined during the influenza years of 1917 and 1918. Such a decline was due to the fact that this influenza epidemic was particularly fatal for women. This was especially so in the case of females at prime of life[18]. Since the death toll in the population of reproductive age groups was high, the birth rate had naturally come down during and after the epidemic.

During the period 1920-40, the birth rates were more or less steady. Infact, the births were increasing in many of the towns. This could be due to better registration of births.

6.2.3 Trends in Death Rates:

The death rates also fluctuated violently during the period 1900-1920. Except in Rajampet and Jammalamadugu, in all other towns, more than one peak in death rates are observable (Table 6.1).

Fig 1: Birth and Death Rates

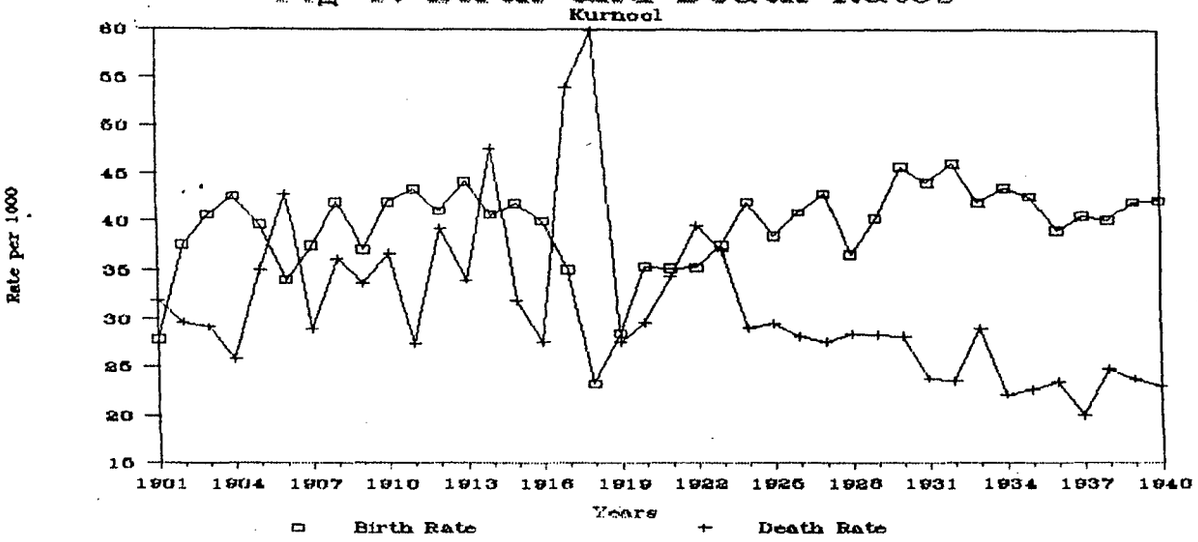


Fig 2: Birth and Death Rates

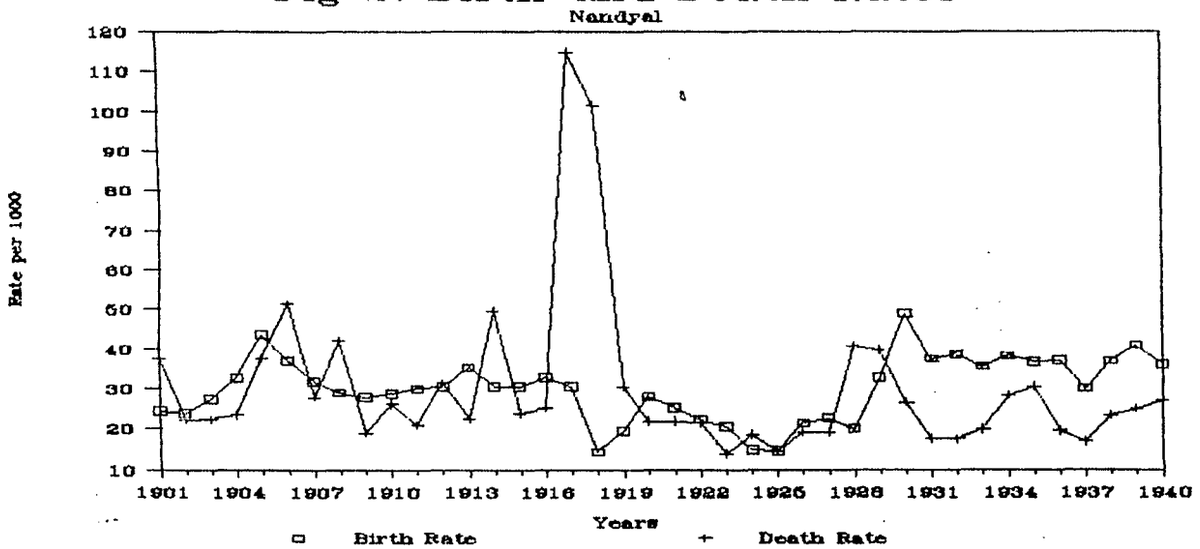


Fig 3: Birth and Death Rates

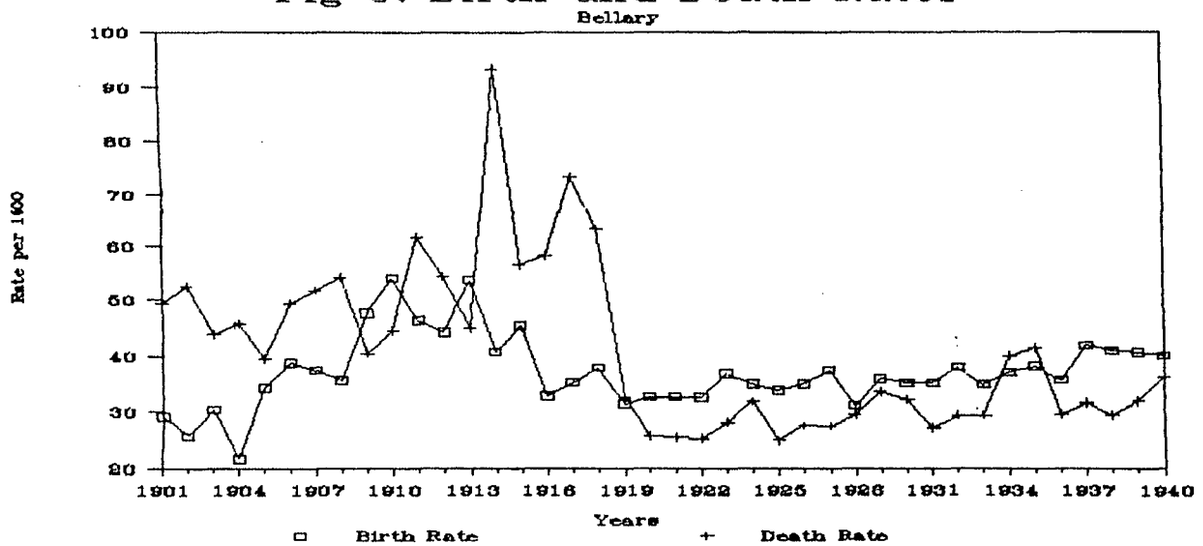


Fig 4: Birth and Death Rates

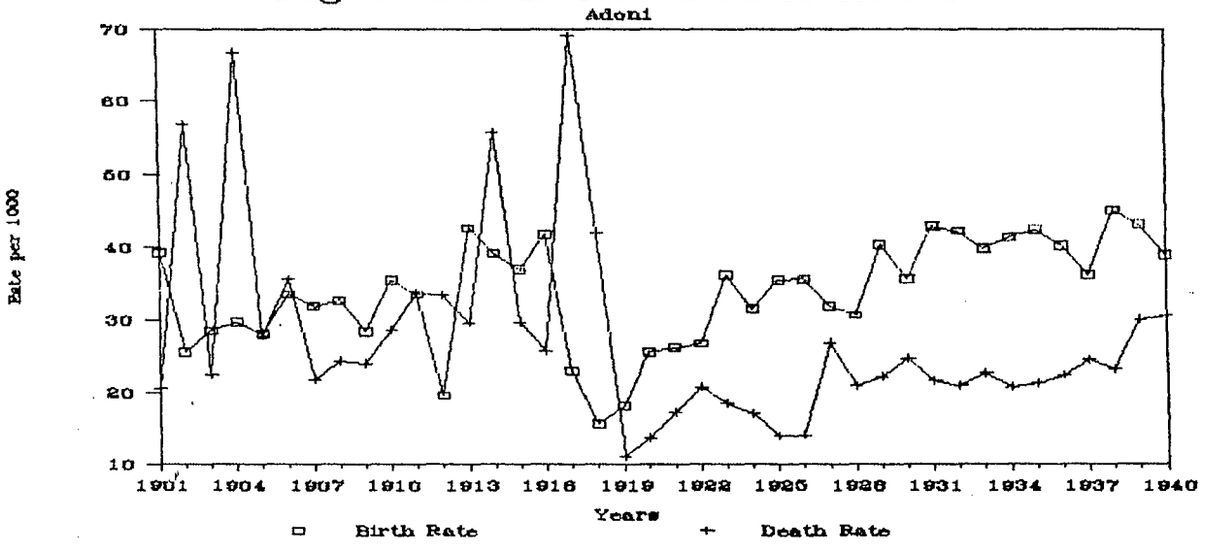


Fig 5: Birth and Death Rates

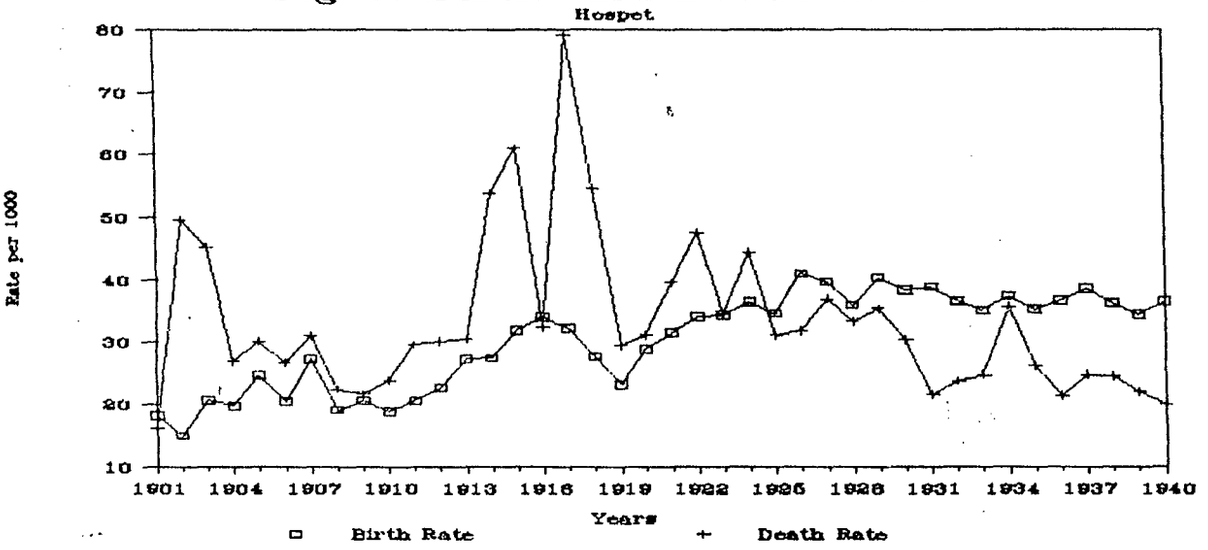


Fig 6: Birth and Death Rates

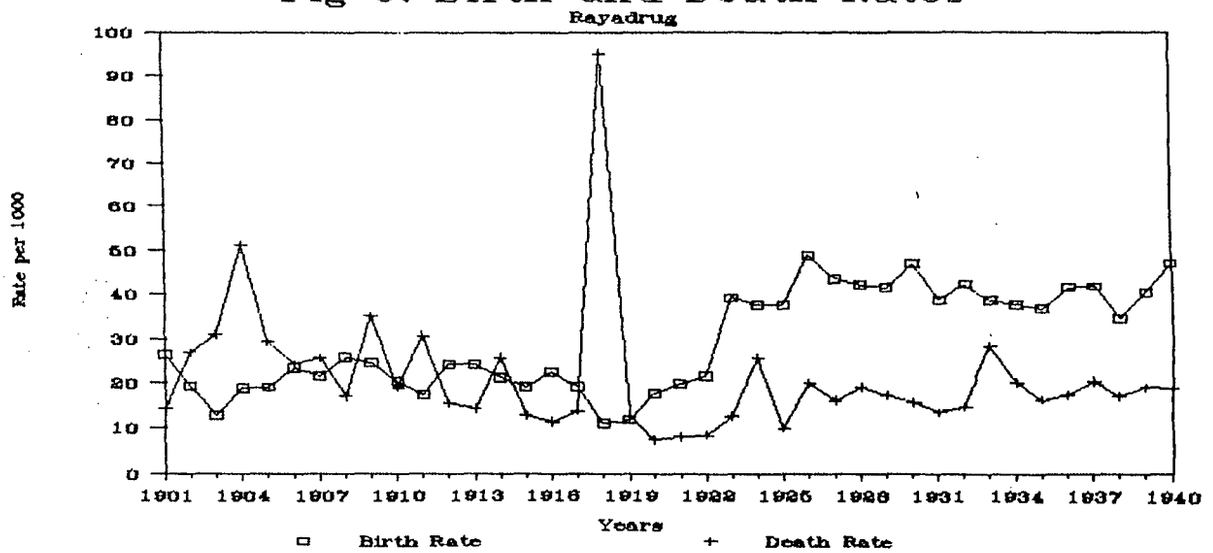


Fig 7: Birth and Death Rates

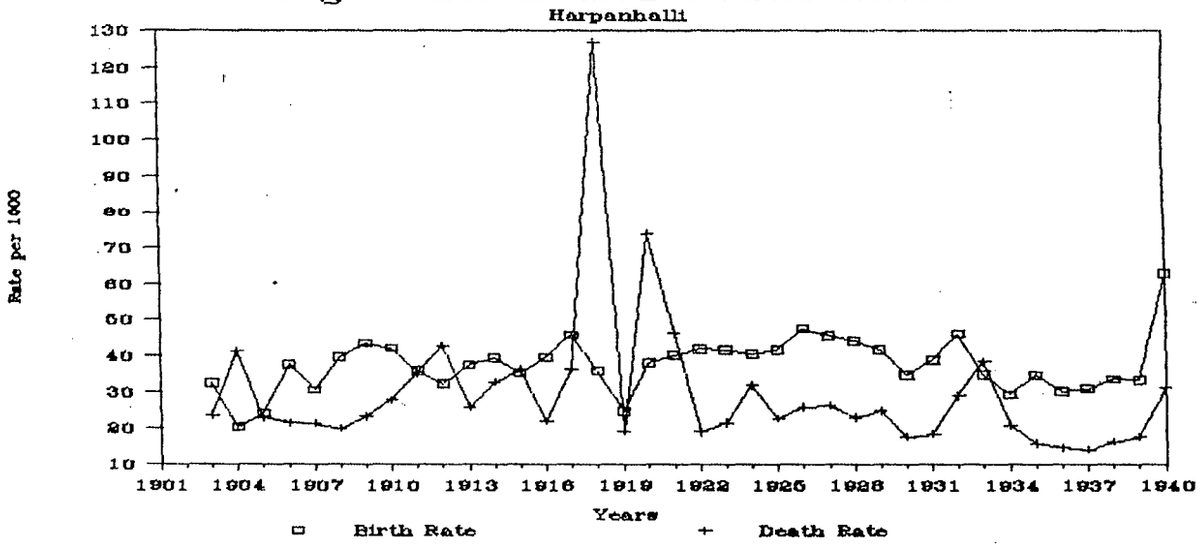


Fig 8: Birth and Death Rate

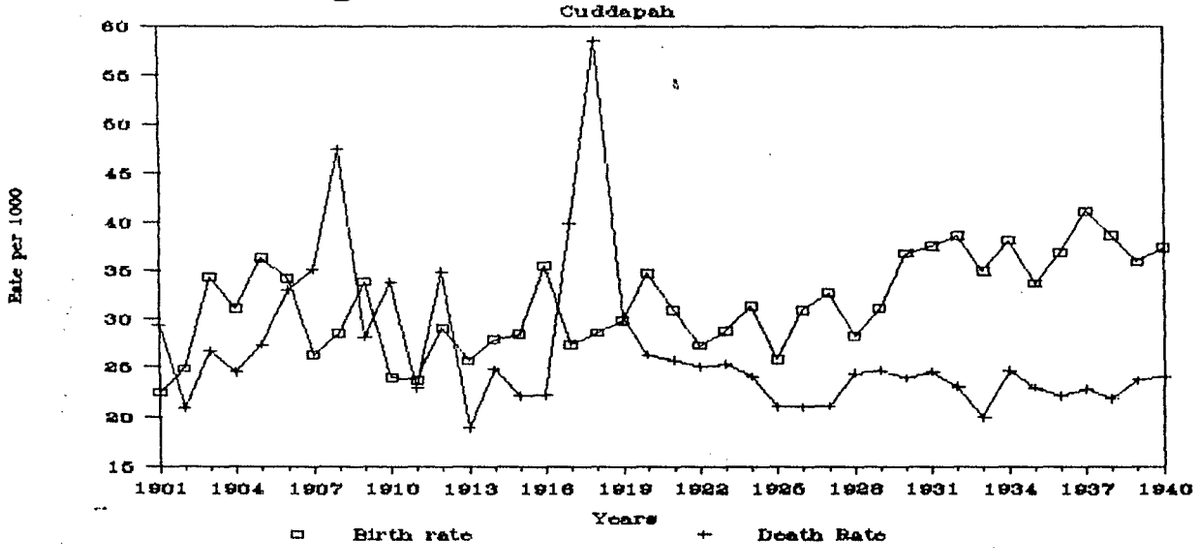


Fig 9: Birth and Death Rate

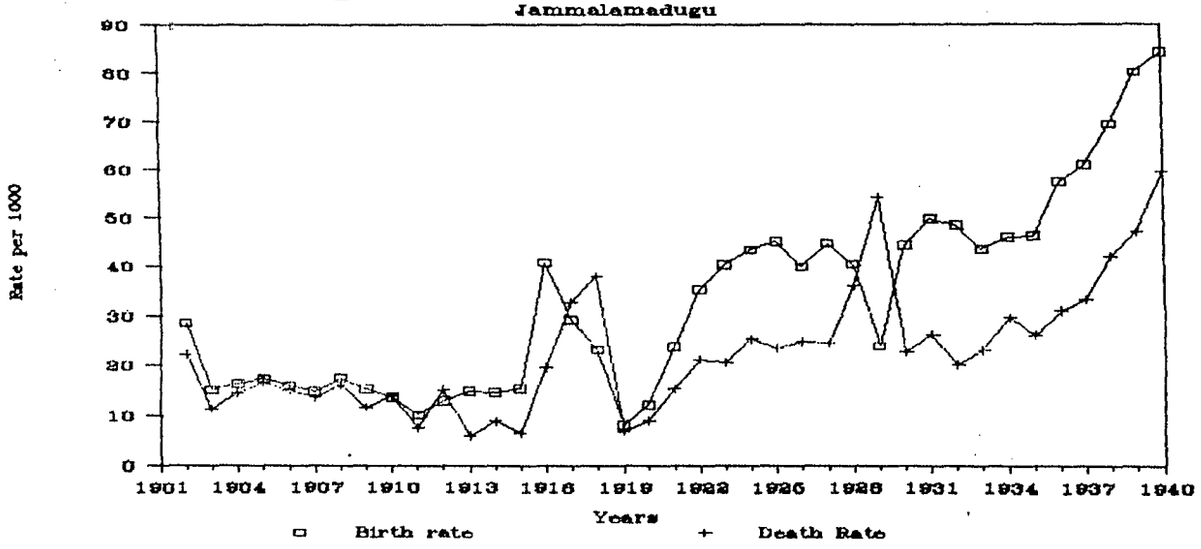


Fig 10: Birth and Death Rate

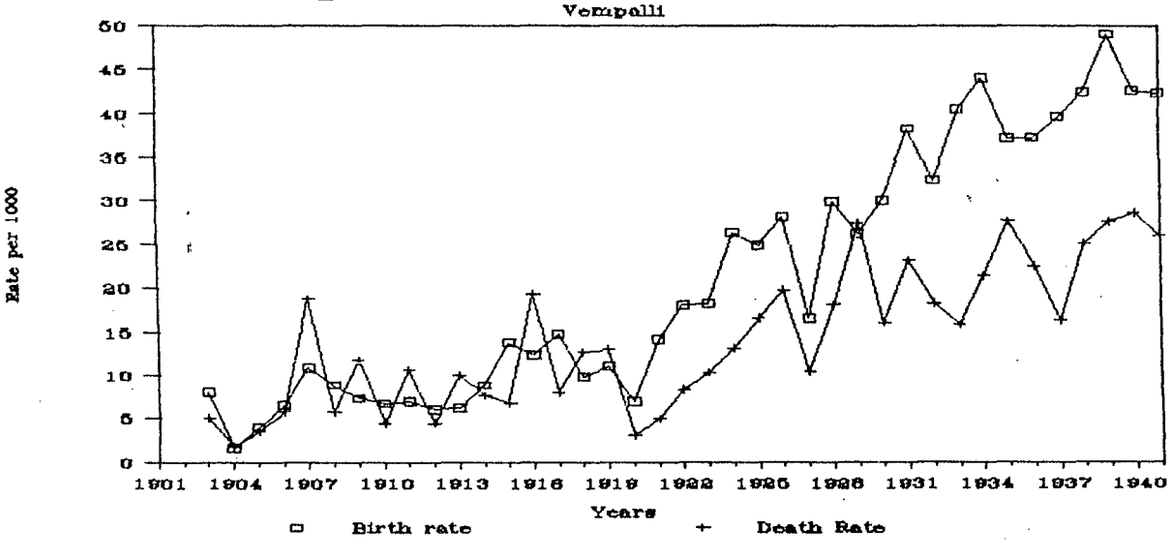


Fig 11: Birth and Death Rate

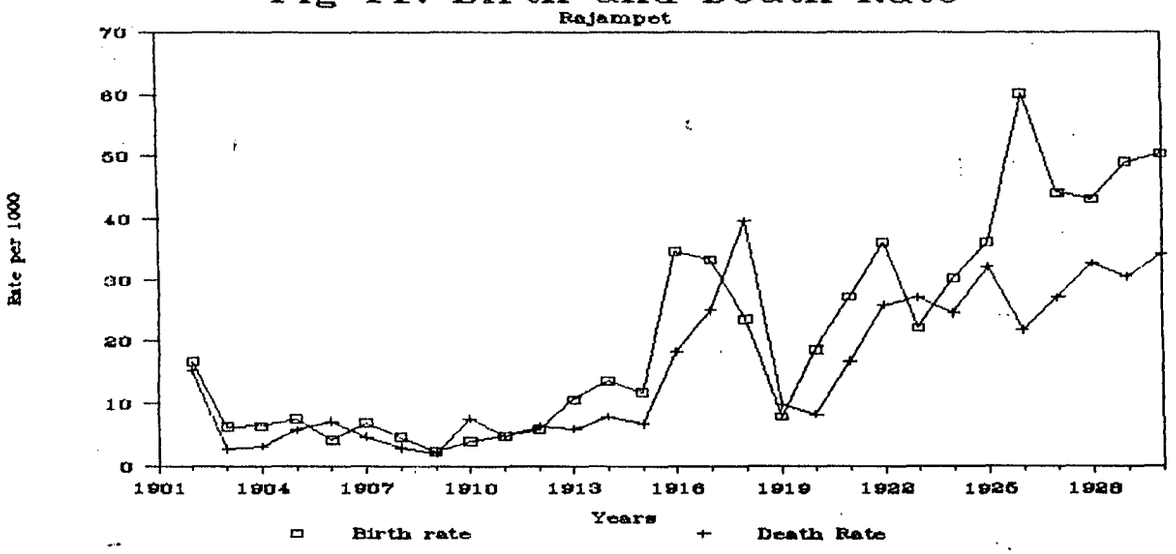


Fig 12: Birth and Death Rates

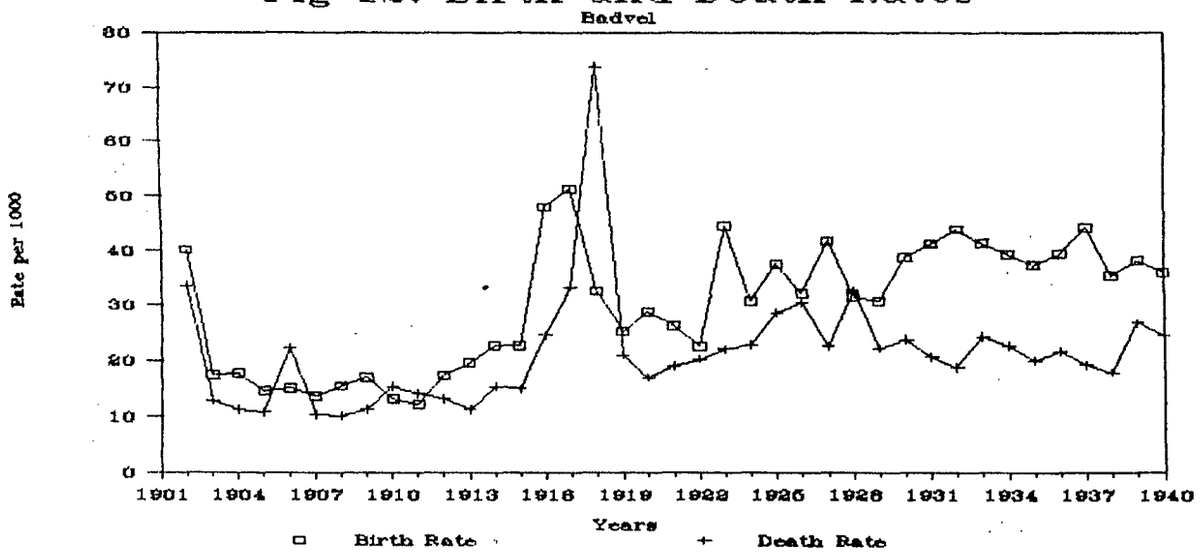


Fig 13: Birth and Death Rate

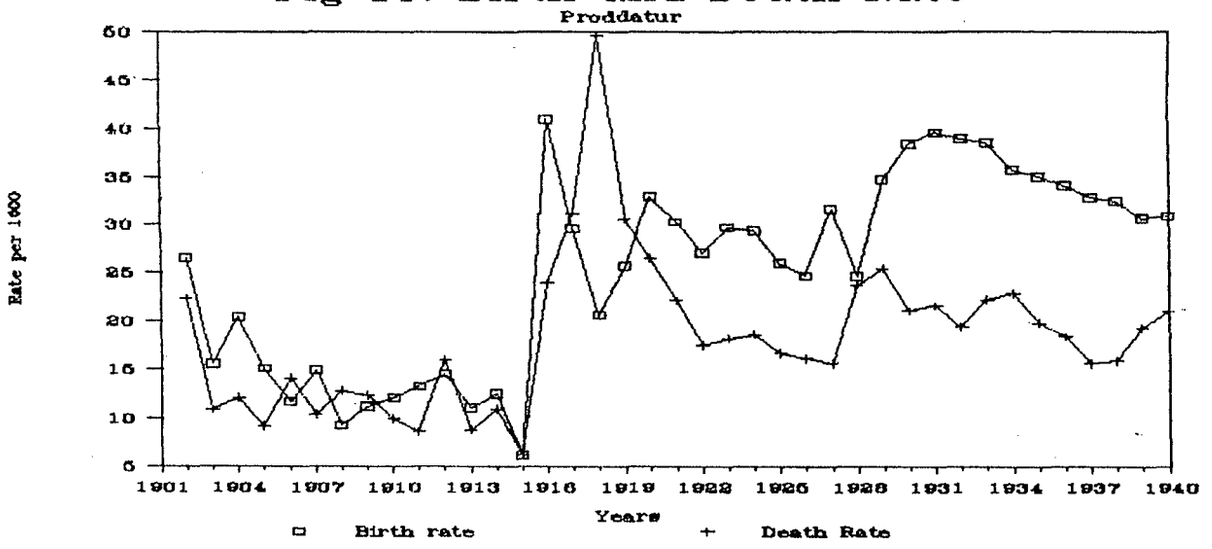


Fig 14: Birth and Death Rate

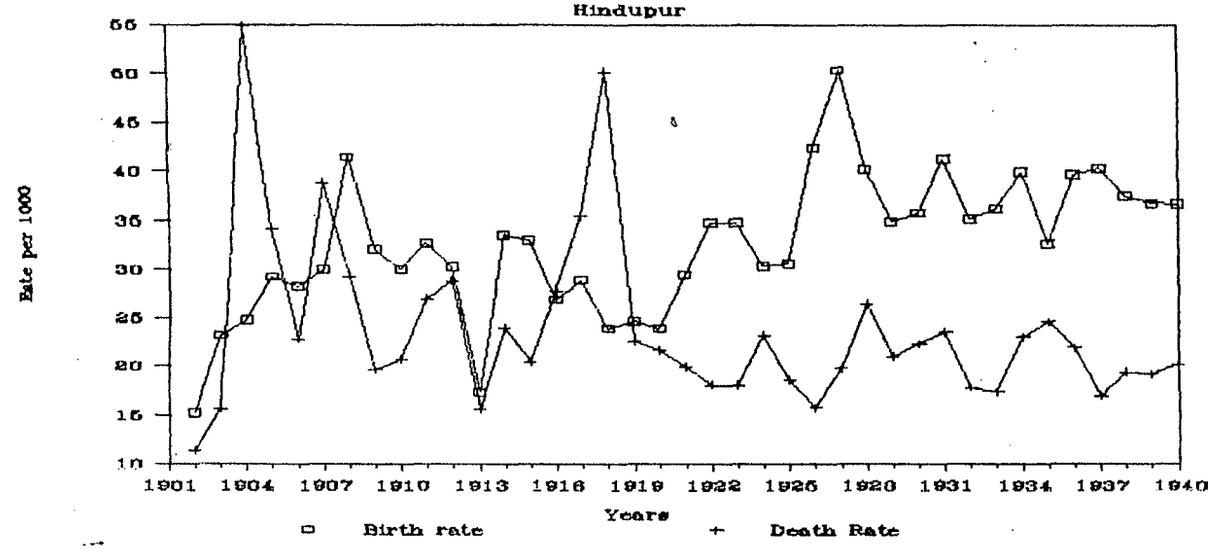


Fig 15: Birth and Death Rate

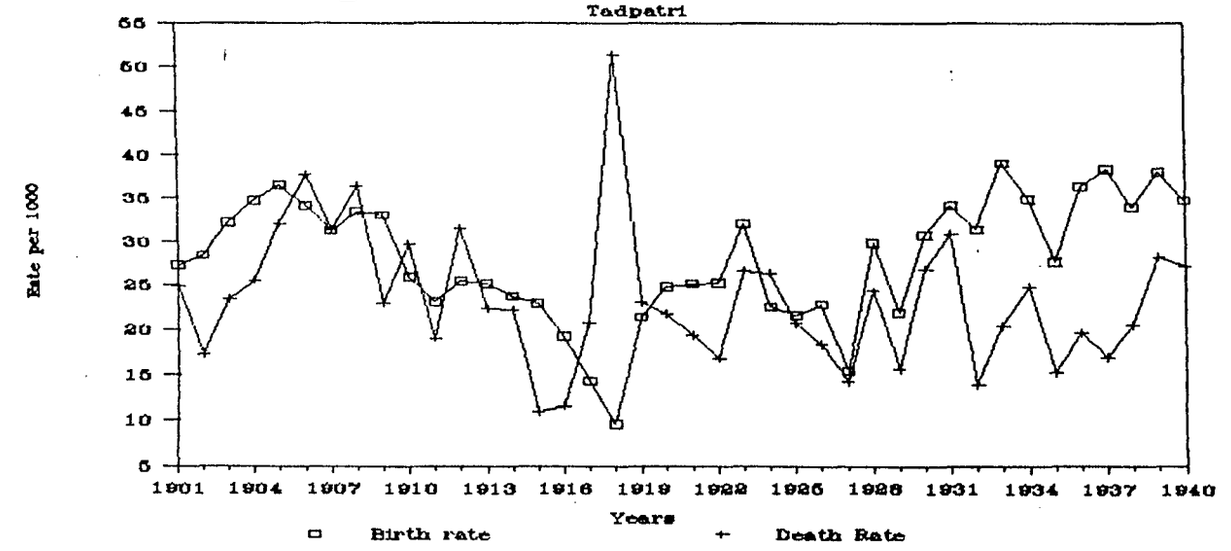


Fig 16: Birth and Death Rate

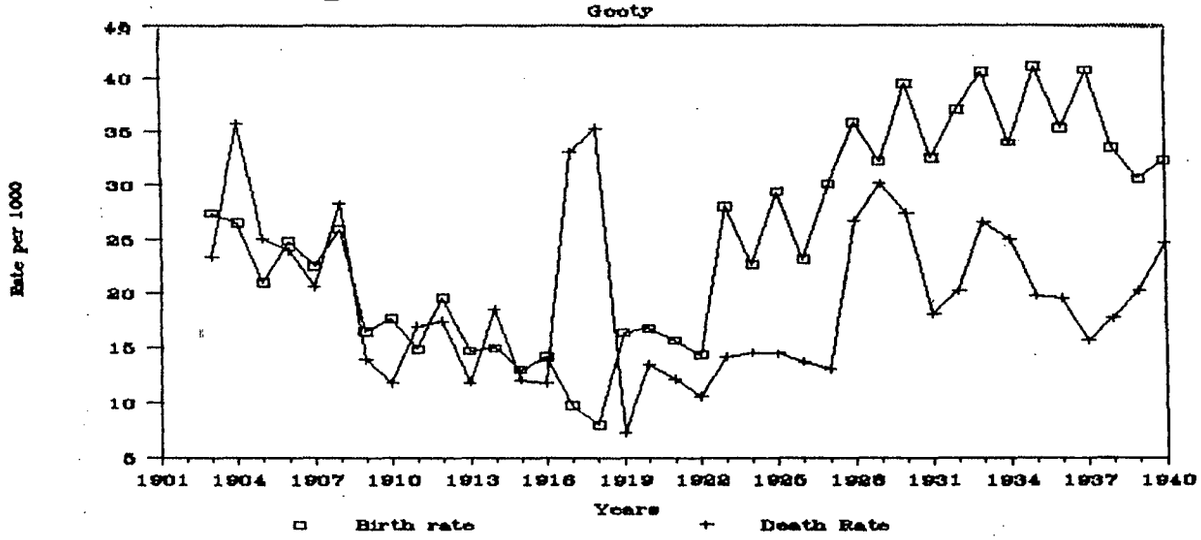


Fig 17: Birth and Death Rate

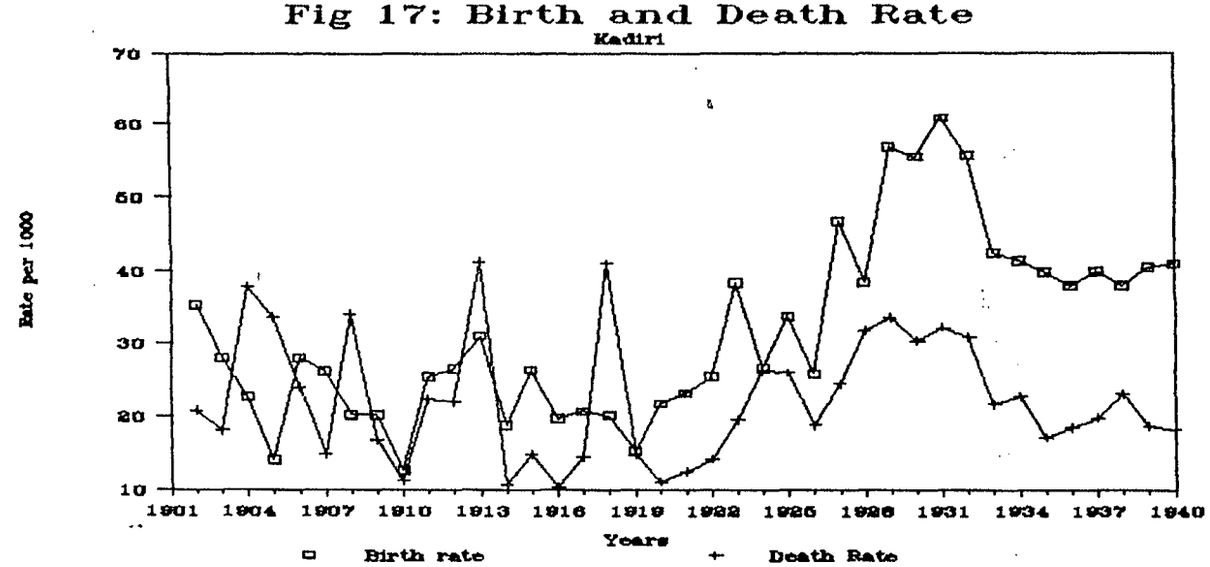


Fig 18: Birth and Death Rate

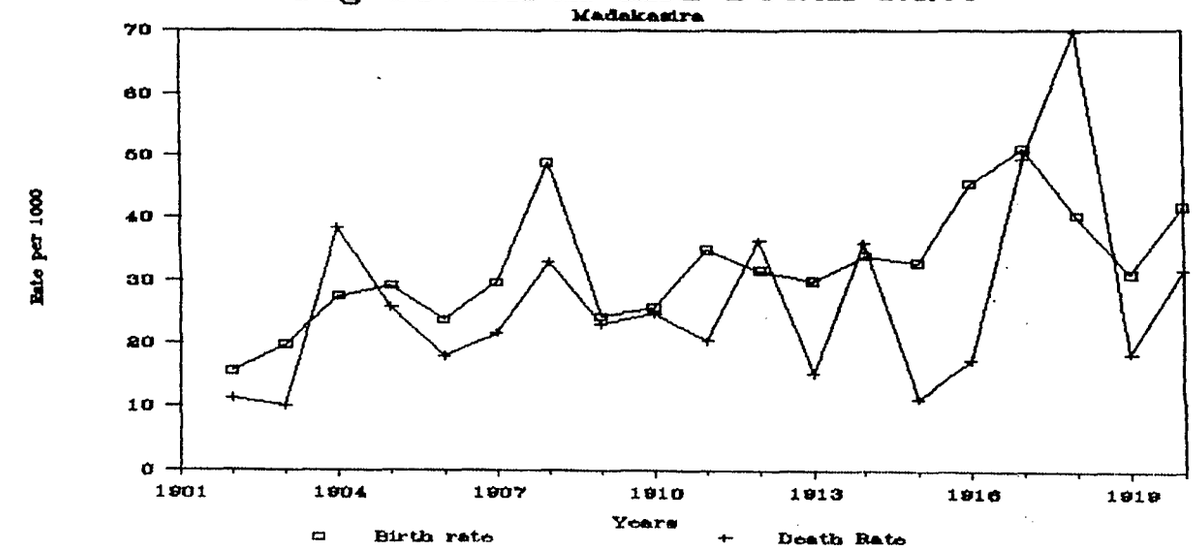


Table 6.1: Number of Peaks in Death Rates in Selected Areas

Towns	Years
Kurnool	3
Nandyal	4
Bellary	5
Adoni	4
Hospet	3
Radyadrug	2
Harpanahalli	2
Cuddapah	2
Jammalamadugu	1
Vempalli	2
Rajampet	1
Badvel	2
Proddatur	2
Hindupur	2
Tadpatri	2
Gooty	3
Kadiri	3
Madakasira	2

For instance in Bellary town the death rates were as high as 50 percent for 11 out of 20 years (Fig.6.3). Similarly in Hospet, the same was true for 4 years(Fig.6.5). Other towns had experienced several peaks in death rates. Only Jammalamadugu town did not experience any severe peak. Even in 1917, (the year in which the influenza struck) the peak did not cross 40 per cent per 1000 population (Fig.6.9).

The peaks in death rates disappeared in the post influenza period. In the towns of Kurnool (Fig.6.1), Cuddapah (Fig.6.8), Hindupur (Fig.6.14) and Hospet (Fig.6.5) the rates were declining in the post-influenza period, while in towns like Bellary (Fig.6.3), Nandyal (Fig.6.2), Badvel (Fig.6.12) and Rayadrug (Fig.6.6), they remained the same. In Vempalli and Rajampet towns (Fig 6.10 & 6.11), where registration was poor in the pre-influenza period, the death rates had increased in the post-influenza period as the reporting of deaths had improved. But on the whole, the death rates, with

fluctuations remained around 25 to 30 per cent per 1000 population.

6.2.4 Birth and Death Rates in Selected Towns:

A comparison of birth and death rates is very suggestive.

In the pre-influenza period, the death rates surpassed the birth rates at least in three years in all towns (Table 6.2). In Hospet town, the death rates were higher than birth rates in 17 years during the period 1900-1921. The trend continued till 1924 in this town (Fig.6.5). Similarly in Bellary town (Fig.6.3), in 14 years, death rates were higher than the birth rates. The death rates surpassed the birth rates in several towns in a number of years (Table 2 and Figure 6.1 to 6.18).

Table 6.2 Number of Years When Death Rates were Greater than Birth Rates in Selected Towns

Towns	Years
Kurnool	5
Nandyal	8
Bellary	12
Adoni	7
Hospet	14
Radyadrug	9
Harpanahalli	5
Cuddapah	6
Jammalamadugu	3
Vempalli	7
Rajampet	3
Badvel	3
Proddatur	7
Hindupur	5
Tadpatri	7
Gooty	5
Kadiri	5
Madakasira	4

In the post influenza period the birth and death rates diverged in Kurnool, Nandyal, Adoni, Rayadrug, Cuddapah, Vempalli, Badvel, Hindupur, Gooty and Kadiri towns. In other towns, the death rates,

surpassed birth rates in only few years.

The inference which one can draw from the table is that no doubt all the towns experienced high death rates relative to birth rates at some point or the other prior to 192Ø, but the number of such peaks was not the same across the towns except during the influenza time.

But the question which needs probing is why the death rates or number of peaks were higher across the towns prior to 192Øs? Let us seek explanation for this question by analyzing the Disease-wise death rates in the towns.

6.2.5 Disease-Wise Death Rates in Selected Towns:

Rayalaseema region prior to 192Øs was one of the worst victims of epidemic diseases such as plague, cholera, fevers and small pox. Hence the result was that the population of many towns was on the decline. In this section we will examine the disease-wise deaths and their impact on mortality rates in the selected towns.

Our analysis shows that almost all the towns were affected by the occurrence of these epidemics prior to 192Øs though the degree of impact as well as the nature (type) of diseases differed across the towns.

Fevers were quite prevalent in this region. It has been noted that malaria used to take a large toll every year. The epidemic of malaria as a cause of sickness, death and economic loss was so heavy as to nearly exceed the combined effect of all other epidemics like cholera, plague and small-pox[19]. In our analysis, towns like Kurnool, Nandyal and Cuddapah experienced more number of deaths due to fevers from 191Ø to 192Ø (Fig.6.1a, 6.2a & 6.8a). In the Kurnool town fevers accounted for 3Ø to 39 per cent of total deaths during the period 19Ø1-192Ø (Fig.6.1a). In Nandyal 36 to 44 per cent and in

Fig 6.1a: Disease-wise Deaths (%)

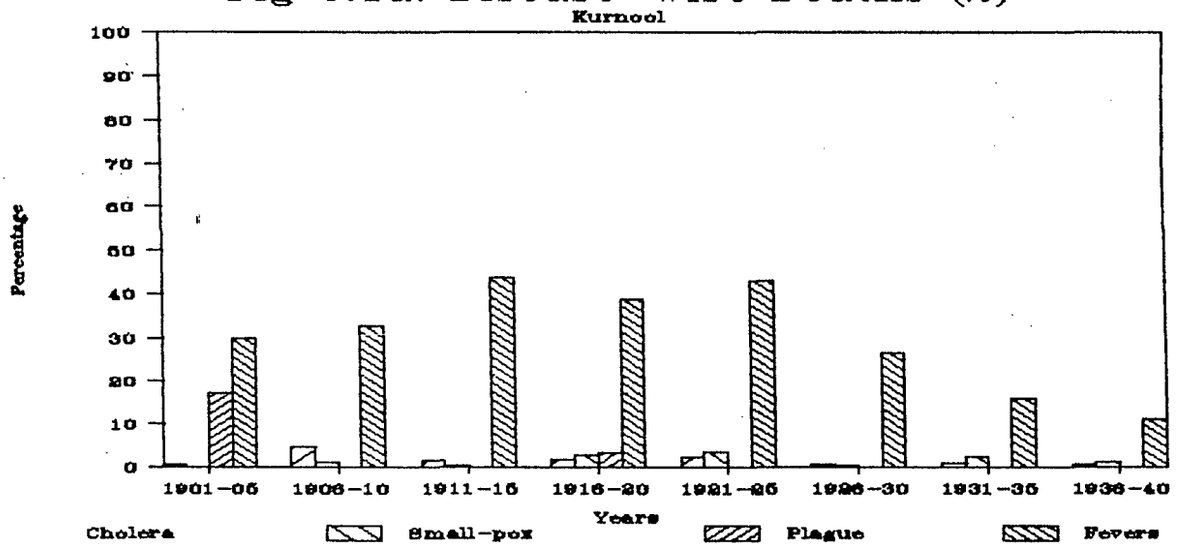


Fig 6.2a: Disease-wise Deaths (%)

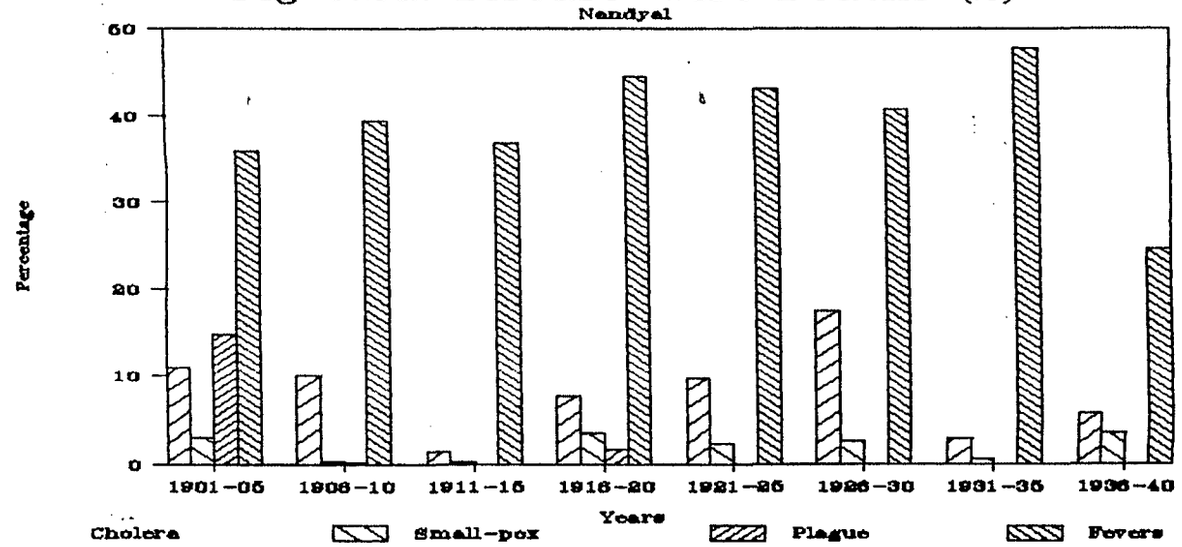


Fig 6.3a: Disease-wise Deaths (%)

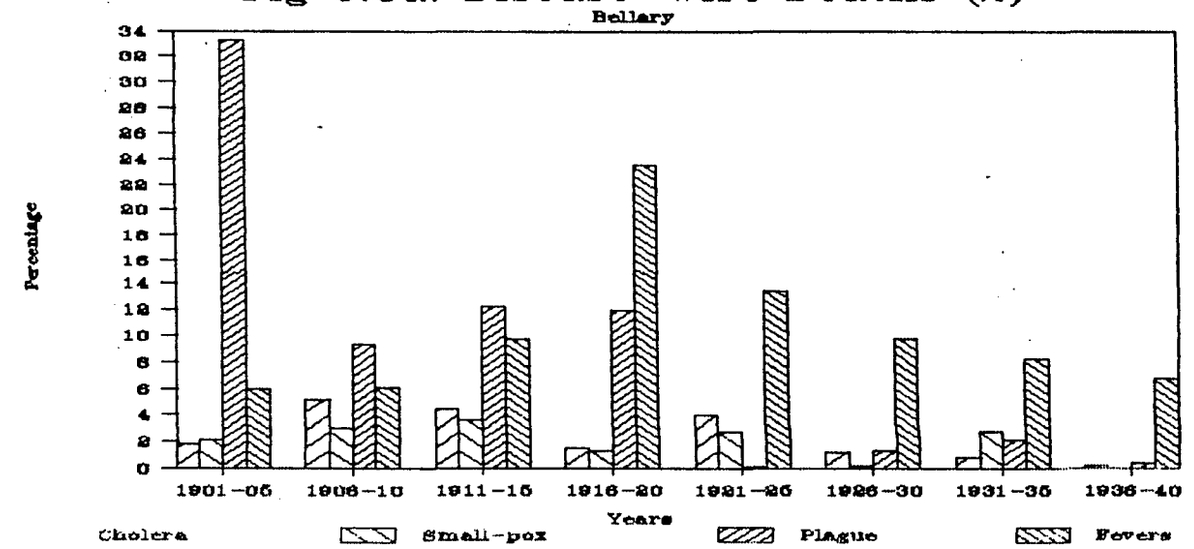


Fig 6.4a: Disease-wise Deaths (%)

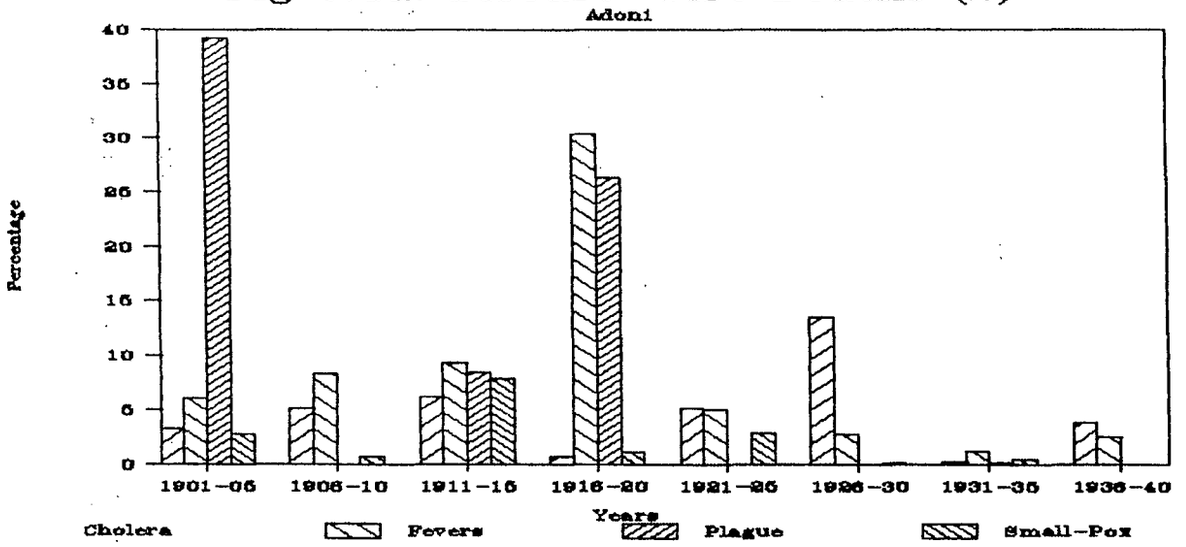


Fig 6.5a: Disease-wise Deaths (%)

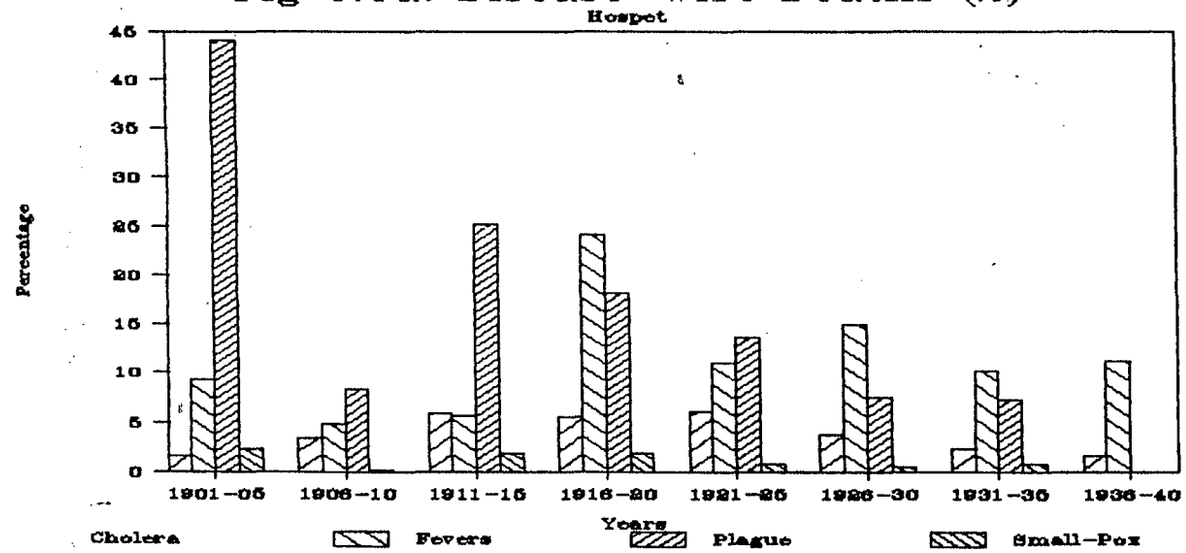


Fig 6.6a: Disease-wise Deaths (%)

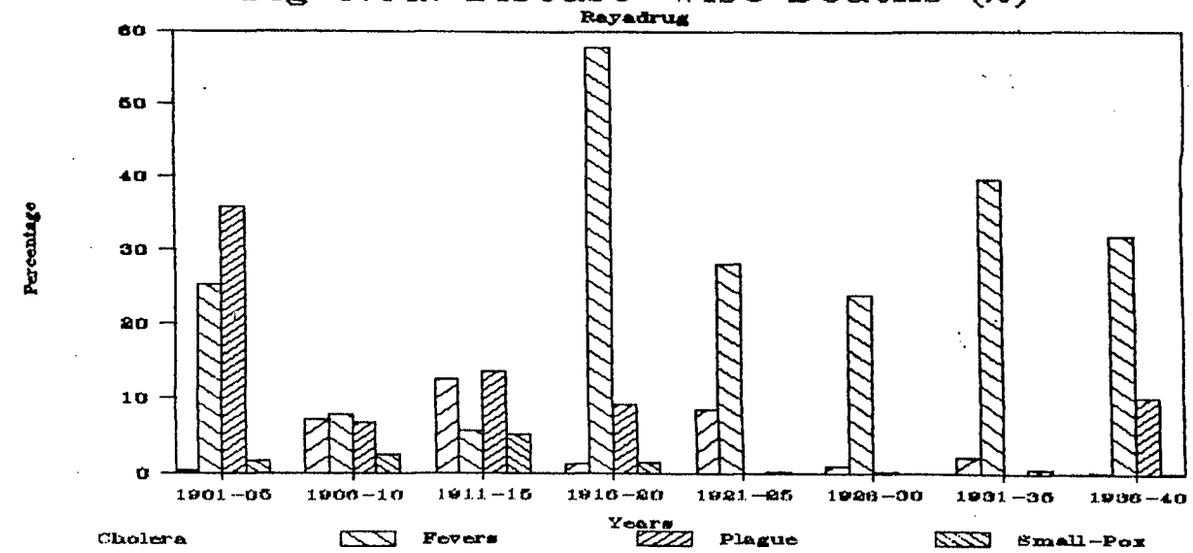


Fig 6.7a: Disease-wise Deaths (%)

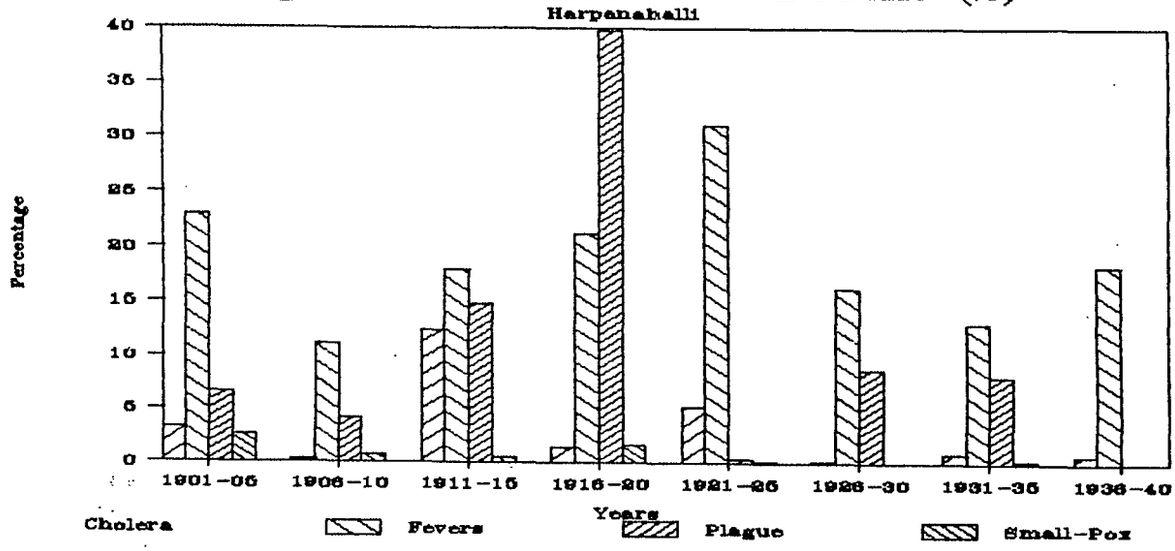


Fig.6.8a Disease-Wise Deaths (%)

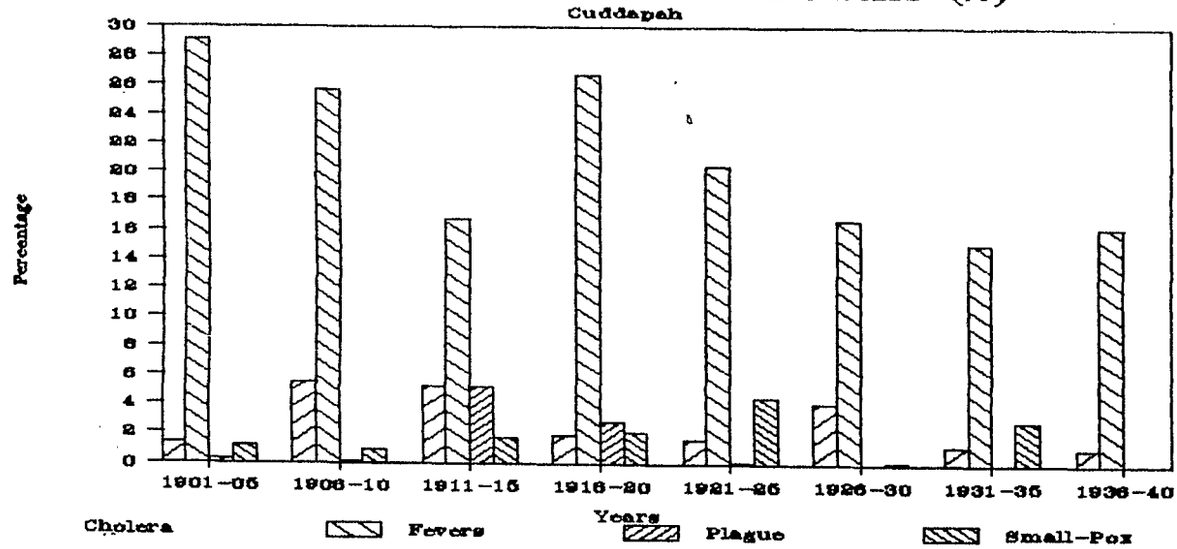


Fig 6.9a: Disease-wise Deaths (%)

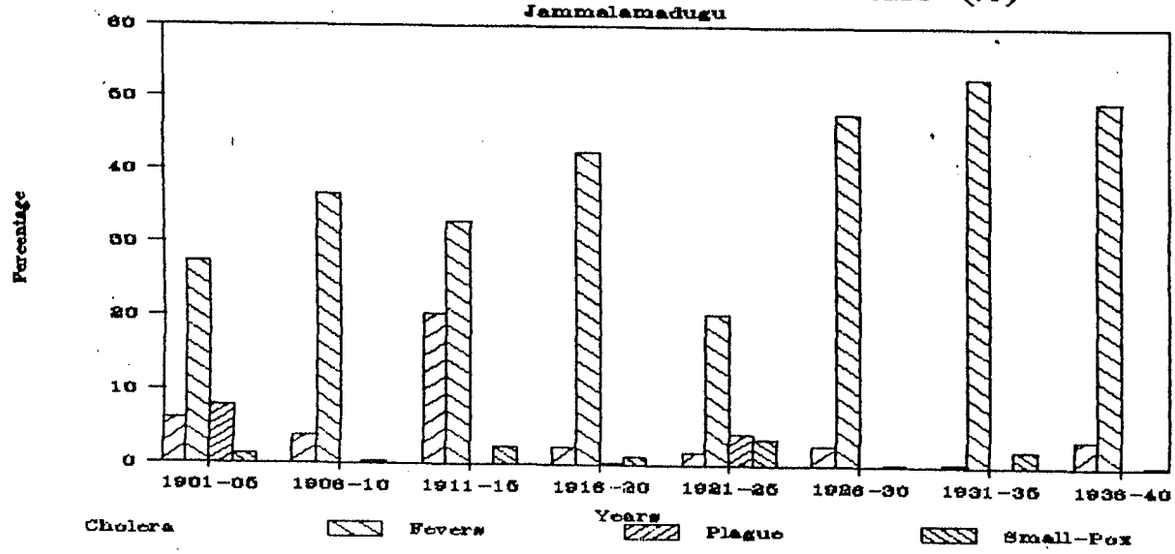


Fig 6.10a: Disease-wise Deaths (%)

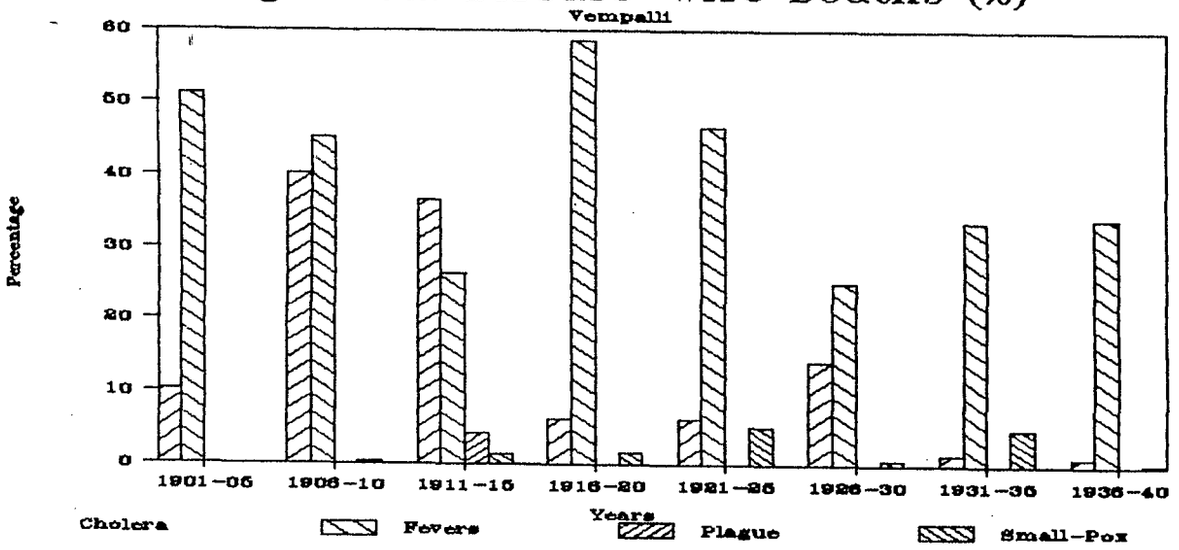


Fig 6.11a: Disease-wise Deaths (%)

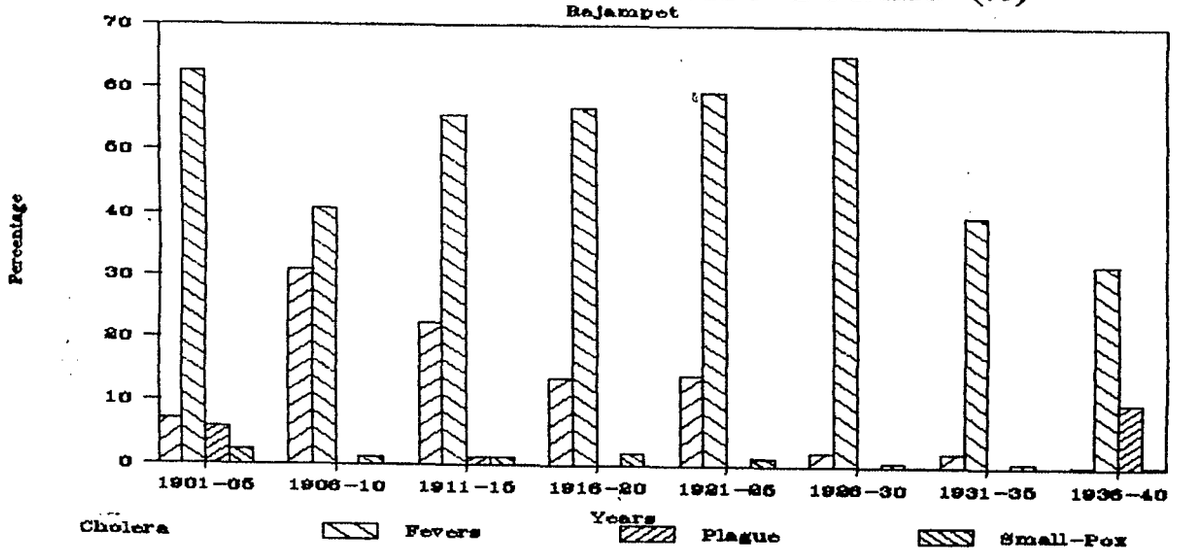


Fig 6.12a: Disease-wise Deaths (%)

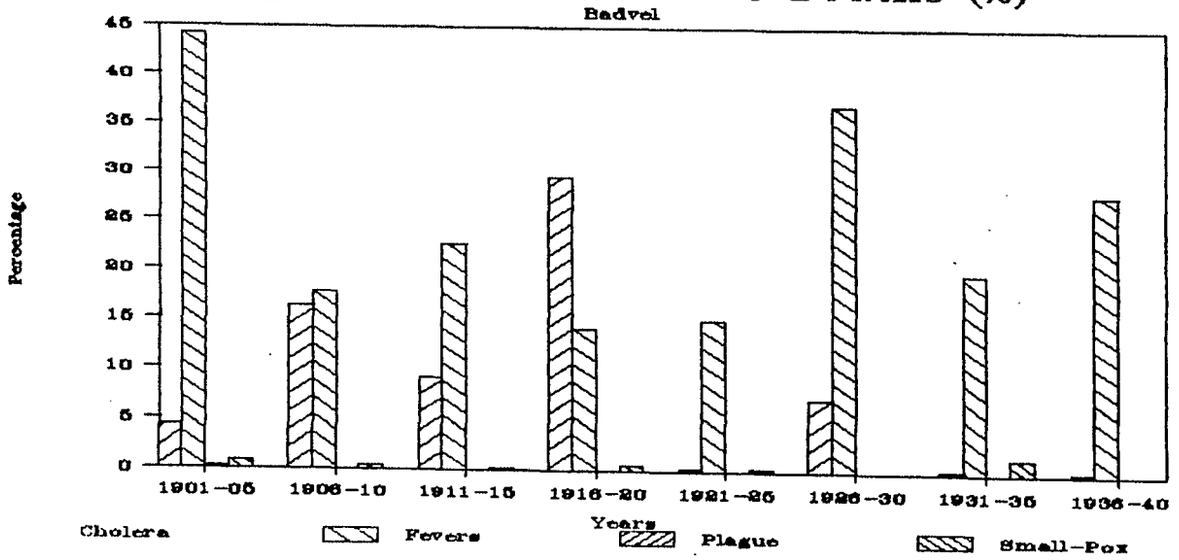


Fig 6.13a: Disease-wise Deaths (%)

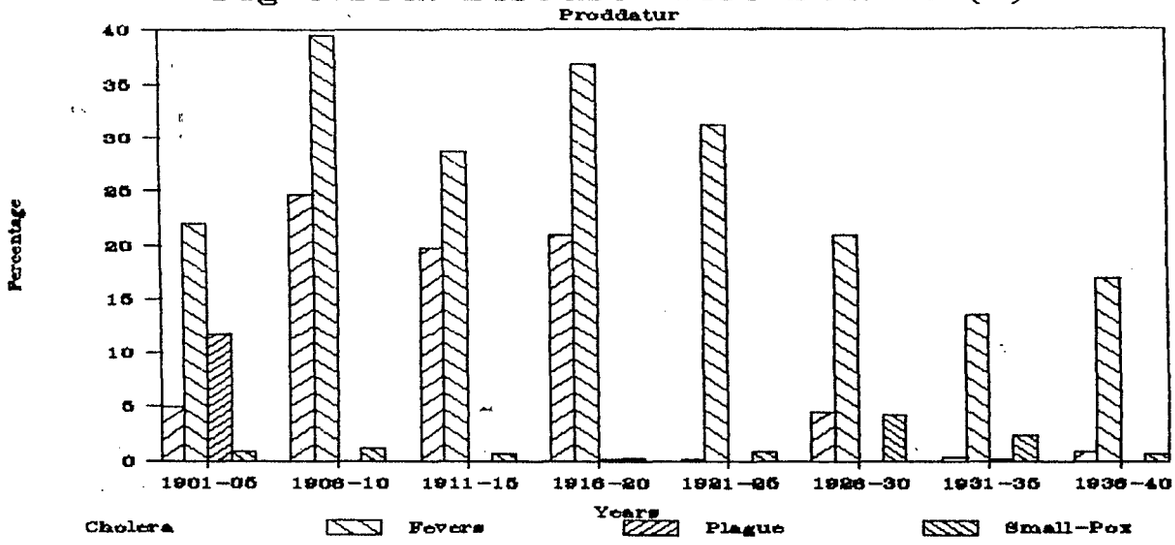


Fig 6.14a: Disease-wise Deaths (%)

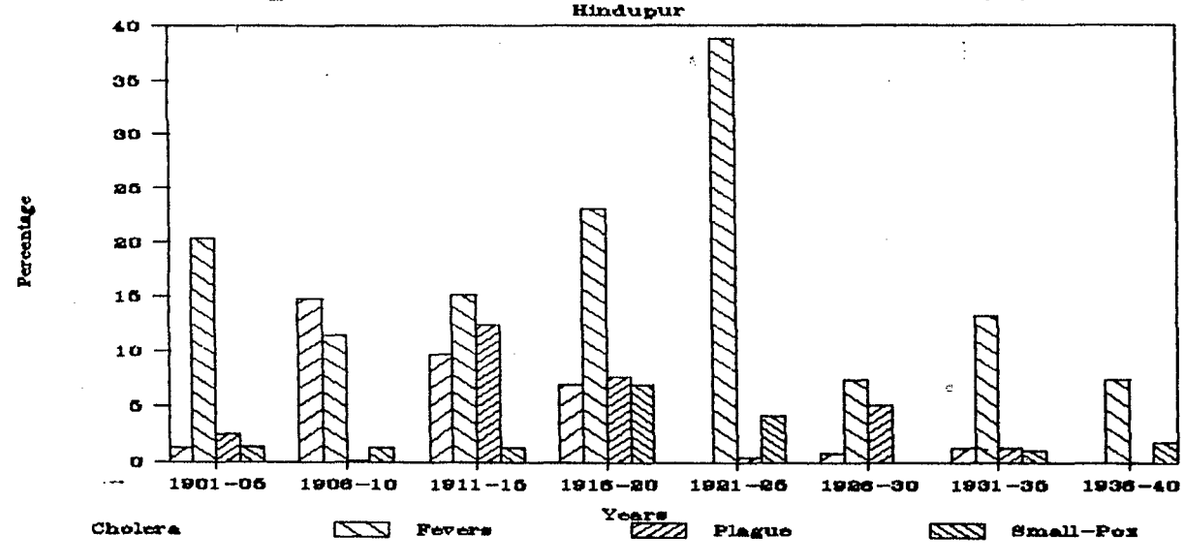


Fig 6.15a: Disease-wise Deaths (%)

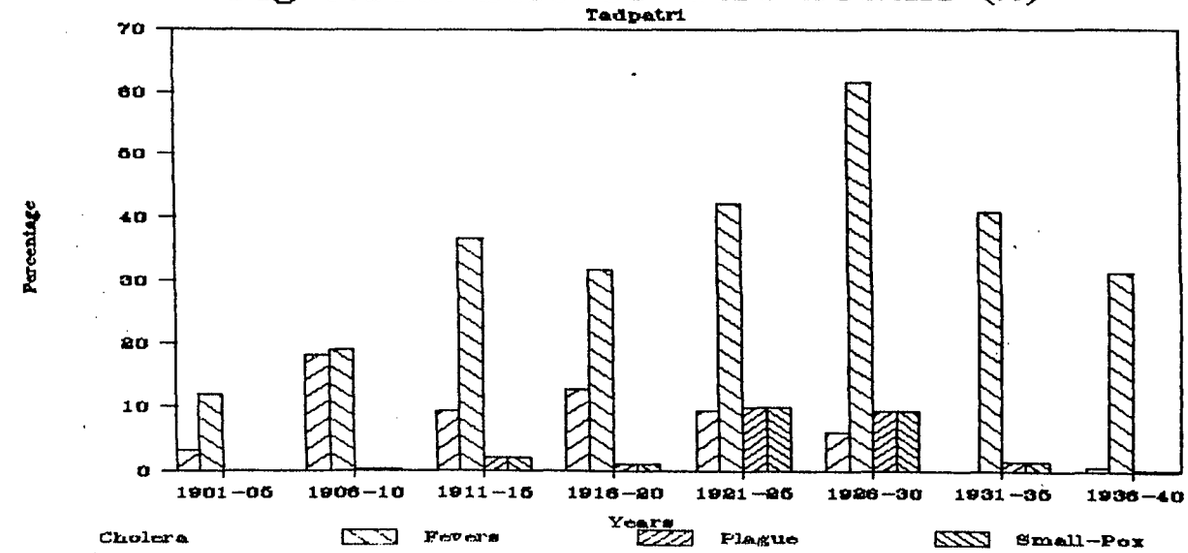


Fig 6.16a: Disease-wise Deaths (%)

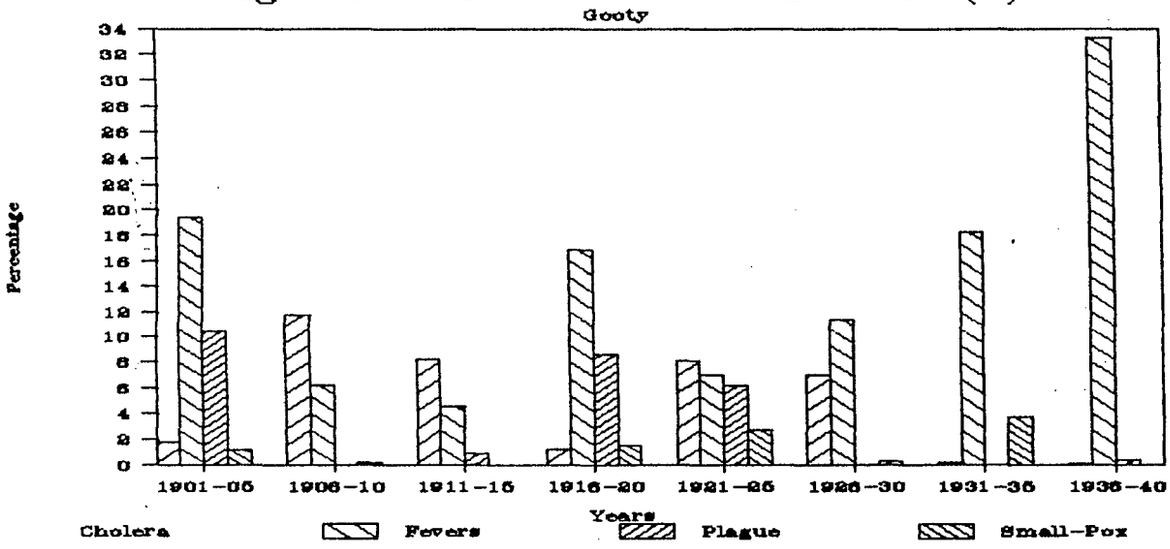


Fig 6.17a: Disease-wise Deaths (%)

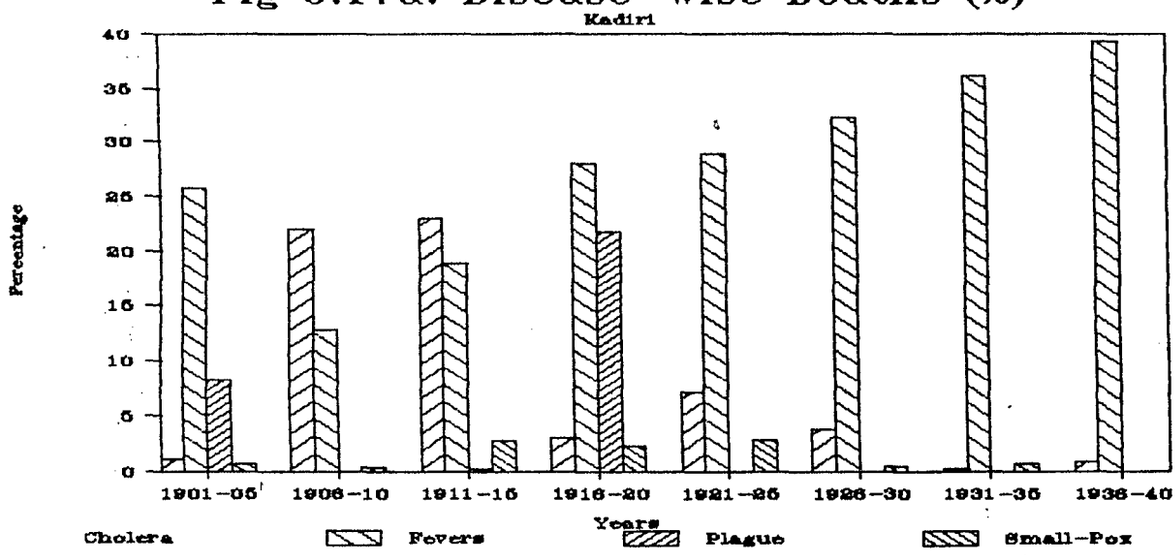
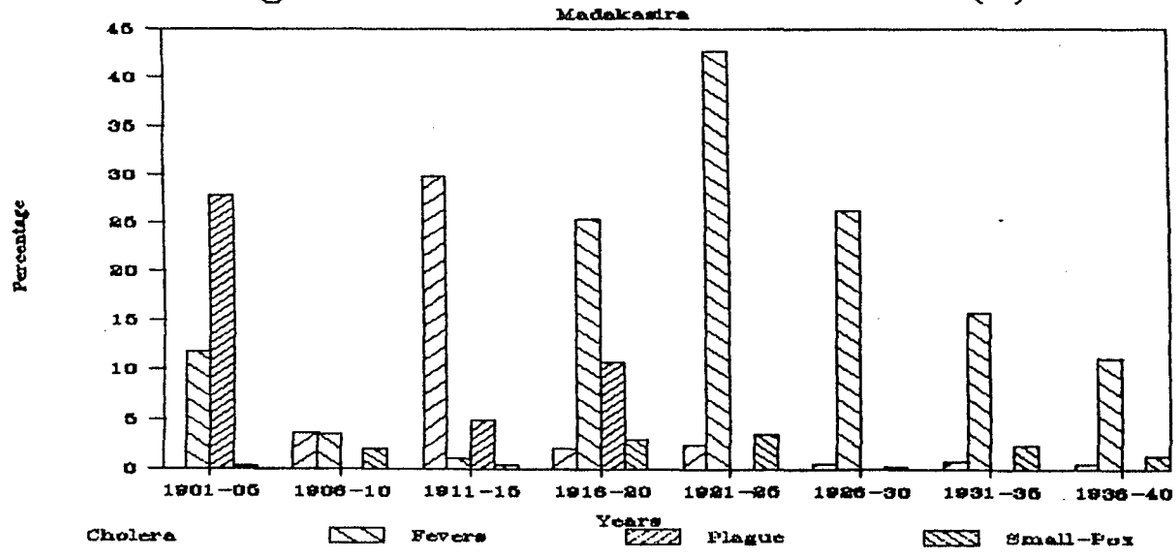


Fig 6.18a: Disease-wise Deaths (%)



Cuddapah, 27 to 29 per cent of deaths were due to fever during the same period (Fig.6.2a & 6. 3a).

The high proportion of deaths due to fevers was attributed to the occurrence of malaria in these towns. Benson in 1889 described Kurnool and Nandyal towns as the "virtual fever dens of Kurnool districts"[20]. And in the case of Cuddapah district Sanitary Commissioner in 1903 noted that this town shares with "Kurnool the notoriety of being highly malarious..."[21]. Though steps were taken as early as in 1904 in terms of prohibition of wet cultivation in the Cuddapah town, they were not of much help[22].

Plague and cholera were also equally prevalent in these towns during the first decade of first century. In Madakasira town of Anantapur district the plague broke out in 1902 and 1903. It was followed by drought and scarcity of water which resulted in increase in the death rates in the town during this decade[23]. The death rates reported from plague were 28 per cent in 1901 to 1910 (Fig 6.18a). Bellary and Adoni towns which were declared indigenous to Plague experienced death rates as high as 43 per cent and 39 per cent respectively of total deaths due to plague. (Fig. 6.3a & 6.4a). Other towns such as Hospet (Fig. 6.5a), Rayadrug (Fig. 6.6a), Harpanahalli (Fig. 6.7a) and Gooty (Fig.6. 16a) were also affected by plague epidemics during this decade.

During this decade the prevalence of cholera was mild in some of the towns while strong in others. For example, it has been noted that Adoni town had cholera during this period but it was in a sporadic form. There were only eighteen cases of this epidemic in this town. It was so because the spread of this disease was controlled due to timely appointment of preventive staff[24]. But towns like Vempalli experienced 40 per cent (Fig.6.10a), Rajampet 31 per cent (Fig.

6.11a), Proddatur 24 per cent (Fig. 6.13a) and Kadiri 22 per cent (Fig. 6.17a) death rates due to cholera during the period 1906 to 1910.

Certain steps were taken to curb these diseases, but at least partly due to their inefficient implementation and the erroneous attitude of higher authorities their effect was not very fruitful.

In the case of plague, the usual measures like the employment of preventive staff, isolation of patients, segregation of contacts, disinfection of infected houses and persons and their effects, passporting persons arriving from infected areas and keeping them under surveillance for a number of days which extended to 10, (regarded as the incubation period of the disease) were taken. But these measures were not of much help[25].

In the decade 1910 to 1920 the deaths reported from plague were still very high. In Bellary and Adoni towns death rates were to the extent of 24 to 35 per cent respectively (Fig. 6.3a & 6.4a).

It was noted that the cotton and groundnut seasons in Bellary town was just on, when the epidemic was at its worst. Huge stocks of groundnuts and cotton were pouring into the town and these were being stocked in premises and by the road side in infected areas and were being removed without adequate disinfection from the town[26]. In the town of Hospet when this disease appeared, the municipal authorities and the inhabitants generally resisted both evacuation and inoculation and the result was that the infection was spreading further[27].

The reasons for such inefficient results of these measures were given in terms of their complicated and cumbersome nature. But it was noted that if these measures were enforced properly it would have been helpful in preventing the spread of such diseases from one town to another. However in 1918, these steps to curb this disease were

replaced by the simpler preventive methods, the chief of them being the rat destruction[28].

Similarly to combat the cholera special parties were sanctioned off. The chief measures adopted by these parties were cleaning of drinking water and their subsequent protection as far as possible from contamination, isolation of infected patients and their disinfection of their homes, clothing etc, administration and distribution of medicines and education of the masses regarding the cause of spread of cholera and advantage of attending to personal hygiene and surrounding[29].

These steps for combating the epidemic of cholera continued to be in operation in all the municipal towns and their working was generally satisfactory. But because of erroneous attitude of higher authorities they were unsuccessful. There was a tendency on the part of the chairman of municipal councils, to delay the application for the help until the epidemic assumed serious dimensions. Hence the disease used to spread in towns. It was so because the control of infection of such diseases normally depended on the promptness with which the first case was dealt and if immediate preventive steps were taken the disease normally got stamped out from an affected locality within a few days of its appearance[30].

Deaths reported due to cholera were also high: Badvel 38 per cent during the period 1911-20 (Fig.6.12a), Vempalli 36 per cent (Fig.6.10a), Jammalamadugu 23 per cent (Fig. 6.9a) and Proddatur 41 per cent (Fig.6.13a) during the same period.

Such was the state of the occurrence of epidemics and their controls prior to 1920s. Hence,the death rates were quite high. In fact it has been noted that prior to 1922 preventive medicine was in the embryonic stage and it was customary to await the out-break of an

epidemic, before resorting to intensive prevention[31].

After 1920s the pattern of disease-wise deaths was different. The impact of these epidemics was low as compared to the previous period, though they did not disappear from the scene. The reason for such low occurrence of these epidemics was partly due to government intervention. In 1922, District Health Scheme was started in each district to prevent these diseases. Under this scheme each district was equipped with a complete health staff consisting of Health Inspectors Sanitary Inspectors and Vaccinators. Their duty was systematic investigation of the outbreak of epidemic diseases in the area under their jurisdiction. They were also to collect statistics, correlate the evidences and formulate the future policies[32].

Enquiries were also conducted in the cholera infected areas which were equipped with protected water supply. It failed to produce any evidence implicating the protected supply as a source of infection[33].

But in the towns of Adoni it was noted that during 1927 the cholera broke, due to complete failure of water supply owing to failure of rains for 7 years in succession. Famine conditions and scarcity arrangements were defective and when the disease broke out there, a virulent epidemic was experienced. The disease also spread to many villages from Adoni town[34]. In the case of Nandyal town with the advent of summer cholera broke out in 1935[35].

Similarly in the case of Bellary and Hospet where malarial fevers were occurring on a larger scale, because of wet cultivation in and around the towns, local authorities did not take preventive steps despite the fact that the government drew their attention more than once to the desirability in augmenting prophylactic measures and also made grants in certain cases. It was noted that even the few measures

which were adopted in Bellary town were also withdrawn[36].

Plague was also prevalent in the towns but not on a extensive scale. The measures to combat these diseases were going on. The chief measures were exchange of information, cyanogas fumigation of grains and rat holes, rat destruction by trapping and baiting inoculation, evacuation and propaganda. In fact the government sanctioned a sum of Rs. 4590Ø for cyanogas fumigation in the areas which were exposed to infection or experienced frequent outbreak of this disease[37].

SECTION 3

6.3.1 Level of Migration in Selected Towns:

The increase or decrease in the growth of urban population in any region is not only conditioned by the births and death rates in its urban areas, but also by the pattern of the migration (both in and out migration). Here in this section an attempt has been made to see the trend of migration in the selected towns of Rayalaseema region.

6.3.2 Estimation of Migration Level:

Migration data are usually obtained by two methods viz, direct and indirect. The direct method consists of population census, population registers and sample surveys. Under the indirect method figures on migration are calculated by taking the difference between population growth and natural increase. The extent of migration on the basis of indirect method can be calculated by three approaches viz, (1) through vital statistics, (2) through natural increase and (3) through estimates of the probability of survival.

In this study,rural urban migration is estimated with the help

of indirect method (i.e vital statistics residual approach). The selection of indirect method has been justified on following grounds.

(1) Absence of direct data on the migration for the period under study in Indian Census and

(2) Non-availability of vital statistics for all the towns for the decades 1891-19Ø1, and 1941-51.

6.3.3 Vital Statistics Residual Method:

Net migration by this method can be obtained as a balance between total population growth and natural increase. Thus in any area migration is

Net Migration = Population growth - Natural Increase

or

$$M = (P1Ø - PØ) - (B - D)\ t+1,\ t.$$

Note: P1Ø and PØ are total population at two successive censuses and B and D are the total births and deaths during that interval.

6.3.4 Trends Of Migration in the Selected Towns:

An analysis of net migration into the towns showed that some of the selected towns of Bellary and Anantapur district had higher level of out migration, whereas the towns of Kurnool and Cuddapah district did not experience out-migration during the decade of 19Ø1 to 1911 (Table 6.3 to Table 6.6).

Table 6.3: Migration Pattern in the Selected Towns Of Bellary District (1901-41)

Decade	Bellary	Hospet	Adoni	Harpanahalli	Rayadrug
1901-11	-20492	-	1713	-1044	-1070
	(-35.11)	-	(6.06)	(-12.21)	(-10.25)
1911-21	13646	4148	-	-799	1208
	(31.63)	(23.44)	-	(-8.28)	(12.55)
1921-31	5101	3291	971	-	-
	(14.29)	(18.67)	(3.31)	-	-
1931-41	5625	1462	-6375	1446	1063
	(12.92)	(7.33)	(-19.42)	(1.78)	(9.91)

Source: Census of India, Andhra Pradesh, Various Volumes.
Note : **Figures in brackets provide the percentage of migration.**

Among the selected towns of Bellary district Bellary had out migration as high as 35 per cent (Table 6.3) Similarly the towns in Anantapur district like Hindupur and Madakasira had out migration to the extent of 68 per cent to 78 per cent during the same period (Table 6.6).

The reason for out-migration in the above stated towns was, the occurrence of plague epidemic in a severe form, which resulted not only in the high death rates (as discussed in section 2), but also in out-migration because the town activities were also getting affected. In the case of Adoni town there was a fall in the tax collections because of depression in trade consequent on out-break of a plague. The out migration in the case of Bellary town was due to plague which occurred in October 1901 and continued till March 1902. This epidemic disease forced people to leave town. Income from the house tax declined drastically because the occupants of the houses left the towns. Educational Institutions were closed down[38]. It was noted that, people took shelter in Anantapur town because it was relatively free from epidemics during this period[39].

Table 6.4: Migration Pattern in the Selected Towns Of Cuddapah District (1901-41)

Decade	Cuddapah	Proddatur	Jammalamadugu	Rajampet	Badvel	Vempalli
1901-11	1565 (9.26)	1043 (10.51)	1954 (21.67)	-753 (-9.90)	409 (5.31)	-437 (-5.60)
1911-21	1900 (11.10)	224 (12.12)	-1998 (-13.31)	-9032 (-62.15)	-6702 (-59.67)	-4803 (-45.57)
1921-31	16584 (8.87)	2401 (15.16)	-365 (-2.38)	- -	- -	- -
1931-41	2000 (9.52)	3274 (18.29)	-9403 (-61.66)	- -	-494 (-9.42)	-806 (-13.59)

Source: Census of India, Andhra Pradesh, Various Volumes
Note : Figures in brackets provide the percentage of migration.

Bellary wore a barren look as people were afraid to come back to the town. Prof Geedes description of Bellary town runs as follow: "look at the plague stricken town resembled De-foes description of London in 1665, through streets and lanes of closed and silent houses, with the plague mark on their doors. Their encampments in their mat huts seem now immune but to what anxious home coming must they not look forward, since with any season the curse may return"[40]. Similarly, in Madakasira and Hindupur town the occurrence of plague epidemic followed by drought and water scarcity resulted in the exodus of the population from these towns[41].

The occurrence of epidemic diseases in Madakasira town continued in the next decade 1911-21 also. But during this period many towns of Cuddapah also experienced fall in their population.

Table 6.5: Migration Pattern of selected towns of Kurnool District (1901-1941)

Decade	Kurnool	Nandyal
1901-11	24871 (-2.62)	12748 (8.95)
1911-21	25706 (7.98)	15674 (29.66)
1921-31	26958 (17.58)	17151 (25.20)
1931-41	31393 (7.90)	20239 (-0.77)

Source: Census of India, Andhra Pradesh, Various Volumes
Note : Figures in brackets provide the percentage of migration.

Towns like Razampet Badvel, and Vempalli had experienced a high rate of out-migration during the decade 1911-21; as high as 46 to 62 per cent of total population in these towns had out-migrated (Table 6.4). In the case of Vempalli town it has been noted that the population fell because of famine and influenza[42]. But for Badvel and Razampet the fall in the population was because of exclusion of certain outlying hamlets from these towns[43].

Table 6.6: Migration Pattern in the selected towns of Anantapur District (1901-1941)

Decade	Hindupur	Tadpatri	Kadiri	Gooty	Madakasira
1901-11	-8550 (-68.7)	1312 (12.41)	- -	- -	-5660 (-78.52)
1911-21	1418 (9.64)	-1003 (-8.57)	914 (8.72)	-556 (-5.76)	-1959 (-26.05)
1921-31	-388 (-3.30)	869 (7.28)	-3658 (-33.18)	125 (1.36)	- -
1931-41	1995 (14.99)	752 (-0.62)	258 (2.47)	965 (10.48)	- -

Source: Census of India, Andhra Pradesh, Various Volumes
Note : Figures in brackets provide the percentage of migration.

The decade of 1921-31 and 1931-41 showed immigration into almost all the towns except Kadiri and Jammalamadugu (Table 6.6 & Table 6.4). In the case of Kadiri town the fall was experienced due to impact of depression on the industries of this town. About 33 per cent of total population of Kadiri migrated out of the town during the period 1921-31 (Table 6.6). It has been noted that "Kadiri's fall in the population reflects the economic depression for the groundnut decorticating industry which used to provide much cold weather employment in this town has fallen on the evil days and at the 1931 census has probably closed down[44]". The fall in the population of Jammalamadugu town was due to reduction in the jurisdiction of the town panchyat by separation of 3 villages in its limits (Table 6.4).

The main reasons for in-migration in the towns apart from suppression of the epidemics, were the transport development and consequent growth of the trade and development of the industries. The non-occurrence of epidemics resulted in improvement of the general health of the urban economy (as our discussion in section 2 shows the disappearance of peaks in death rates and declining trend of death rates after 192Ø) and thus the increase in the urban population. The development of transport and consequent growth of the trade and the emergence of agro-processing units in the urban areas almost acted as pull factors in the growth of the urban population. Unemployment in the rural areas prompted an exodus to urban areas in search of employment[45] and it has been noted that in this region there was migration from the rural to urban centres because of availability of employment in agro-industries in 193Øs and 194Øs[46]. In fact, this can be further corroborated from our previous discussion in Chapter 5 regarding the number of units and the average employment level in the urban and rural areas.

Hence, on the whole what emerges from the discussion is that the Rayalaseema region experienced the process of de-urbanization during the decades of 1901-1921, because of severe impact of out-break of epidemics. And since such unhealthiness in the towns had an adverse impact on the trading activity (which was the major source of employment for the people during this period), sections of people left the towns. But once the outbreak of these diseases was checked, the economy experienced just the opposite pattern.

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6. G.O.No. 1039 (P.H) June 22nd, 1926. p.3.

7. Ibid.

8. ARSC, 1941, pp.2-3.

9. ARSC, 1895 p.16.

10. Ibid., p.17.

11. ARSC, 1895, p.16.

12. ARSC, 1926, pp.2-4.

13. 'Fevers' is a symptom of many diseases and to correctly diagnose the particular disease in any given case requires a medical knowledge, which the ordinary registrar of births and deaths did not possess. See ARSC, 1920.

14. G.O.No, 1951 (P.H), September 21st, 1925. pp.2-3.

15. ARSC, 1926. pp.2-4.

16. G.O. No. 2154, October 14 1932.

17. Census of India, 1931 Madras, Part I, p.26.

18. In 1918, the proportion of death occurring in the age group of 10-20 and 20-40 had sharply increased in Rayalaseema. See Census of India, Madras Presidency, 1921, p.15.

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41. Census of India, Andhra Pradesh, 1961 p.280.

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CHAPTER VII

SUMMARY AND CONCLUSION

The agrarian economy of Andhra underwent a significant transformation from the last quarter of the nineteenth century onwards. The chief feature of the transformation was commercialization in agriculture. Although there is a good deal of literature analyzing the process of commercialization of agriculture in Andira, an aspect closely related to it viz., growth of market towns has not so far been subjected to a detailed scrutiny by the scholars. The little discussion that is available in the existing literature appears to make a one-to-one correspondence between the process of commercialization in agriculture and growth of market towns. Questioning such a premise, our attempt here has been to make an in-depth study of the growth of market towns in the Rayalaseema region of Andira during the period c.189Ø-c.1945. The study traces the growth of market towns vis-a-vis a few factors such as commercialization of agriculture, trade, transport agro-processing industries and demographic factors.

In this exercise urbanization is taken as a process of population movement and concentration leading to an increase in the number and size of towns. Increasing population adjust themselves to circumstances, specifically to the environment by way of technology and social organization. The growth of towns is one such adjustment. The growth of market towns is treated here as a part of the broader process of urbanization.

An analysis of the process of urbanization in the Rayalaseema region reveals that it was not steady through out the period c.189Ø-c.1951. After experiencing a rapid growth in urban population during

the last decade of the nineteenth century, the region witnessed a decline in the urban population during the first two decades of the twentieth century. This de-urbanization process between 19Ø1 and 1921 was followed by a rapid pace of urbanization between 1921 and 1951. However, neither of these processes remained uniform across towns, size classes of towns and districts. For instance, during the period 19Ø1-11 towns of size classes 'larger' 'small' and 'very small' were adversely affected whereas in the subsequent decade (1911-21) the impact was mostly on towns of 'medium' and 'small' size classes, whereas the decade 1921-31 showed positive growth for almost all the towns barring the 'small' size class, and during the next two decades the pace of urbanization was visible for all the towns. Similar variations in the growth pattern of urbanization are also visible at the level of districts. The distribution of population which was in favour of small towns in 1891, showed a tilt towards the 'medium' towns by 1921. From 1931 onwards a large proportion of population was found to be staying in the towns of 'above medium' size class. The process of urbanization which was interrupted by epidemics and depression became a wider phenomenon from 1941 onwards. The war boom in early 194Øs had helped many new towns to come up in the region. Besides, urbanization had spread itself spatially in the region over time. From among the towns of Rayalaseema, eighteen were identified as market towns for a closer scrutiny in the study. The growth of these market towns is seen in conjunction with (a) commercialization of agriculture, (b) transport and trade (c) agro-processing industries and (d) demographic factors.

The first two decades of the present century witnessed a rise in the prices of cash crops as compared to those of the food crops. The area under cotton increased till mid-192Øs and that of groundnut from

192Øs onwards. Both market and non market factors assumed importance in the spread of cash crop cultivation.

Where as price and profitability formed the market factors, short maturity of crops such as groundnut enabling the small farmers to get rid of their dependence on substantial landholders, introduction of high-yielding varieties (eg.groundnut) and technological improvements etc formed the non-market factors. The cultivation of these crops, however, received some setback during the period of depression. An increase in the area under cash crops would have enhanced the share of the produce marketed in the towns thereby stimulating the economic activities, leading to an increase in the urban population. Did this happen in the market towns of Rayalaseema?

In order to see the impact of commercialization of agriculture on the development of market towns rank correlation between the degree of commercialization (areas under non-food crops and total area of hinterland) and the degree of urbanization (urban population as a proportion of the total population in a taluk) have been worked out. They revealed that although during the period 19Ø1-21, area under cash crops was increasing, population in many of the market towns was on the decline. Surprisingly in a period of rising commercialization de-urbanization had also occurred. But during the subsequent three decades (1921-51) an increase in the degree of commercialization was accompanied by rise in the degree of urbanization. Thus commercialization per se appeared to be a weak variable explaining the process of urbanization over time. Hence, we undertook an analysis of other factors.

With the construction of the railway line between Bombay and Madras in late s transport facility in the region had improved. By the close of the t century the region was endowed with several

important rail connections. The development of rail transport led to the emergence of feeder roads. The colonial government made certain policy changes for a speedy development of road transport. These efforts had resulted in an increase in the total mileage of roads in the region.

The development of transport especially railways resulted in a convergence of prices prevailing in several stations. Prices of crops like jowar and rice were converging till mid 191Øs and diverged thereafter.

The exports of cash crops like cotton and groundnut were on the rise till the outbreak of World War I. During the war these exports were affected due to a dislocation in the Coastal shipping. But during the post-war and pre-depression years i.e 192Øs, they were once again on the rise. The depression had adversely affected the prices of cash crops in the international market.

In the absence of data on trade activities among the market towns of the region, it was not possible to measure the impact of trade in the market towns. An attempt could, however, be made to correlate transport development with the growth of market towns. To carry on this exercise matrices of both rail and road transport were prepared for two points in time viz., 1891 and 1941. Rank correlations have also been worked out between the trend of urbanization and the total number of transport links that each town had. For the year 1891, the correlation between two variables was positive but not significant. However, by 1941, the relationship was not only positive but also had significant.

The process of de-urbanization in the region was unlikely to have been caused by fluctuations in the trading activities for transport and trade were on the rise till the mid-191Øs while the

process of de-urbanization in the region had started as early as the beginning of the 20th century.

Turning to the next important variable viz., agro-processing industries, we find that their growth was somewhat slow till 1920. During 1920s the number of industries (especially cotton-ginning and allied services units) increased at a rapid rate. The rich farmers who were also interested in the trading activities realized that the prices of processed produce would not only be high but also fluctuated less. Hence, they started investing the surplus funds in their hands in setting up of agro-processing units. During the period 1929-35, the number of agro-processing units had come down drastically due to a slump in trade due to depression. Due to the dislocation of foreign markets, traders, farmers and even members of the colonial bureaucracy started demanding protection and help for establishing the agro-processing units in the Madras Presidency. During the post-world war II period the number of agro-processing units had gone up.

In order to see the impact of the agro-processing units on the development of market towns, rank correlations between the number of people employed in the agro-processing units and level of urbanization have been worked out. For want of data, this analysis was restricted only to the period 1920-1950; it showed a positive and significant relationship between these two phenomenon.

None of the factors mentioned could satisfactorily explain the de-urbanization process that occurred in the region during the first two decades of the 20th century. An analysis of birth and death rates revealed that during this period the latter surpassed the former in almost all the towns. This was due to the occurrence of epidemic diseases like plague, cholera, small pox and influenza. Besides mortality these epidemics also caused out migration of people from

some of the towns of Rayalaseema. After 192Ø, the peaks in the death rates had disappeared and mortality rates started showing a declining trend. The pace of urbanization had picked up in the region from 192Øs onwards.

The process of urbanization in general and growth of the market towns in particular in the semi-arid and backward agrarian economy of Rayalaseema was conditioned not only by commercialization of agriculture but also by other factors such as trade, transport, agro-processing industries and above all demographic variables. What we have sought to emphasize and highlight in the present study is the resultant unevenness-both across space and over time-in the growth of the market towns. However, one aspect of this unevenness which has not been possible to include in our analysis due to lack of data, is the impact of selected variables as district-wise and size-class wise growth of the towns.

Again due to non-availability of data, it has not been possible to look into the impact of depression and world war II on the marketing activities and thus on the urban economy.

Above all, like other micro level studies, the results of this study can not be generalized to other regions. This is so because, the observed trends are based on a region characterized by backward yet commercialized agriculture. It would thus be interesting to have a comparative analysis of another region having a relatively dynamic agriculture such as deltaic coastal Andira. But the present study suggests the complex determination of the process of growth of market towns. This in a way, provides a possible framework for similar studies for other regions.

Though the broad analysis may have some general relevance, it needs to be pointed out that the present study has looked at the

growth of market towns in the narrow sense of changes in the population size, it has not looked into the changing structural characteristics/linkages of the market towns which will probably have a more pronounced region-specific character.

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