Chapter One

INTRODUCTION

1. Relevance and Study Premise

Diversification of economic activities into secondary and tertiary occupations arising from agricultural growth and specialisation lead to structural changes in the labour force. Increasing levels of production and commercialization in agriculture raises the income levels and expenditure as well as rapidly increase the labour productivity in agriculture. This creates opportunities for accelerating structural changes in the employment distribution of labour force through emergence of non farm jobs. Non farm jobs in rural areas are often more remunerative and absorb the excess labour spilling out from the agriculture sector. Non farm employment growth is also a contributor to the emergence of small and medium service centres, which process the surplus generated in rural areas besides providing services and employment opportunities for the hinterland. Workforce diversification in rural areas as well as small “rurban” centres curb the flow of migrants towards large cities and lead to the emergence of a more balanced settlement hierarchy. The processes effecting growth in a predominantly agricultural hinterland, paving the way for occupational diversification and structural transformation are the primary concern of this thesis. Occupational diversification has been analysed following Melior’s hypothesis which suggests agricultural growth to be a precursor to structural transformation. This would be the basis on which to draw conclusions as to how public policy can reinforce the relations that exists between different economic sectors. Government’s policies together with physical resources have a profound impact on the growth of various sectors and the extent to which accelerated growth in one sector stimulates growth in the others. We examine growth dynamics in an agriculturally prosperous hinterland, namely Kheda district in Gujarat.

Economic development is characterized by structural changes, with the share of the primary sector in the economy going down. With the structural changes occurring, the share of primary sector in GDP in India has declined steadily from 52 percent in 1946-47 to 26 percent in 1998-99. Changes in workforce composition have been less dramatic.
The trend in rural occupational diversification has been slow and unsteady (Bhalla, 2001). For the first time 1981 census showed signs of rural occupational diversification. Similarly, the 45th round of NSS (1987-88) reported emergence of rural non farm sector as an important employment provider. The male primary sector workers declined between 1983 and 1987/88 from 77.5 percent to 74.5 percent. This declining trend could not be sustained for long as the share of workers in agriculture during 1993-94 remained 74 percent. Infact a reversal was witnessed thereafter, and by 1997 the workers’ share in the primary sector increased to 75.8 percent, increasing the burden of workforce on agriculture (Bhalla, 2001). The 55th round of NSS for 1999-2000 (Sundaram, 2001) once again reports substantial gains in the non agricultural activities, chiefly in trade, hotels and restaurant sectors and construction activities. In the total workforce, the share of agriculture and allied activities has recorded a decline of over 4 percentage points in 1999-2000. However, a definitive picture regarding rural occupational diversification would emerge only once the results of the 2001 census become available.

Overall, workforce composition shows gains for shares of secondary and tertiary sectors. The broad trend is that employment has mainly been created in the unorganized sector in manufacturing and the tertiary sectors, within the broad category of non agricultural sector. This includes, according to the NSSO, a growth of rural workers in construction, transport, communication, storage, real estate, mining, quarrying etc. Studies have also noted that the bulk of the increase in the rural non agricultural sector is explained by the increase in the proportion of casual workers (Unni, 1998). In the agrarian sector this is manifested in a rise in the number of agricultural labourers as percentage of agricultural workers. Structural changes are marked by the rise in the number of employed in the non farm sector. The non farm sector comprises of all non agricultural economic activities including activities allied to agriculture. There is a continuum in economic activities between rural and urban areas, and intermediate settlements play a significant role in the rural-urban economic integration.

According to the 1991 census, the non farm sector employment comprised of 19.7 percent, an increase from 15.2 percent in 1971. There are divergent views with regard to the processes that facilitate diversification of employment towards the non agricultural
sector in rural India. In literature the two divergent dimensions have been termed “agricultural growth led diversification” and “distress diversification”. A large number of studies have analyzed diversification at the country, state and regional levels.

Structural change in the Indian workforce was brought to light for the first time by the 1981 census. Since then the topic has aroused considerable interest among academicians and researchers that has triggered off an interesting debate regarding the underlying factors leading to occupational shifts. While the importance of rapid agricultural growth for general economic development cannot be refuted in a predominantly agrarian economy as ours, the occurrence of non-agricultural employment cannot be explained by a secular hypothesis. Regional variations in extent of non-agricultural employment may be the result of diverse and transient forces which also need to be appreciated.

An individual’s occupational choice is found to be influenced by several factors, such as level of education, assets of a household, land ownership, closeness to a town, pressure of population in the village, agricultural wages prevailing in the village and infrastructure facilities developed, as well as the demand for non agricultural goods arising from higher income levels. Extreme rural poverty may also lead to high urban growth rates. Vaidyanathan (1986), suggests that rural non-farm activities serve as a sponge for the surplus labour, when absorptive capacity of agriculture and urban areas is limited. “Distress diversification” into animal husbandry and off farm self-employment or wage work may induce the shift in the structure of the rural work force. Factors external to the regional economy may also trigger off occupational shifts in the rural workforce, such as major expansion of employment opportunities outside the village. Government policies, favoring regionally balanced urbanization patterns and emergence of secondary cities, are important external inputs which are likely to contribute to rural non-agricultural employment. Seasonality in agriculture is another enabling factor contributing to workforce diversification. Casual workers shift between agriculture and non-farm activities. It is argued that due to the resource crisis and rising capital intensity, the organized sector would not be an important provider of additional employment in the years to come. Casualisation of workforce may not necessarily signify distress, as casual
non-agricultural workers could have higher earnings than agricultural workers, particularly in the “modern” non household manufacturing.

Evidence for Gujarat reveals that non-agricultural factors, and not agriculture related variables, are assuming a progressively greater role in accounting for regional contrasts in degree of workforce diversification. High per capita incomes in non-farm sectors of rural and urban areas combined, along with public and private investments in economic infrastructure stimulate non farm employment. The development and growth of communications and transport facilities play a crucial role in accounting for the inter-district variations in diversification of economic activities. Non-agricultural activity has been encouraged in all the districts/talukas falling along the Bombay-Ahmedabad corridor. South Gujarat, especially Surat and Valsad have had the advantage of large government sponsored industrial estates. Urban centre are emerging as the new links and importance of “rural located urban linked” activities is increasing. “Urban located, rural linked” interface is important too, wherein agricultural specialization in high productivity regions is happening (Saith. 1992 as cited in Bhalla, 1997).

The confusion between push and pull factors arises because of the perspective in which functioning of the economic process is perceived. Studies concentrating on rural areas invariably highlight the push factors. A broader spatial perspective including urban areas depict the pull effects of urban activities that often take advantage of seasonal availability of work force in rural areas. Micro level studies have revealed that “pull” factors such as asset ownership and education play a greater role in non-farm participation of better endowed groups, while “push” factors like unemployment are important among poor groups. Largely, the productivity or related earnings from the rural non-agricultural activities will reflect the “distress” or “growth” orientation of these activities. Thus employment in the non-farm sector is broadly of two kinds: high productive income opportunities and low productivity residual activities (Unni, 1997). Generally both the prosperity and distress related factors are active together, however there is a need to identify the dominant forces at work. It is for this reason that micro level analysis is essential before judging the desirability or otherwise of structural shifts in the economy.
The ensuing work therefore concentrates at the level of a district. The justification for selecting Kheda as the case study is highlighted in the next section.

2. Selection of Kheda District as Case Study

Kheda district in Central Gujarat has a very high population density and well developed agriculture sector, based on high cropping intensive agricultural production. The district is characterized by a long history of agricultural commercialization and economic development. It has experienced a shift towards more remunerative crops- both food and non food crops, as also increased marketisation of agricultural products. The southern part of the district encompassing talukas of Anand, Nadiad, Borsad and Petlad is the so-called “charotar” tract or goodly land, that has very fertile soil especially suitable for the cultivation of tobacco, cotton, cereals such as rice, and perennial crops. This region is agriculturally prosperous and agricultural operations continue the year round.

Over the past few decades, due to increase in well irrigation and substantial increase in canal irrigation as a result of the Mahi Right Bank Canal (MRBC) project and the reservoir at Kadan in Panchmahal district, mechanization in agriculture has taken rapid strides. This is true especially of the areas having intensive canal irrigated agriculture. The dairy industry in the district maintains its dominant position in Gujarat. The level of infrastructural facilities in the rural areas, including transportation, power supply and other social amenities are well developed. Industrial development in Kheda, including agro-industry has also been stimulated by the availability of institutional facilities at the local level, particularly commercial and cooperative credit facilities in rural areas. In addition, governmental efforts for industrial expansion in the district are evident in the form of industrial estates and other central schemes. Developments in agriculture have stimulated industrial development through both backward, forward and consumption linkages. Since many of the manufacturing enterprises are located in rural areas, hence industrialization in Kheda is part of an overall tendency towards diversification of rural economy based largely on a developed agricultural sector, at least till the eighties decade.

The study derives its context from the identification of the forces of growth prevailing in a predominantly agricultural and developing economy. In the past decade diversification
of economic activities have led to structural changes in the employment pattern of Kheda together with a more balanced pattern of urbanization. The spatial distribution of resources and activities across talukas would help in comprehending the process of occupational diversification. Public policies have to suggest ways of enhancing the emerging economic trends of regions. The findings from the study would help in suggesting policy directives to aid economic diversification and induce growth in regions having similar potentials as the selected case study.

3. Objectives

The aim of the study is to examine the growth processes operating in an agriculturally prosperous hinterland, following Mellor's thesis of demand led growth, leading to occupational diversification and non-farm development. Factors aiding the economic development and growth are envisaged to be agricultural development, including irrigation development and greater farm mechanization as well as external forces such as level of industrialization and urbanization, village size, infrastructure facilities etc.

The specific objectives of the study are the following:

i) To identify spatial patterns of growth and intra-district variations in structure of employment and changes therein and the extent of occupational diversification taking place over the last thirty years.

ii) To examine the agriculture development process including changes in area, yield, cropping intensity and cropping pattern. To look at the productivity (land and labour) and income differentials across talukas. To examine the level of rural and agriculture infrastructure development, including physical infrastructures and size of village as facilitators of agriculture, allied and secondary sector development across the talukas.

iii) To examine the trend in occupational diversification and sector wise growth in the remaining districts of Gujarat state, in order to establish the relative position of Kheda in terms of economic development and structural changes.
iv) Following from the preceding analysis, attempt to isolate the correlates of variation in the share the non farm employment and occupational diversification process in rural Kheda. Also, ascertain the extent to which non farm sector employment growth has been prosperity led, distress induced or a function of external influences.

4. Methodology

The study has chiefly used secondary data drawn from census publications and government organizations. Information available from reports, published books/articles and unpublished dissertations, mimeographs too has been used. The study entails intra- and inter- district comparison of the workforce structure over time. Leading talukas with regard to the level of agricultural development and those following Mellor’s thesis of agriculture led growth have been identified. Causal factors leading to variations in the extent of non farm sector employment have been identified for suggesting policy directives. Statistical tools for analysis and arrangement of data are used, wherever required.

5. Chapterisation

The sequencing of the chapters is as follows:

**Chapter One:** Introduction with the objectives, methodology, relevance of the study, data sources and so on.

**Chapter Two:** This would deal with the nature of non farm occupational diversification and the theories underlying it. In order to build a conceptual framework for the ensuing work a review of the existing literature on the subject would be presented in this chapter.

**Chapter Three:** The level of agricultural development and commercialization and nature of irrigation expansion in the talukas would be analyzed up to the mid-1990s. Changes in cropping pattern would be seen and growth (area and production) analysis would be carried out with a view to substantiate the argument of agricultural led growth in the talukas facing diversification within the primary sector or into other economic activities.
**Chapter Four:** This chapter would have taluka level analysis on the employment structure and emerging trends in work force diversification, worker participation ratios, share of rural non agricultural workers and the industrial composition of rural non agricultural workers. Changes in the secondary and tertiary sectors would be analyzed for the period spanning 1971 to 1991. Taluka level information pertaining to demography and urbanization levels, access to land, irrigation development, size of villages, rural infrastructures, together with the agricultural commercialization and productivity levels would also be looked at in order to identify the talukas leading in productive non farm sectors and sustaining the growth momentum.

**Chapter Five:** In order to examine the changes in the employment structure for Kheda district in the recent times evidence on workforce available for the last decade (1990s) would be examined. The position of Kheda vis-à-vis all other districts in Gujarat state would be analyzed in terms of degree and nature of sectoral diversification taking place.

**Chapter Six:** This chapter would present a brief summary of the preceding analysis and the main findings from the study. It would indicate the policy interventions required to effect growth and activity diversification in a predominantly agricultural hinterland.
Chapter Two

RURAL OCCUPATIONAL DIVERSIFICATION: UNDERLYING THEORIES

1. Introduction

Economic development is characterized by structural changes, from rural to urban, and from an agricultural to industrial and service society, as well as an economy dominated from self employed to one dominated by employee status. As development accelerates, economy undergoes a natural transformation from one dominated by a slower growing agricultural sector to one with a faster growing non-agricultural sector. With the increase in the weight of the non-agricultural sector, possessing a potential for high growth, growth rate of the entire economy accelerates as the scope widens for reaping scale and agglomeration economies.

Indian economy has witnessed structural changes over the past decades as reported in the preceding narrative. The share of the primary sector in the GDP declined steadily between 1946-47 and 1998-99. Its share in the employment in the very recent times has been reported to have fallen. The shares of secondary and tertiary sectors have increased. Within the non farm sector, the broad trend is that employment has mainly been created in the unorganized sector in manufacturing and the tertiary sectors, this includes, according to the NSSO, a growth of rural workers in construction, transport, communication, storage, real estate, mining, quarrying etc. Studies have also noted that the bulk of the increase in the rural non-agricultural sector is explained by increase in the proportion of casual workers (Unni, 1998). In the agrarian sector this is manifested in a rise in the number of agricultural labourers as percentage of agricultural workers. During the eighties the rapid expansion of non-agricultural employment was significantly related to massive public expenditure during that period, particularly through expanding employment programmes and development schemes in the rural areas.

Given the continuing demographic pressure on arable land and the emergence of declining farm labour intensity in certain high farm output growth regions, productive job opportunities cannot be created in agriculture alone. There is an urgent need for generating non-agricultural employment, as by this alone the incipient occupational shift
out of agriculture can be accelerated sufficiently to relieve the population pressure on land. However it may be added here that the level of rural employment in non-agricultural activity is a function of - 1) the level of rural demand for various non-agricultural goods and services produced locally, 2) the level of extra local demand- from nearby urban areas and also from other regions, for rural products 3) location, scale and technology of activities catering to these demands. (Vaidyanathan, 1986).

There are considerable regional variations in the share and occurrence of non-agricultural employment. Also the entire spectrum of rural workforce, from the large landholders to the landless are increasingly shifting to non-farm operations. While the enabling forces for such a shift may be quite divergent, increasing levels of production and commercialization in agriculture are important for creating opportunities for the emergence of non-farm jobs in rural areas. These are often more remunerative and absorb the excess labour spilling out from the agriculture sector. The present work proposes to analyse occupational diversification following Mellor’s hypothesis which suggests agricultural growth to be a precursor to structural transformation. Agriculture led rural non-farm growth has been looked at the country, state and regional levels. The present thesis would examine the growth dynamics in an agriculturally prosperous hinterland, namely, Kheda district in Gujarat.

2. Agricultural Growth and Economic Development

2.1 Farm , Non-Farm Linkages

The model of “demand led growth” suggests that a sustained rise in farm output and incomes can act as the prime mover, initiating the expansion of local non-farm activities, which in turn sets off a chain reaction of sufficient magnitude to sustain the shift of workers from agriculture to non-agricultural occupations. Crucial to this pattern of growth are the consumption and production linkages between agriculture with the rural non-farm sector. Consumption linkages operate through an increase in the income of farmers with an increase in agricultural productivity and the demand for manufactured goods for final consumption and /or capital formation. However the final demand for manufactures and services in a given rural area may be a function of the level of
prosperity of its population, of whom the agriculturists form the most important segment. It also depends on the magnitude of public expenditure in rural areas as also the degree of commercialization. Production linkages—both backward and forward also emanate from the agriculture sector. The backward linkages comprise the demand for inputs produced in the non-farm sector for agriculture and animal husbandry, consumer services of various kinds and trading, transport and related services. Forward linkages reflect the need to process the agricultural goods. Growth of the non-farm sector stimulates the growth of agricultural productivity, setting into motion a virtuous spiral of demand led growth.

In a study tracing economic development across countries, Mellor has defined the process whereby faster agricultural growth creates conditions for demand led non-agricultural growth (Mellor, 1995). In developing economies the share of agriculture in the early stages of development is large. Agriculture sector’s importance stems from its preeminent size rather than its growth rate. Increase in growth of agricultural income and of labour productivity would accelerate changes in the occupational pattern of the labour force. Accelerated increases in productivity take place in response to accumulated scientific knowledge and technological changes pushing growth beyond the rate of population growth. Intensification of output mix and specialization towards activities such as livestock rearing, horticulture etc. increases productivity further. Rising incomes and enhanced trade lead to change in the composition of output giving further boost to productivity. This is “accelerating” agricultural growth. With such an accelerated development, the economy transforms from one dominated by slow growing agricultural sector to one with a fast growing non agricultural sector.

2.2 Role of Technological Change & Irrigation in Agriculture Sector

Technological change and expansion of irrigation raises the output per unit of input in agriculture, thereby boosting the income and hastening economic transformation to the potentially faster growing secondary and tertiary sectors. Technological change relates to expansion of gross cropped area and changes in output composition as a means of raising agricultural output and factor productivity. It may be stated here that in view of the diversity of the non-agricultural sector, it is difficult to achieve technological change.
across the entire sector. Hence in the early stages of development, the limited resources need to be prudently allocated within agriculture. Irrigation is seen as the crucial input of ushering in land augmenting technical change. It is the necessary pre-condition for other land augmenting changes to take root, such as higher cropping intensity and intensive use of fertilizers. In many parts of Asia studies have revealed that development of irrigation infrastructure has led to agrarian changes. Increase in area under irrigation raises the labour absorption in agriculture including that of female labour (Kashyap, 1997). This phenomena results in indirect effects on income and employment. Irrigation induced high level of land productivity is a precursor for the emergence of rural non-farm employment of a relatively higher order, as also reduction in rural poverty. It is for these reasons that irrigation has been described as the “leading input” in agricultural modernization (Ishikawa, 1967, as cited in Dasgupta, 1998) and yield enhancing technological changes.

It has been expressed that technological change and economic development process are often accompanied by the problem of balancing growth with equity. Commonly reported negative effects have been displacement of small cultivators who are lacking resources for use of new technology and payment of insufficient wages to agricultural labourers. State intervention and reactivation of local level political institutions under these circumstances have to ensure growth with equity.

In addition to technical factors and the agro-climatic environment, it is also important to device institutional structures such as input delivery systems, output markets and organisations such as cooperatives etc. These enable a continuous process of technological change.

2.3 Industrialization and Urbanization

An important fallout of rapid agricultural growth is industrialization and increase in urban growth. The path followed is like this. Acceleration in the growth of food grains is accompanied by increased production of non food grains, as well as enhanced output from the livestock sector. A process of integrated rural development results on account of increase in income in the rural areas arising from commercialization in agriculture. Enhanced output from the primary sector is accompanied by rise in real wages and also
leads to ploughing back of rural savings for investment into infrastructure and for setting up small scale firms for agro-processing, agro-inputs and consumer goods. The net result of this is shifts in the employment structure towards non farm and service activities, thereby relieving some of the demographic pressure on land.

Enhanced agricultural productivity makes possible development of conglomerations in the form of market towns, offering specialized services. Greater employment opportunities created here are likely to cause reduction in poverty levels. Agricultural growth along with rising productivity can thus be viewed as the first step in the path towards secondarization of the economic structure, as increased agricultural production raises the rural purchasing power, thereby stimulating small and medium scale firms in the broad regional context. Employment increase is also evenly spread, as it is based on agricultural development and results in a dispersed pattern of urbanization and a more equitable distribution of the benefits of growth (Hashim, 1988). A fast growing non-agricultural sector in rural areas besides being an important employment generator, additionally is a way for decentralized industrial development that relieves burden over the already overstretched urban infrastructure.

Bhatta in a study has elucidated this model of rural led growth as followed by Punjab (Bhatta, 1995). As a result of close input, output and consumption linkages, rapid agricultural growth in the state was accompanied by faster growth in the tertiary and secondary sectors. Large agricultural surpluses stimulated urban marketing and trade. With the increase in incomes of agricultural population, there was a boost in the consumer goods industries leading to greater occupational diversification. The state’s distinctive urbanisation pattern has emerged on account of rapid agricultural growth combined with dominant position of small scale enterprises. Evenly spread agricultural growth led to emergence of agro-input and processing industries among the small and medium towns. The small market villages and towns have emerged as the growth centres providing non agricultural employment to several workers. This has also decreased rural to urban migration, as rural areas have acquired urban functions and amenities. The experience of Punjab suggests that the policy for rural led growth needs to have the following necessary elements:
- accelerated expansion in food grain production
- public investments in transport, communications, rural electrification and
- development of small scale enterprises producing consumer goods in rural or semi urban areas.

Following the above considerations, it becomes essential that the economic diversification process is viewed in the broader spatial perspective, including urban areas that depict pull effects of urban activities. The nature of rural - urban linkages will depend on the dynamics of change in the nearby towns. The economic base and processes of growth of urban centre along with type and extent of growth of transportation are important in determining the growth of rural non-agricultural employment of rural areas adjacent to urban centres. Often the impact of urbanization is mixed with the impact of large villages in a region (Basant & Parthasarathy, 1991). Large villages are indicative of higher population pressure on land. A number of non-agricultural activities crucially dependent on market size seem to be viable in large villages, hence it is worthwhile to study the impact of village size on the share of non-farm workers.

3. Occupational Diversification: Contrary Viewpoints

Structural change in the Indian workforce was brought to light for the first time by the 1981 census. Since then the topic has aroused considerable interest among academicians and researchers that has triggered off an interesting debate regarding the underlying factors leading to occupational shifts. The importance of rapid agricultural growth for general economic development cannot be refuted in a predominantly agrarian economy as ours. However, the occurrence of non-agricultural employment and regional variations cannot be explained by a secular hypothesis. The enabling forces may be diverse and transient. In this section certain contrary viewpoints have been highlighted from the vast literature existing on this topic.

1. The underlying stimulus and individual responses assume primacy in reality. While diversification of economic activities may be only one of the strategies that households adopt in response to the prevailing socio-economic conditions, for
survival other responses may be reflected in decisions pertaining to crop mix, migration, increased participation by women in work etc. The participation in non agricultural employment of individual worker in a rural household may have arisen as a process of diversifying risks in production or alternately as a household strategy of survival. An individual’s occupational choice is found to be influenced by several factors. These are level of education, assets of a household including land ownership, closeness to a town, pressure of population in the village, agricultural wages prevailing in the village and infrastructural facilities developed, as well as the demand for non agricultural goods arising from higher income levels.

2. Vaidyanathan (1986), suggests that rural non-farm activities serve as a sponge for the surplus labour, when absorptive capacity of agriculture and urban areas is limited. Such spillover is more likely in a situation where commercialization is advanced and the wage labor system has become widespread. This tends to weaken the traditional social mechanisms for taking care of the unemployed / under-employed and increases the pressure on those who cannot find work in agriculture to seek other avenues of employment. Due to very low levels of labour productivity, poor peasants engage in multiple economic non-farm activities (Saith, 1991). “Distress diversification” into animal husbandry and off farm self-employment or wage work may induce the shift in the structure of the rural work force. Often non-agricultural wages accepted are below the prevailing wage rates for agricultural labour, or even below subsistence.

3. Factors external to the regional economy may also trigger off occupational shifts in the rural workforce. Government policies favoring regionally balanced urbanization patterns and emergence of secondary cities, are important external inputs which are likely to contribute to rural non-agricultural employment. The thesis which states that expansion of non agricultural wage employment reflects an impoverishment of agricultural labourers and small farmers is disputed by several studies (Dreze, 1997). It is often the result of a major expansion of employment opportunities outside the village. Extra local links are important for work force diversification. Rural located, urban linked activities also play a more dominant part in the non agricultural sector, rather than rural located, rural linked non-agricultural activities. Hence, the residual
labour hypothesis can also be treated analytically as an aspect of the transition from activities which take place within the framework of rural labour markets which are not yet fully formed (S Bhalla, 1990).

4. Seasonality in agriculture is another enabling factor contributing to workforce diversification. Casual workers shift between agriculture and non-farm activities. The demands of the agricultural calendar results into cyclical labour flows between the farm and non-farm sectors (Basant & Kumar, 1989).

5. It is argued that due to the resource crisis and rising capital intensity, the organized sector would be unable to provide high growth of employment in the years to come. Given the slow growth of employment in the organized sector, a large majority of the new entrants to the labour force would have to find work as self-employed workers, particularly in the non-farm sector and as casual workers. Casualisation of workforce may not necessarily signify distress, as casual non-agricultural workers could have higher earnings than agricultural workers, particularly in the “modern” non-household manufacturing. Rural non-agricultural activities also offer greater scope for self-employment and salaried employment. This has been observed from evidence generated by studies carried out for West Bengal and Gujarat (Chandrashekhar, 1993; Unni, 1996 as cited in Unni, 1998). Since wage employment cannot absorb entirely the growing labour, home based petty commodity production coexists with wage employment. Hence self-employment is an important component of the rural non-agricultural sector, and is not necessarily distress induced. It too has a heterogeneous activity base.

Evidence at least for Gujarat show that non-agricultural factors and not agriculture related variables are assuming a progressively greater role in accounting for regional contrasts in workforce diversification. Rural workforce diversification is increasingly stimulated by high per capita incomes in non-farm sectors of rural and urban areas combined, along with public and private investments in economic infrastructures. The development and growth of communications and transport facilities play a crucial role in accounting for the inter-district variations in diversification of economic activities. Non-agricultural activity
has been encouraged in all the districts' talukas falling along the Bombay-Ahmedabad corridor. South Gujarat, especially Surat and Valsad, have had the advantage of government sponsored industrial estates. Urban centre are emerging as the new links and importance of “rural located urban linked” activities is increasing. The second kind of emergent interface is that of “urban located, rural linked”, wherein agricultural specialisation in high productivity regions is happening (Saith, 1992 as cited in Bhalla, 1997).

The confusion between push and pull factors arises because of the perspective in which functioning of the economic process is perceived. Studies concentrating on rural areas invariably highlight the push factors. A broader spatial perspective including urban areas depict the pull effects of urban activities that often take advantage of seasonal availability of work force in rural areas (Basu & Kashyap, 1992). Rural-urban interface is therefore important and to view rural areas as bounded spaces may not be analytically correct. Micro level studies have revealed that “pull” factors such as asset ownership and education play a greater role in non-farm participation of better endowed groups, while “push” factors like unemployment play a role among poor households. Generally both the prosperity and distress related factors are active, however there is a need to identify the dominant forces at work. Largely, the productivity or related earnings from the rural non-agricultural activities will reflect the “distress” or “growth” orientation of these activities. Thus employment in the non-farm sector is broadly of two kinds: high productive income opportunities and low productivity residual activities (Unni, 1997). Micro level analysis is essential before judging the desirability or otherwise of structural shifts in the economy.

4. Processes Underlying Non-Farm Employment Growth: Evidence from Literature

Extensive literature exists that attempts to unravel the effect of the divergent forces leading to growth of the non-agricultural sector. These empirical studies are either regional in nature using state or district data or are based on household/individual level data collected through village surveys.
Significant and positive relation has been observed between the incidence of non-agricultural employment and crop output per head of agricultural population by some studies. Others have found a positive association between non-farm employment and agricultural productivity per hectare. As a better measure of rural incomes, a more equal distribution of land has also been associated with greater non-farm employment. It has also been found that the impact of consumption linkages, that use net sown area per worker as a proxy variable, on share of non-farm employment is much more than that of production linkages.

In the literature distress induced growth in NFE has been reported arising due to unemployment and imbalance between demand and supply of labour. Other proxies used for distress are landlessness, incidence of poverty of the region. It has been hypothesised that distress conditions do not lead to growth of non-agricultural activities due to lack of demand for such goods in such regions. Extent of marginal to total holdings and land man ratios however have been found to be positively related to non-farm employment.

In addition to regional studies, a large number of village surveys have been carried out for understanding the micro realities or processes by which an individual or household diversifies its economic activities. Such studies are either descriptive in nature, focusing on the type of non-farm activities or at times analyze household or individual data to understand the rationale and processes of participation in non-farm employment. There is evidence that access to land is a major factor facilitating diversification of activities at household level. Diversification into more than one economic activity is higher among agricultural households and individual agricultural workers. Distance to nearby town too is an important factor and creation of additional employment opportunities outside the village may also trigger non-farm employment growth.

Micro level analysis indicates that distress diversification is difficult to identify. It has been suggested that possibilities of distress diversification into non-agricultural activities are limited in agriculturally backward and small villages. Also, distress diversification into non-agriculture is unlikely to be significant where demand for such activities is limited. Landlessness and other distress conditions often result in higher work
participation ratios in the distress households or migration to nearby areas for agricultural work.

District level analysis shows that in central Gujarat, the recent increase in rural industrialisation has resulted in the rise of a new class of small scale industrialists. Agriculture, trade and industry are closely intertwined, so much so, that the differentiation of rural -agricultural and urban-industrial is getting increasingly blurred. Large farmers in central Gujarat invest in a multiplicity of activities simultaneously, a behaviour pattern that is similar to other agriculturally developed regions in India. Once adequate investments are made in land and for betterment of production, profits are increasingly diverted to other avenues outside the agricultural sector, leading to economic diversification. (Rutten, 1995).

In the table 2.1 an attempt is made to present some examples from the vast body of literature existing on the subject. The studies differ in scope, area coverage and methodology. Our aim is to illustrate the diversity in literature in order to obtain a perspective on the processes underlying variations and growth in non-farm employment.

5. Concluding Remarks

The importance of rapid agricultural growth for general economic development cannot be refuted in a predominantly agrarian economy as ours. The discussion in the earlier sections reveals that the process of economic development arising from growth in agriculture has been the subject of intensive analysis. However, the occurrence of non-agricultural employment and regional variations cannot be explained by a secular hypothesis, as the enabling forces may be diverse and transient. A large number of empirical studies have tried to map this process at state and regional levels and have attempted to isolate the underlying processes aiding the diversification process. In Gujarat, non-agricultural factors and not agriculture related variables have been found to assume a progressively greater role in accounting for regional contrasts in the degree of workforce diversification. Rural workforce diversification in the state is increasingly stimulated by high per capita incomes in non-farm sectors of rural and urban areas combined, along with public and private investments in economic infrastructures. The
development and growth of communications and transport facilities have played a crucial role in accounting for the inter-district variations in the nature and degree of diversification of economic activities.

The present work is an attempt to examine Mellor’s hypothesis of agricultural growth led workforce diversification and economic development in an agriculturally prosperous district of Gujarat. Mellor’s thesis captures the essence of agricultural growth and its causal relationship to the structural transformation and aggregate growth of an economy. The theory underlines that to achieve structural changes in under developed economies, it is necessary to increase agricultural income and expenditure and increase the labour productivity in agriculture, which would further accelerate structural changes in the employment distribution. The ensuing chapters would deal with agriculture development and irrigation aspects in the talukas for Kheda. The changes in the workforce for the talukas from the seventies upto the recent times would be analyzed. The changes taking place in Kheda district and the importance of agricultural diversification taking place in the nineties in relation to other districts of Gujarat state would also be discussed.
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<td><strong>Agricultural Development and External Factors</strong></td>
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<td>3.</td>
<td>Basant &amp; Joshi, 1991</td>
<td>Explore the processes causing rural households to diversify into NF work.</td>
<td>Rural Household level sample survey for villages in Kheda (1984-85)</td>
<td></td>
<td>1. Village size, land productivity, access to land, proximity to town have positive effect on NF employment 2. Landlessness leads to higher WPRs 3. Distress co-exists with agricultural prosperity</td>
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<td>5.</td>
<td>Shukla, 1991, 1992a &amp; b</td>
<td>Ascertain regional correlates of NF activity for districts of Maharashtra</td>
<td>Census 1991; Macro and micro level studies for various agro-climatic regions, ARPU</td>
<td>1. NSA/agricultural worker 2. Output value of major crops/ha. of NSA</td>
<td>1. Output value is significant for density of NFE/sq.kms. 2. Impact of consumption linkage is twice in magnitude than production linkage</td>
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<td>7.</td>
<td>Basant &amp; Parthasarathy, 1994b</td>
<td>Examine effect of land productivity &amp; urbanisation in the levels and changes in RNF activities among male workers in districts &amp; taluks of Gujarat</td>
<td>Census, 1961-81; Bhalla &amp; Tyagi, 1989; CMIE; Season &amp; Crop Reports; Livestock Census; Bureau of E &amp; S, Govt of Gujarat</td>
<td>1. Agricultural development variables 2. Market size, infrastructure &amp; urbanization variables 3. Casualisation or supply side variables</td>
<td>1. Irrigation, urbanisation, tractors/ha determine RNF employment 2. Village size has significant positive influence 3. Land productivity, per capita agricultural output, coverage of non food crops &amp; land distribution were not significantly related to RNFS 4. Processing of output is often located in urban areas and techniques of production capital intensive.</td>
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Table 2.1 contd.

<table>
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<td>8.</td>
<td>Chadha, 1994</td>
<td>To assess relationship of NF activities with village level processes under different scenarios</td>
<td>Primary survey of 18 villages in Bihar, AP, UP (1987-88)</td>
<td></td>
<td>1. Highly productive agri. promotes NFE 2. Increasing non farm earnings among poor support the percolation mechanism</td>
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<td>10.</td>
<td>Unni, 1996c</td>
<td>Analyze livelihood strategies of rural households</td>
<td>Resurvey of 6 villages in a district in Gujarat</td>
<td>1. Income obtained from all economic activities</td>
<td>1. Access to NF employment strengthened the base of rural livelihoods</td>
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</table>

Distress related/ Push Factors

<table>
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<td>11.</td>
<td>Unni, 1991</td>
<td>Assess whether distress conditions lead to NFE growth at regional level</td>
<td>NSS</td>
<td>1. Percent landless labour households 2. Incidence of poverty of regions</td>
<td>1. In developed regions, percentage of landless households &amp; NFE was negatively associated 2. Distress does not cause growth of NF activity, due to lack of demand for such goods in such areas</td>
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<td>12.</td>
<td>Eapen, 1995</td>
<td>To ascertain push factors out of agriculture in districts of Kerala and Inter-district variations in NFE</td>
<td>Census 1981,91</td>
<td>1. Land-man ratio</td>
<td>1. In 1981 demand related &amp; distress factors were important for growth of NF employment</td>
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<td>2. Percent marginal to total holdings</td>
<td>2. In 1991 urbanization was found to be important</td>
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<td>13.</td>
<td>Saleth, 1997</td>
<td>Empirically evaluates the differential impact of rural transformation on employment diversification among various rural groups in Tamil Nadu villages</td>
<td>Primary household survey of 218 rural households in 4 villages (1987-88 to 1992-93)</td>
<td>1. Farm size</td>
<td>1. Income benefits of NFS accrue to better endowed and educated groups more than asset less groups</td>
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<td>2. Worker Participation rates</td>
<td>2. Males as a group benefit more</td>
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<td>3. Intensity of participation across occupational groups</td>
<td>3. Push factors play a role in diversification amongst poor groups</td>
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<td>4. Group wise distribution of occupation specific employment and income</td>
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