Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu

A Thesis

Submitted for the Degree of

DOCTOR OF PHILOSOPHY IN ECONOMICS

BY

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CERTIFICATE

This is to certify that the thesis entitled**"Nature and Characteristics of Households in the Rural Non-Farm Sector : A study on Tamil Nadu"** submitted by **SURESH** bearing **Reg.No.10SEPH09** in partial fulfillment of the requirements for the award of **Doctor of Philisophy degree** in the **School of Economics** is a bona fide work carried out by him under my supervision and guidance.This thesis is free from plagiarism and has not been submitted previously in part or in full to this or any other University or Institution for the award of any degree or diploma.

Further,the student has the following publications before submission of the thesis.

1. A Study of Rural Non-farm sector among the Indian states between Pre and Post liberalisation Era,*Sumedha Journal of Management*,Vol.5,No.2,April-June 2016, ISSN (print):2277-6753
2. The Study of Nature and Characteristics of Rural Non-farm Sector in India,*International Journal of Management and Development studies*,Vol.6,No.4, April 2017,ISSN (print):2321-1423

Further,the student has passed the following courses towards fulfillment of coursework requirement for Ph.D/was exempted from doing coursework(recommended by Doctoral Committee) on the basis of the following courses passed during his M.Phil program and the M.Phil degree was awarded.

Course Code	Name	Credits	Pass/Fail
SE-600	Research Methodology	4	pass
SE-601	Social Accounting and Data Base	4	pass
SE-602	Advanced Economic Theory	4	pass
SE-620	Study Area	4	pass
SE-680	Dissertation	16	pass

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DECLARATION

I hereby declare that the work embodied in this thesis entitled, ***"Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu"*** has been carried out by me under the guidance and supervision of Prof. R.Vijay in the School of Economics, University of Hyderabad. I declare to the best of my knowledge that no part of the thesis was earlier submitted for the award of research degree of any other university or institute.I hereby agree that my thesis can be deposited in Shodganga/INFLIBNET.

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CHAPTER I

INTRODUCTION

1.0: The Problem of study

In the recent past rural non-farm sector is seen to plays important role in transformation of developing countries. There are number of reasons for growing importance of rural non-farm sector. Saith (1992) has given some important point to understand the importance of rural non-farm sector. Firstly, employment in the farm sector is shrinking, while employment in rural non-farm sector is rising. Over the past three decades the percent share of the rural non-farm sector has been raising at substantial pace. Secondly, it prevents the migration of rural people from migrating to industrial and commercial centers in a context of employment in the urban sector. There are economic, social and environmental problems due to the high influx of migrants in the urban centers. Thirdly, rural non-farm sector has potential to absorb surplus labour. In India, agriculture and urban industrial sector failed to absorb the surplus labour.The every unit of capital invested in non-farm sector increase the employment and output .fourthly, poverty reduction in the rural areas due to increase in rural non-farm employment.fifty,rural industrialization has a significant influence on agricultural development.agricultural has an impact on rural non-farm employment through backward and forward linkages.Agriculture income creates demand for non-farm goods and agricultural equipment etc. and supplies raw materials to non-farm sector.Thus the interdependence ofagriculture and the nonfarm sector is beneficial for the industrial development.Sixthly, rural income is much unequal where the wide range of non-farm employment exists .Low strata ofrural society participate in the nonfarm sector (Bhalla and Chadha 1983, Jatav and Sen 2013). Rightly, the rural non-farm sector could stop the skill drain from the villages if rural industries can provide a remunerative opportunity to the educated youth.Ninth,rural non-farm sector can use, the local slack resources which are not used in modern urban industries.Tenthly, rural non-farm sector could lead to a greater degree of regional and sectoral equality.There is urgency for enlarging the ambit of nonfarm activities for accelerating the pace of rural development, employment opportunities, and poverty alleviation.

The present study is an attempt to understand whether of growth of the rural non-farm sector is a new reservoir for labourin the economy.The development process as the context of many of the developing countries doesn't show to the stylized pattern of structural transformation .Rural non-farm sector generates employment in rural areas.The employment in the farm sector is shrinking in the country.The urban modern nonfarm sector has failed to absorb the growth of the access labour in the economy.The objective of the study is to examine the households which are diversifying to rural non-farm sector and is the process specific to Tamil Nadu state.A state which has a relatively larger proportion of urban population as well as rural non-farm sector.

1.1: Definitions of the rural non-farm sector

The existing literature doesn't provide a common definition, collections and use of data in rural non-farm sector. Definition of rural non-farm sector helps to understand and capture the behavior of rural non-farm sector. The rural non-farm sector can be defined in different ways.Anderson and Leiserson(1980) defined" rural non-farm activities lies in or between the boundaries of usual rural-urban and agricultural-non-agricultural categories". Lanjouw&Lanjouw (1995) defined the "rural non-farm sector as incorporating all economic activities in rural areas except agriculture, livestock, fishing, and hunting". Most of the literature in a rural non-farm sector defined in the literature as rural non-farm activities include all activities in rural areas other agriculture. Steven Haggblade, Peter Hazell and Thomas Reardon (2007) define "rural non-farm sector includes all rural economic activity outside of agriculture". The rural non-farm sector can be measured in terms of employment, a number of establishments and income (Basant and Kumar 1989).

1.2: Importance of rural non-farm sector in India and Tamil Nadu

The structural transformation in the country is slow and atypical because of low employment in the manufacturing sector. In India the labour absorption capacity is urban industrial sectors has not been quickly groing enough to absorb the surplus labour force. There is much scope for the growth of the non-farm sector. In the last decades the growth of employment in rural India has primarily come from the rural non-farm sector (Himanshu et.al, 2010) In India there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan (1986),

Dev (1993) Jatav& Sen (2013)). Within the rural non-agricultural sector the share of services sector more than manufacturing sector. (Basantand kumar(1989) Hans Binswanger(2013)) .The growth of non-farm jobs in India has due to an increase in services, transport, and construction.In addition, the growth of the non-farm sector is highly uneven over the state.

Table 1.1: distribution of household as household income in percentage

House Hold Type	1993-94	2004-05	2007-08
Self Employed in Agri	37.8	35.9	35
AgriLabour	30.3	25.8	26.6
Farm Sector	68.1	61.7	61.6
Self Employed in Non-Agri	12.7	15.8	14.4
Non-Agricultural Labour(Other Labour)	8.0	10.9	11.5
Others	11.2	11.6	12.5
Non-farm Sector	31.9	38.3	38.4

Sources:. Results of the fourth quinquennial survey on employment and unemployment (NSS 43rd), key employment and unemployment in India 2007-08. Codes have assigned as report no(531)

Table 1.1 provides information on the distribution of households in farm and non-farm sector between 1993-94 to 2007-08.In Rural India the farm sector shows a consistent decline from 68 percent in 1993-94 to 61.6 percent in 2007-08.There is around the decline of 7 percent between 1993-94 to 2007-08.The non-farm sector also registered an increase from 31 percent in 1993-94 to 38.4 in 2007-08. The overall share of the non-farm sector is increasing over the periods.

In the farm sector, the share of the self-employed in agriculture in self-employed (cultivators) has witnessed a decline from 37 percent in 1993-94 to 35 percent in 2007-08.The share of agricultural labour registered decline from 30 percent in 1993-94 to 26 percent in the 2007-08. Overall farm sector exhibited decline, agricultural labour showed sharper decline than the cultivators.

In non-farm sector,self-employed in non-agriculture registered increase 12 percent in 1993-94 to 14 percent in 2007-08.Other household(non-agricultural labour) register a greater increase from 8 percent in 1993-94 to 11 percent in 2007-08.Other household observed marginal decrease from 11 percent in 1993-94 to 12 percent in 2007-08.Overall there was increase in non-farm sector.There was increase in non-farm sector.There was increase in non-farm sector,while

decline in farm sector.In the non-farm sector,non-agricultural labour showed a sharper increase.In farm sector,agriculturallabour showed a sharper decline than cultivators.

Tamil Nadu is considered one of the economically prosperous states. Tamil Nadu is generally considered as highly industrialized and urbanized state in the country. It has experienced rapid growth of industries during the past two decades (Kundu 1994).Urbanization levels and infrastructure facility are high in the states. It also has high levels of literacy in the state. A structural transformation has happened in major states, vizKerala, TamilNadu, West Bengal and Punjab the share of agriculture is less the 50 percent (Kannan 2007).

Tamil Nadu, the agriculture sector is considered relatively modernized compared to the other states. Tamil Nadu has a wider base of the area under cash crop which has important implication for rural non-farm sector. The rural-urban linkages in the state are the basis for the occupational diversification for the rural households. The low employment growth in agriculture is partly offset by an increase in non-agricultural employment (Nagaraj 2002). Commercialization of agriculture and urbanization are favored of the non-farm sector. There is occupational diversification in favor of the non-farm sector. There is steady transformation of the state economy in favor of the non-farm sector.

Table 1.2: Distribution of household by household type in Tamil Nadu

Household type	**1999-00**	**2004-05**	**2005-6**
Self employs in Agri	16.5	18.8	17.7
Agricultural Labour	46.2	39.6	36.6
FARM SECTOR	62.7	58.4	54.4
Non-agriculture	10.8	13	13
Other labour	13.1	15.8	19.5
Others	13.4	12.8	13.2
NON-FARM SECTOR	37.3	41.6	45.6

Source: Report no 28/2009, Employment & Unemployment in Tamil Nadu NSS 62nd Round 2005-06

Table 1.2 shows the distribution of household by household type in rural Tamil Nadu. Rural Tamil Nadu farm households declined from 62.7 percent in 1999-00 to 54.4 in 2005-06.Self-employed in agriculture showed an inconsistent increase from 16.5 percent in 1999-00 to 17.7 percent in 2005-06.Agricultural labour share declined from 46.2 percent in 1999-00 to 36.6

percent in 2009-10.There is a decline in agricultural labour in but it is still high. The Overall farm sector is declining, agricultural labour showed a sharper decline than cultivators. Interestingly agricultural labour still major chunks of farm sector. In Non farmsector showed increases from 37 percent in 1999-00 to 45 percent in 2005-06.Other labours (non-agricultural labour) share has increased from 13 percent in 1999-00 to 19.5 percent in 2005-06. Others showed very marginal decline of 13.4 percent in 1999-00 to 13.2 percent in 2005-06.

Overall, there was an increase in the non-farm sector, while a decline in the farm sector. Agricultural labour is still high in the state. The decline in agricultural labour and self employed in agriculture compensated by increase in non-agricultural labour and self employed in non-agriculture sector in the state. There is a transformation from agriculture to the non-agriculture sector in the state. The comparison between India and Tamil Nadu shows that the share of agricultural labour declined faster than cultivators. However Interestingly in Tamil Nadu agricultural labour stills it is high.

1.3: Empirical and Theoretical literature related to the rural non-farm sector.

There has grown importance for study of rural non-farm sector among academics and policy makers since late 70s.There major studies related to the significance to establish the linkages with sectors and major determinants.for the convenience of understanding studies can divided to broader context.The literature can be grouped into two sets,literature related to rural non-farm sector and empirical literature.

The process of the structural transformation showed changes from agrarian, rural predominated economy to the urbanized, industrialized and capitalized economy. The developmental models showed explanation from Clark (1940), Kuznets(1966) and lewis (1954) models explained the similar process of structural transformation of the economy. The transformation shows a decline in the agricultural sector, followed by an increase in the industrial sector and later by followed by an increase in the service sector.In the most part of the developing world, urban industrial and service sector failed to absorb the labour force. The Urban industrial sector failed to improve employment and poverty. From the Lewis (1954) to more formalized model by Ranis and Feis (other).They tried to show that low or zero productivity of the agriculture would allow for the cost less transfer of the surplus labour to the manufacturing sector. Even though in later studies

Lewis (1958) has emphasis initial investments in agriculture required, which will otherwise create inflationary pressure in the economy. The movement of labour from farm to non-farm may affect the output in agriculture. The rural non-farm sector lies between the urban-industrial sector and rural sector are missing the link between them (Hazell and Haggblade,1991).Rural non-farm sector through backward and forward linked with agriculture(Mellor 1976, Hazell and Haggblade 1991).It acts, dynamic transformation of farm sector through linkages with rural economy. Policy makers view that rural non-farm sector can contribute to the growth of employment and alleviate the rural poverty. The non-farm activity in rural areas provides a source of employment for 25 to 50 percent of the rural labour force in the developing countries.
(Anderson and Leiserson (1978), Chuta and Lindholm (1979) and Hazell and Haggblade(1991).

a)Literature related to rural non-farm sector

The literature related to rural non-farm sector can broadly classified into three groups firstly, Agricultural-led growth, secondly, residual sector hypothesis and lastly Intersectoral linkage theory .

1) Agricultural-led growth

The rural non-farm sector was neglected by two sector growth models (Lewis 1954; Ranis-Fei,1961).Mellor first proposed agriculture first strategy, which expected to increase the growth of the non-farm sector through agricultural growth . production , consumption and labour market linkages from the agriculture can influence the growth of non-farm sector.

John Mellor (1969) during the early 1970s studied the growth of the rural non-farm sector in the rural India. Forward-backward linkages and consumption linkages discussed through agricultural growth.forward linkages directly linkages from agriculture to non-farm sector such spinning,canning and milling etc.Backward linkages are agriculturalists lead to demand for inputs such as plows,engines,toolsetc.Consumption linkage are forward linkages.consumption linkages one of the major linkages for the growth of rural non-farm sector.Consumption linkages are frequently quite forceful.The backward linkages are the agriculture(rural input suppliers) quite important for the rural non-farm sector.Consumption linkages are generated due to increase in the agriculture income.Consumption linkages important for the growth of the nonfarm sector.The process of green revolution in India set to increase the food supply through

technology improve the rural income and set in motion for the expansion of production and employment in another sector of the economy.The increase in the income of farmers and agricultural labourers will increase demand for goods and services in rural areas.The demand would be generated for the small-scale ,labour-intensive enterprises.Non-farm sector would supply the needs for seeds,fertilizers and agricultural equipment which increase due to growth of production in agriculture. The rise in agricultural income give rise to increase of consumption of non-food items and thus non-farm employment is relevant.The growth agricultural income which rise the demand for goods and services in villages and nearby towns.Agricultural income will be invested in the nonfarm sector.There would be a supply of both labour - capital in both agriculture and rural non-farm sector.Both consumption and investment linkages from the agriculture to a rural non-farm sector which increase the further growth of both agriculture and non-agricultural sector in the rural areas.There would be development between farm and non-farm sectors in rural areas due to inter-sectoral linkages between farm and non-farm sectors.

Agricultural growth model emphasis on the Pull factors for the growth of the nonfarm sector.agricultural income increases the demand for consumer goods and services.The improvement of agricultural technology will improve the non-farm activities.On other hand development of non-farm activities such as transport, storage facilities, and intermediate goods induce growth in agriculture.This indicates that developments in farm and non-farm sector influence each other.

2) Residual sector Hypothesis

McGee's (1971) stated in the process of urbanization due to limited absorption capacity in the industrial sector,surpluslabour settles down in the low productivity service sector.

The rural non-farm sector is influenced by broad two factors such growth induced and distress induced.surpluslabour entering low level service sector which Mcgee calls the bloated service sector.Distress induced growth.Vaidayanathan (1986) showed in his seminal paper"labour use in rural India: a study of spatial and temporal variations".The study showed the factors which are influencing the rural nonfarm employment.firstly, local rural demand.This demand consists of inputs for agriculture, consumer goods etc for the rural population.Secondly, Extra local demand.Rural industries meet not only local demand but urban markets.Rural workers working in urban centers but residing in the rural areas.Thirdly,the level of employment of depend upon

kind of technology and production technology.The commercialisation of the rural economy would affect the scale, location, and technique used in the rural non-agricultural activity.Non-agricultural activity is considered as a Residual sector.Rural workers who don't get adequate work in agriculture will spill over to the rural non-farm sector.Family and patron-client relations are strong than such spillover may not be there.Commercialisation and widespread wage system both weaken the traditional mechanism of the taking care of unemployed/under-employed.The increasing pressure on the unemployed as absorption capacity of agriculture and urban center is limited.The pressure of excess labour falls on the rural non-farm sector.labour supply and demand sensitive to wage between farm and rural non-farm sector.If the rate of unemployment the share of rural non-farm sector tends to higher in rural employment.The wage of non-agriculture sector tends to lower than in agriculture.To examine the share of non-agriculture employment in total employment the following variables were used; Crop output per head of agricultural population, Gini index of concentration of operation holdings, the proportion of cropped area devoted to non- foodgrains and unemployed rate in rural areas.The unemployment rates seem to positive and significant correlated with the incidence of wage labour and degree of commercialization . The increase in commercialization leads to the incidence of wage labour.The breakdown of the traditional mechanism of taking care of unemployed lead to shifting of surplus labour in the open market. The author concludes that there is some support for the residual sector hypothesis.Overall Residual sector Hypothesis states that the movement of the labourers from the agricultural to the non-agriculture sector is distress driven due to the lack of the employment opportunities in agriculture, the surplus labour settle in the rural nonfarm sector, as a residual sector.

3) Intersectoral linkage theory

Hymer and Resnick(1969) help to understand the development of initial stage internal trade surplus. The Goods produced by rural non-farm sector can be denoted as Z -goods. The hypothesis assumes that agriculture provides only food. Human being's desires and want are not limited to food .It hypothesis that agrarian societies would put major effort to fulfill its necessity and convenience in the absence of trade. Servants and artisans provide Z-goods to landlord society. In the absence of the landlord class, Z-goods production will take place in the household.Transformation happens in the agrarian society if trade linked to trade with manufacturing and domestic or foreign. .When agrarian society is linked with trade with

manufacturing and domestic or foreign there happens will be new transformation.Households supplies need of food etc to domestic or foreign markets.There is the substitution of imported manufactured goods with Z- goods. The agrarian development of rural areas takes place with the allocation of agriculture to most commercial crops and supply of manufactured goods to rural areas. The availability of better quality manufactured goods will substitute the Z goods. There is decline in rural non-farm sector under colonialism. With the advent of the colonies in developing countries, there would be opportunity for the export of natural resources to rest of the world. The import of cheap manufactured goods would lead to decline in rural non-farm sector in developing countries. These model have been further extended the model by Ranis and Stewart(1993) They divided the Z-goods further into traditional rural farm sector goods produced in households and villages and modern nonfarm sector goods located in the modern towns.The growth of traditional goods sector is directly linked with traditional food crops which led to the growth of the rural non-farm sector in the rural areas.While export-oriented crops direct linked with the growth of the modern non-farm sector.The consumption –investment linkages of cash crops will lead to the growth of the modern non-farm sector.

b) Empirical literature

The literature related to rural non-farm sector in the Indian context can broadly classify into two groups.One set of the empirical literature argued that agriculture growth led to the growth of the rural non-farm sector, second set of the literature states that surplus labour which notable absorbed in the urban industrial sector settle down in the low productivity service sector.

Agriculture growth-Mellor &Lele (1973) and Mellor (1976) stated in their studies that agriculture has potential for inducing growth in other sectors of the economy.Green revolution or rise in agricultural productivity increase the non-farm activities, particularly in rural areas through multiple linkages, Both Authors argued that agricultural growth increase the labour intensive in villages and rural towns.

Anderson &Leiserson(1980) states that non-farm activities expanded with response to agricultural development.They view that rural nonfarm activities have grown due to low absorption in the agriculture and high elasticity of demand for non-food goods and services.Improvement in the infrastructure and growth of markets led to growth of nonfarm sectors.Kilby and Liedholm(1986) examines the importance of rural nonfarm activities in

relation with agriculture in developing countries, He founded out that their inverse relation between size of landholding and share of non-farm income. Nonfarm activities absorb the surplus labour .There is strong linkages between agricultural growth and rural non-farm sector. Haggblade, Hazell& Brown(1989) states that agriculture growth generates consumption and production linkages which lead to the growth of rural non farmsector.They estimated that agricultural rural growth multipliers of 1.5 ,that means increase in 1 dollar increase the addition income of 50 percent in rural nonfarm sectoBasant& Kumar(1989) analyse rural non-farm sector for three decades(1961-1988) using census and NSS. The share of rural non-farm sector in total rural labour force has increased. There is increase in casual non-agricultural workers.Services has increased compared to manufacturing sector. Hazell&Haggblade(1991) discussed that agriculture growth plays a positive relationship in growth of rural nonfarm employment,appropriate agriculture technology and rural infrastructure induce agriculture growth and rural nonfarm activities. They have estimated 1 Rupee created in agriculture leads to addition of Rupee 0.37 direct value to non-farm sector in India. Hazell and Ramasamy(1991) studied the North Acrot district of Tamil Nadu in India.There was multiplier effect influencing the growth of the rural non-farm sector. Unni(1991) studied 56 regions located in 15 states based on NSS data.There is a positive relation between the agricultural productivity and percentage of non-agricultural employment.The positive relation between unemployment rate & percentage of non-agricultural workers cannot state as residual hypothesis.There is no correlation between non-agricultural wages relative to the agricultural wages.

Distress driven-Vaidayanathan(1986)concludes that agriculture not able absorb the surplus labour to settle low productivity non-farm activities.He found that unemployment rate positively correlated with degree of commercialization & incidence of wage labour.There is some empirical evidence for residual hypothesis.Jayaraj(1989) studied trends in Tamil Nadu using census data from 1961-81 particularly for the rural male workers. In his study , he founded urbanization, commercialization & rate of literacy having positive influencing in the level of non-farm employment.Dev(1990) his study is based on data(27^{th},32^{nd}& 38^{th} rounds).There is a strong correlation between unemployment rates & rural non-farm workers among the states.Land productivity a positive relationship with the growth of non-farm activities.Inequalities in rural assets is negatively correlated with non-farm employment. Singh (1994) discussed the structure of rural non-farm sector in Uttar Pradesh. Agricultural developed region of western Uttar

Pradesh there is a shift towards the non-farm sector. Rural non-farm sector has positive correlated with electricity consumption per hectare land and level of per capita expenditure. Rural poverty and non-farm employment are negatively correlated. Overall, agriculture growth and local demand are important factors for the growth of the non-farm sector. Individuals from Scheduled Castes and Scheduled Tribes are less likely to the rural non-farm sector. Jatav& Sen(2013) the major findings, labour household that landless are less likely to enter the non-farm sector.SCs more likely to participate in non-farm sector compared to other social groups.Education has positive entering the non-farm sector. Females have a low probability of entering the non-farm sector.

Others studies-Hariss(1987) studied the regional agricultural growth linkages in North Arcot district in Tamil Nadu.She conclude that local economy is not growing as mellor suggest with rise rural income.Rural industries are not dependent on agriculture or local demand they grow due to cheap wages &favourgovt policy.Gillian (1998) studied based on empirical evidence from Taiwan and Muda region of Malaysia.He stated market expansion doesn't lead to agricultural industry linkages.Recent industrial expansion is not linked with agriculture.Socialorganisation of production & industrial factors plays an important role in rural growth & development. Start (2001) stated that agriculture led nonfarm sector may be temporary phenomenon and global economy may revival of modern rural non-farm sector based on urban-sub contracts and clusters.Lanjouw&Shariff(2004) based on NCAER data collected from rural households in 1993-94.There is positive correlated with education and wealth high remunerative nonfarm sector.Individuals from Scheduled Castes and Scheduled Tribes are less likely to the rural non-farm sector.Although many studies have out in past on various aspects of rural non-farm sector.There is absence of literature related micro level on determinants in Rural non-farm sector.Most of the literature related to rural non-farm sector is based on secondary data at all India level.There are few studies to the determinants at the Household level.There also absent of literature related to the composition of Rural non-farm sector.

Although many studies have out in the past on various aspects of rural non-farm sector.There is absence of literature related micro level on determinants in Rural non-farm sector.Most of the literature related to rural non-farm sector is based on secondary data at all India level.There are few studies to the determinants at the Household level. They're also absent of literature related to the composition of Rural non-farm sector

Their demand pulls / agriculture-led growth and distress led diversification to have influence in the growth of the non-farm sector.It's difficult to identify the motivations, constraints, and outcomes for households engaging in the non-farm sector.The present study focuses on the policy perspective.Policy perspective is important to understand why individuals enter the rural non-farm sector. Their wide range of factors such education, health, age, asset ownership, a social group from entering the non-farm sector.

1.3: The context of the study

The distinction between agriculture-led growth and distress led diversification is important to assess the significance of the rural non-farm sector. There might distress growth led factors or a mix of both factors impacts of the non-farm sector.It is very difficult to articulate the growth of the non-farm sector. From Policy perspectives, their various factors influence the growth of the non-farm sector, such asset endowments, Human capabilities, infrastructure etc impacts of the growth of the non-farm sector.The present study focus on the policy perspectives such as Human capabilities, asset endowments, etc.especially Chapter three and four focus on the In. The literature related to the factors affects the growth of the non-farm sector.

Caste and Gender affinities-The gender and caste show certain preference over the certain typeof nonfarm employments.The participation in males and females significant impact on the growth of the nonfarm sector.The literature related to the gender shows that rural females tend to prefer farm work than nonfarm employment(Lanjouw and Shariff 2004).Males have greater propensity to diversify into income generating activities while females continue farm sector(Ellis 1998) In Indian context caste plays a significant role in the nonfarm sector.Generals and OBCs tend to have entered the nonfarm sector than SCs and STs(Himanshu et.al, 2009).SCs have relatively few positions in the rural non-farm sector(Murthy 1996)

The human capabilities- Education plays an important role in entering non-farm sector. Better educated individuals are likely to possess skill facilitate the growth of the nonfarm sector.The level of schooling influence the young generation of rural nonfarm employment (Jayaraj 1989, Chadha 1991, Eswaran and Kotwal 2009)

Asset endowments-The size of Landholding increased the importance of individuals in nonfarm sector. The literature shows that landholding increases the involvement in the rural non-farm sector.There is an inverse relation between the farm size and nonfarm activities (Hazell and Ramsamy 1973, Ho 1985, Islam 1987).

The micro level study focuses whether households migrate to non-farm sector either there is a complete transformation or there are plural households in rural areas.Tamil Nadu is an economically prosperous state. The Number of households reporting themselves entire on agriculture either cultivation or agriculture labour is declining (Hariss, Jeyanranjan and Nagaraj 2010).Namakkal district predominately by industry activities such as power looms, rig vehicles, lorry building and poultry etc. Two villages one is dry and other is a west village.Diversification from farm to nonfarm activities in two villages has analyzed and other factors such education, caste, land etc. are also been taken into consideration to understand the growth and development of rural nonfarm employment.

1.4: Objective of the thesis

The thesis has four objectives in the context of growth of rural non-farm sector and regional differences in rural non-farm sector.

1) Can states be classified in two groups/clusters based on rural non-farm sector and the factors influencing the grouping?
2) Who are the Households moving into the rural non-farm sector, Landless labourers or cultivators?
3) Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?
4) Is there a transition of households from agricultural household in the rural non-farm sector or to ‘plural’ households?

1.5: Present study

The vast number of studies related to the rural non-farm sector, therefore one might incline to consider the present study to be superfluous. The majority of the Indian literature focused on an aggregate regional picture of the rural non-farm sector, while the present study focuses on the

both aggregate regional picture as well as the micro context of the study.The present study focus on the aggregate picture of the rural non-farm sector and the Tamil Nadu based on the NSSO unit level data. In the existing literature, the choice between the farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector in India and Tamil Nadu. There yet study based on the NSSO unit level data in the literature are few.The micro level study still not enough to understand the growth of the nonfarm sector at the village level.There have not many studies related to micro level in Tamil Nadu.The author has not come across any studies related to micro level in western part of the Tamil Nadu.However, this study is intended to complement previous studies.Herein lies the rationale of the present study which attempts to fill this gap.The main objectives of present work to improve understanding of nature and determinants of access to the non-farm sector by rural workers.

1.6: Source of data

The data have been collected from primary and secondary sources.Secondary sources consist of NSSO reports on employment and unemployment in India(1983,1993-94,1999-00,2004-05,2007-08 and 2009-10), Sarveskhana April 1989, Statistical abstract 1989, EPW Foundation and District census handbook of Namakkal. The statistics on employment and unemployment can be obtained from census and sample survey conducted by NSSO.Our inquiry is based on NSSO Employment and unemployment unit level data from rounds 38^{th} round(1983) to 66^{th} round(2009-10) to assess the distribution of the rural workers usually employed in the non-farm sector across employment status. Unit level data used from the five quinquennial rounds, Employment, and unemployment rounds.Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) for the Logistic regression for All India and Tamil Nadu.A primary survey conducted in two villages in Namakkal district in the state of Tamil Nadu.It addition Sarveskhanajournal data and land statistics also been used.Reports and Unit level data used from the five quinquennial rounds,Employment and unemployment rounds 38^{th}(1983),50^{th}(1993-94),55^{th} (1999-2000),61^{st} (2004-05) and 66^{th} (2009-10) have used for analysis of the distribution of the rural workers usually employed in the non-farm sector across employment status.

The micro level cross-sectional data were collected to assess the nature of non-farm employment and its broad determinants for the study.A field study was conducted in Nov-Dec 2012 through a structured questionnaire to do a complete census-type survey in two villages in the district.

1.7: The Organisation of the study

The study is organized into six chapters, Chapter I: This is the introductory chapter of the thesis.Here we present the statement of the problem in the context of the existing literature. In specific the first chapter presents the problem along with the importance of rural non-farm sector, context of the study and specification objectives of the study

Chapter II: This chapter analysis the trends in employment in rural non-farm sector over time (All India) as well as states. The idea is to study the patterns in changes in rural non-farm sector and factors influencing the changes in rural non-farm sector

Chapter III: This chapter analysis the factors influencing the entry in the rural non-farm sector.In specific, the study would like to analysis what are the factors influencing an individual entering the rural non-farm sector. The analysis is done at All India and Tamil Nadu level.

Chapter IV: This chapter examines the composition of the rural non-farm sector in which manufacturing or services sector is growing? The present study focus on the different factors individuals' level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural non-farm sector in India and Tamil Nadu

Chapter V: This chapter examines the nature of rural non-farm sector in two villages in TamilNadu. In specific, the study would analysis, whether households shifting to complete to the non-farm sector or are one is plural households increasing in rural areas?

Chapter VI: Conclusion and findings of the thesis.

CHAPTER II
The Trends in the rural non-farm employment: A review of evidence

2.0: Introduction

i.Nature of non-farm sector in India and at the state level.

In India, there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan 1986, dev 1993, Jatav& Sen 2013). At all India level as well in most of the states nonfarm sector grow significantly (Bhaumik 2002). The growth of the rural non-farm sector is highest in Kerala, West Bengal and Tamil Nadu & lowest in Chattisgarh, MadhyaPradesh, followed by Uttarakhand, Karnataka, Gujarat, and Maharastra(World Bank 2010). Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the secondary sector.(Vaidyanathan 1986, Hans Binswanger 2013). There is a low share of manufacturing in economy and growth of employment. The rural non-farm sector displays a wide range of heterogeneity both in terms of sectors and employment.While the rural non-farm sector is generally identified with manufacturing rather than services, by 2004-05 services provided employment for just over half rural non-farm sector, only one third was in manufacturing(Himanshu et.al, 2011).The growth of nonfarm jobs in India has primarily from an increase in services, transport, and construction.Rural males tend to have an advantage over females in nonfarm employment in the country.

ii.Explaining state level differences in NFS

Rural nonfarm activities concrete in rural towns and small regional sectors.They clusters as leather working cluster, textiles, sugar processing etc due to concentration in raw material, labour from agriculture and transport.There is a complex of clustering linking the rural firms with urban centers, exporters, input suppliers.Supply chains of rural non-farm sector spread in wide geographical space(Haggblade et.al, 2002).They spread of supply chains might because of diversification of rural non-farm sector in the India.There a large number of factors such as agriculture growth, literacy, urbanization, government policies reason for variation among the different states.On the one hand, we observe high share of the rural non-

farm sector in part of Punjab & Haryana which are agriculture.Resource-poor part of western Rajasthan and north of Jharkhand also high shares of the nonfarm sector.There is moderately developed of states as Kerala, part of Tamil Nadu, Karnataka also has a high share of the nonfarm sector.These states generally cluster of industries which have been formed due to agriculture growth, input supplies, transport etc.

iii) Definition of rural non-farm sector

NSSO doesn't define Rural non-farm employment or Rural non-farm economy.NSS data show what percentage of the rural workforce are employed in different gainful activities.There is no indicator of whether employment is in rural,semi-urban or urban areas (Chadha 1997).Rural nonfarm economy defined in the literature as rural nonfarm activities include all activities in rural areas other agriculture. Steven Haggblade, Peter Hazell and Thomas Reardon (2007) defines "rural nonfarm economy includes all rural economic activity outside of agriculture". The author takes into consideration writing chapter rural nonfarm economy all activities in the rural economy except agriculture and allied activities. This chapter seeks to assess trends and nature of employment in rural non-farm employment in India and states. To study the growth and Distress led diversification among the India and state level and causes of change.To examine Groups among the states and factors influence the formation of the groups.

The plan of the present chapter is as follows. Section 2.1 brings out the trend in labour market participation at All India.Section 2.2 presents two evidences on the changes in the rural non-farm sector in the Indian economy.Section 2.3 examines the state level performance of nonfarm sector.Section 2.4 presents the discriminant analysis for groups among the major states.Section 2.5 the conclusion is presented.

2.1:Labour market Participation

The worker population ratio is the broad indicator of the availability of job opportunities. It showed the demand aspects of the labourforce.Thelabour force participation rate demonstrate economic activity population who ready to supply the labour.It is supplied aspect of the labour force. LFPR for males exhibited a marginal increase 0.9 percent from 1993-94 to 1999-00; again marginal decline -1.6 percent in 1993-94 to 1999-00; it rose 1.3 percent in 1999-00 to 2004-05 and finally to small marginal rose to 0.5 percent in 2007-08. The labour force participation

rate(LFPR) for males shows an inconsistency increase in the labour force from 1983 to 2007-08.LFPR for females exhibited a marginal decline of -1.5 percent from 1983 to 1993-94; again 1993-94 to 1999-00 it remained more or less constant.Durning 1999-00 to 2004-05 there was an enormous increase of 31.4 percent.This rise in 2004-05 shows female coming from agriculture market due to the agrarian crisis gripping the rural economy (Abraham 2009), again getting back to normalcy during 2007-08.

Table 2.1: LFPR and WPR in Rural India (Principal status) per 1000

Year\round	LFPR		WPR	
	Male	female	Male	female
1983	540(54.0)	252(25.2)	528(52.8)	248(24.8)
1987-88	532(53.2)	254(25.4)	517(51.7)	245(24.5)
1993-94	549(54.9)	237(23.7)	538(53.8)	234(23.4)
1999-00	533(53.3)	235(23.5)	522(52.2)	231(23.1)
2004-05	546(54.6)	549(54.9)	535(53.5)	242(24.2)
2007-08	551(55.1)	220(22.0)	538(53.8)	216(21.6)

Sources: NSSO reports on employment and unemployment in India (1983,1993-94, 2004-05 and 2007-08)

Note: bracketed figures are percentage share

Work participation rate(WPR) observed the demand aspects of the labourforce.WPR among the males exhibits a marginal increase of 1 percent from 1983 to 1993-94.Durning 1993-94 to 1999-00 exhibiting a minor decline of -1.6 percent; again during 1999-00 to 2004-05 showing a minor increase of 1.3 percent in 2004-05 and again 2007-08 showed no major change in the work participation rate in the rural India.WPR among the males display no major changes between 1983 to 2007-08 while showing some inconsistency changes in between the two periods. WPR among the females registered a marginal decline of 1.4 percent during 1983 to 1993-94; it exhibited no major 1993-94 to 1999-00; again showed a marginal increase of 1.1 percent between 1999-00 to 2004-05 and finally decline -2.6 percent from 2004-05 to 2007-08.WPR among females revealed an inconsistent decline from 1983 to 2007-08.Among females also inconsistent decline while suddenly large increase between 1999 to 2004-05. WPR among males witnessed no major changed between 1983 to 2007-08, while females inconsistent decline while increase between 1999-00 to 2004-05.Durning 1999 to 2004-05 both LFPR and WPR among the females showed an increase.Both LFPR and WPR trends show that large share of the

population is job seekers compared to an earlier period. This showed some distress employment in agriculture(Abraham 2009)), again getting back to normalcy during 2007-08.

Another method to understand the labour market is to study the compositional change in the nature of employment of labour in rural India. NSSO classifies employment pattern into three types: self-employed, regular and casual labour.The self-employed among rural males during the period 1983 to 1993-94 reveals a marginal decline -0.8 percent.There was an increase of 3.2 percent among the males self-employed between 1999-00 to 2004-05; during 2004-05 to 2007-08, there was a decline of -2.7 percent. Self-employed (cultivators) among males exhibited an inconsistent increase during the period from 1983 to 2007-08.Regular employed considered to superior to casual labour due to the regularity of the wages. Regular employed among the males displayed a marginal decline of -1.7 percent from 1983 to 1993-94; during 1993-94 to 1999-00 there was a small marginal increase; the period between 1999-00 to 2004-05 remains constant, similarly during between 2004-05 to 2007-08 remain negligible unchanged. Regular employment among males registered an inconsistent decline between 1983 to 2007-08. Casual labour registered an increase of 2.6 percent between the period from 1983 to 1993-94; again rose to 1.4 percent 1993-94 to 1999-00; there was a decline of -2.7 percent between 2004-05; again showing an increase of 2.7 percent between 2004-05 to 2007-08.Casual labour overall there is an increase among males.

Table 2.2: Workers by status of employment by Principal status (percent)

Year (round)	Rural male			Rural female		
	Self employed	Regular	Casual	Self employed	Regular	Casual
1983(38th)	59.5	10.6	30	54	13.7	42.2
1987(43rd)	57.5(-2)	10.4(-0.2)	32(2)	55(1)	4.9(-8.8)	40.2(-2)
1993-94(50th)	56.7(-0.8)	8.7(-1.7)	34.6(2.6)	51.3(-3.7)	3.4(-1.5)	45.3(5.1)
1999-00(55th)	54.4(-2.3)	9.0(0.3)	36(1.4)	50(-1.3)	3.9(0.5)	46.1(0.8)
2004-05(61st)	57.6(3.2)	9.1(0.1)	33.3(-2.7)	56.4(6.4)	4.8(0.9)	38.9(-7.2)
2007-08(66th)	54.9(-2.7)	9.3(0.2)	36(2.7)	50.8(-5.6)	5.3(0.5)	43.9(5)

Source: Employment and unemployment in 2007-08.Report no-531Note: bracket figures show the percentage change between two periods

Self-employed among females showed a decline of -3.7 percent between 1983 to 1993-94; again registered a marginal decline of -1.3 percent between 1993-94 to 1999-00; surprisingly between 1999-00 to 2004-05 self-employed among females rose to 6.4 percent.There was fall of -5.6 percent between 2004-05 to 2007-08. There were consistent decline self-employed activities among females from 1983 to 1999-00 and sharp decline between 1999-00 to 2004-05. Regular employment among the females registered a marginal decline of -1.5 percent from 1983 to 1999-00.Regular among females showed a marginal increase 0.5 percent from 1993-94 to 1999-00; again show a small minor shift of 0.9 percent between 1999-00 to 2004-05 and finally marginal of 0.5 percent between 2004-05 to 2007-08.There was a consistent increase in regular employment among the females between 1993-94 to 2007-08.Casual labourers among the females witnessed a 5.1 percent between 1983 to 1993-94; there was a marginal increase of 0.8 percent between 1993-94 to 1999-00.There was a sharp decline of -7.2 percent between 1999-00 to 2004-05 and finally increased to 5 percent between 2004-05 to 2007-08. Casual labourers among the females showed an inconsistent increase from 1983 to 2007-08 and exceptional decline between 1999-00 to 2004-05.

In sum, we can conclude that there is a rise in the casual labourers among males and females in rural India. There is also decline in self-employed activities among the males and females. Regular employment showing a small increase in the between 1999-00 to 2007-08 among females and males. There is increase in casualisation in rural India and decline in self-employment in the country (Sen 2002, Jatav and Sen 2013)

2.2: Two Kinds of evidence of increasing importance of NFS

Here one is presenting two kinds of evidence on the changes in the rural non-farm sector in the Indian economy. This evidence is based on NSSO rounds. In one case the employment in sectors are identified as the source and the second is to use income as the criteria to separate the two streams.

Households assigned categories based on income if the income is 50% or more from any particular economic activity.Self-employed in agriculture is loosely identified as cultivators.Self-

employed in non-agriculture more complex connotation may include even small enterprises.Otherlabour can be considered as non-agriculture labour.Others are non-descriptive nature. Other may include landlords, money lender, commission agents, etc.The study is based on the NSSO based on key employment and unemployment in India from 1983 to 2007-08.The data analyzed here reflects the economic diversification of the rural households. The household is classified according to their major share of their income. The household sector is classified as farm and non-farm sector. Here we define farm sector to combine self-employed in agriculture and agricultural labour households and the rest are identified as a non-farm sector.

Table2.3: Per thousand distributions of households as household income in rural areas in percentage

Household type(code)	**1983**	**1987-88**	**1993-94**	**1999-00**	**2004-05**	**2007-08**
Self employed in agriculture	40.7	37.7(-3)	37.8(0.1)	32.7(-5.1)	35.9(3.2)	35.0(-.9)
Agricultural labour	30.7	30.7(0)	30.3(-0.4)	32.2(1.9)	25.8(-6.4)	26.6(0.8)
Farm sector	**71.4**	**68.4(-3)**	**68.1(-0.4)**	**64.9(-3.2)**	**61.7(-3.2)**	**61.6(-0.1)**
Self employed in non-agriculture	11.7	12.3(.6)	12.7(-0.4)	13.4(0.7)	15.8(2.4)	14.4(-1.4)
Non-agricultural labour(other labour)	6.6	9.0(2.4)	8.0(-1)	8.0(0)	10.9(2.9)	11.5(0.6)
Other activities	10.3	10.1(-0.2)	11.2(1.1)	13.7(2.5)	11.6(-2.1)	12.5(0.9)
Nonfarm sector	**28.6**	**31.4(2.8)**	**31.9(0.5)**	**34.7(2.8)**	**38.3(3.6)**	**38.4(0.1)**
Total	**100**	**100**	**100**	**100**	**100**	**100**

Sources: Results of the fourth quinquennial survey on employment and unemployment (NSS 43rd), key employment and unemployment in India 2007-08. Codes have assigned as report no (531)

In the rural India, the share of self-employed in agriculture (cultivators) Household witnessed an inconsistent decline from 40 percent in 1983 to 35 percent in 2007-08, but during 1987 to 1993 there was no major change, however, there was marginal increase between 1999-00 to 2004-05 which was around 3 percent. The share of agricultural labour Household remained

mostly constant at 30 percent between the period from between 1983 to 1993-94, but during 1999-00 to 2004-05, there was a sharp decline in the share of agricultural labour Household from 32 percent to 25 percent. In farm sector, the self-employed in agriculture (cultivators) showed a sharper decline than the agricultural labour (Basant and Kumar 1994).

A decline in the farm sector implies an increase in the non-farm sector. But which are the sector which witnessed an increase in the non-farm sector? The share of households in self-employed in non-agriculture remain more or less unchanged between 1983 to 1999-00 with marginal fluctuations, however, the period between the 1999 -00 to 2004-05the self-employed in non-agriculture household recorded an increase of 2.4 percent, and then again a marginal decline of 1.4 percent in 2007-08. In the non-farm sector, the non-agricultural labour household showed a greater increase, than the self-employed in the non-agriculture household and other households. The decline agricultural household is compensated by the increase in non-agricultural labour and other households. The share of non-agricultural labour(Other labour)household showed an increase of 2.4 percent between 1983 to 1987, but remain constant till 1999-00.The period 1999-00 to 2004-05 non-agricultural household showed a rise from 8 percent to 10.9 percent and again marginal increase to 11.5 percent in 2007-08. The share of the other Household witnessed a marginal increase between 1983 to 1993-94 from 10.3 percent to 11.2 percent. The period between the 1993-94 to 1999 Other household showed an increase of 2.5 percent, and interestingly between 1999-00 to 2004-05 there a decline of 2.1 percent and again a marginal rise in 2007-08.The share of nonfarm sector household increased from 28 percent in 1983 to 38 percent in 2007-08.There was an increase in the nonfarm sector while the decline in the farm sector (Basant and Kumar(1989), G.S.Bhalla and Peter Hazell(2003) The decline in the agriculture households is compensated by the increase in non-agricultural labour and other households. (Basant and Kumar 1989, R.Vijay 2012).There was a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities. There has been diversification of household activities in favor non-farm activities but may be due to the distress in the agriculture (Vaidyanathan 1986). The diversification of the agricultural household to the non-agricultural household may distress or prosperity oriented the reason may be probed further.

i.Changes in the non-farm sector based on Employment:

In Table 2.4, An analysis of the Industrial division of the rural workers to understand the changes in the economic activities in the country.The composition of rural workers in rural India based on 1 digit level based on NIC 2004-05.This table shows the sectoral distribution of the rural workers over the 25 years period (1983 to 2007-08) and is based on the one digit status classification of economic activities.

The table shows that agriculture which continuous to be the mainstay for the rural males but the relative importance has substantially declined by 11 percent from 1983 to 2007-08.The share of rural females agriculture shows a decline 4.6 percent between the periods from 1983 to 2007-08.There falls in the share of the agriculture activities primarily because of the decline in males from agriculture rather females. In nonfarm sector, mining and quarrying activities were almost static for rural males and females. In manufacturing sector is important in providing employment in the nonfarm sector. Its proportion showed an inconsistent rise from 7.1percent in 1983 to 7.8 percent in 2007-08 for the rural males. Rural females in the manufacturing sector showed similar trends as rural males. There was an inconsistent increase from 6.5 percent in 1983 to 7.6 percent in 2007-08.There was a small increase in the rural manufacturing nonfarm activities in the rural India between the period from 1983 to 2007-08. Sectoral distribution of the electricity, gas, and water remained almost static among the rural employment among the males. Rural females remained absent from electricity, gas, and water.

Table2.4: sectoral distribution of rural workers in rural India (percentage)

			Rural males(PS)			
Sector	**1983**	**1987-88**	**1993-94**	**1999-00**	**2004-05**	**2007-08**
Agriculture	77.2	73.9	73.2	71.2	66.2	66.2
mining&quarrying	0.6	0.7	0.7	0.7	0.6	0.6
Manufacturing	7.1	7.6	7	7.3	8	7.8
electricity,gas&water	0.2	0.3	0.3	0.2	0.2	0.2
Construction	2.3	2.7	3.3	4.5	6.9	7.8
trade,hotels&restaurants	4.4	5.2	5.5	6.8	8.3	7.7
Transport&communication	1.7	2.1	2.2	3.2	3.9	4.1
other services	6.2	6.4	7.1	6.1	5.9	5.7
			Rural			

			females(PS)			
Sector	1983	1987-88	1993-94	1999-00	2004-05	2007-08
Agriculture	86.2	82.5	84.7	84.1	81.4	81.6
mining&quarring	0.4	0.5	0.5	0.4	0.4	0.4
Manufacturing	6.5	7.5	7.5	7.7	8.7	7.6
electricity,gas&water	0	0	0	0	0	0
Construction	0.9	3.2	1.1	1.2	1.7	2.3
trade,hotels&restaurants	2.2	2.4	2.2	2.3	2.8	2.6
Transport&communication	0.1	0.1	0.1	0.1	0.2	0.2
other services	3.4	3.7	4	4.3	4.6	5.4

Source: NSSO report on key employment and unemployment 2007-08 report no-531

Employment in construction activity among the rural males showed sharply rose from 2.3 percent in 1983 to 7.8 percent in 2007-08.Similarly among rural females also showed the similar trend from 0.9 percent in 1983 to 2.3 percent in 2007-08.The construction sector is growing as an important sector in rural non-farm employment particularly after 1999-00s.Trade, Hotels, and restaurants are another emerging sectors.In Trades, Hotels and restaurants among rural males show a consistent increase from 4.4 percent in 1983 to 7.7 percent in 2007-08.Similarly among rural females also reveals a marginal rise from 2.2 percent in 1983 to 2.6 percent in 2007-08.Transport and communications among rural males exhibit a consistent rise from 1.7 percent in 1983 to 4.1 percent in 2007-08.Rural females among the Transport and communications remain stagnant at 0.1 percent in 1983 till 1999-00 and again small marginal rise at 0.2 in 2004-05. Other services among the rural males rise from 6.2 percent in 1983 to 7.1 percent in 1993-94 and declined to 7.1 percent in 1993-94 to 6.1 percent in 1999-00, again showed a decline to 5.9 percent in 2004-05 and finally to 5.7 percent in 2007-08.Other services among rural females reveal an increase from 3.4 percent in 1983 to 4 percent in 1993-94; Interestingly rural females witnessed increased from 4 percent in 1993-94 to 5.4 percent in 2007-08.

In sum, the agriculture sector has revealed a decline for both males and females. There is a shift from the agriculture but more towards services than manufacturing sector (Basant and Kumar 1993, Mitra 2008, Mehrotra et.al, 2014).Manufacturing sector witnessed a marginal increase both for the males and females. In non-farm sector showed increase particular services in comparison to manufacturing. Construction showed greater rise followed by trade, hotel and restaurant, transport and communication and other services and lastly followed by the manufacturing sector. Construction activities showed emerging as important among the rural

nonfarm activities. Certain public services such as Electricity and water for rural males remains almost stagnant, the female had no role to play.

2.3 :State level performance of rural non-farm sector (RNFS):

Indian economy is known for its heterogeneity. So here one is trying to see if states also follow the same trend. So one will see broad changes in the RNFS in terms of employment and major source of income. This table shows the distribution of rural nonfarm workers in among states over the 21 year period(1983 to 2004-05).The table presents aggregate and displayed as rural nonfarm workers at both the state level and all India level.Some of the states which are agricultural developed such as Punjab, Haryana less developed states which are Orissa, Bihar etc. During the Pre-liberation Period, 1983 to 1993 among the Rural nonfarm workers among males exhibited most of the states were increasing tendency in the rural non-farm sector; while few states such as Bihar(-1.53), Madhya Pradesh(-0.02) and Orissa(-0.66) showed a decline. While among males in rural non-farm sector few states showed enormously large growth of the rural nonfarm activities such as Gujarat (8.79), Haryana (11.4), Rajasthan (6.49), Punjab (6.49) and West Bengal (7.7) respectively. Rural females among the rural non-farm sector showed that few states such as Andhra Pradesh (-1.18), Bihar (-5.7) and Orissa (-8.05) decline in the rural nonfarm activities. Few states show enormous increased West Bengal (17.33) and Kerala (5.82) among rural females.

In Persons among the Rural nonfarm workers during the pre-liberalisation period from 1983 to 1993-94 reveals that most of the states have shown an increase in rural nonfarm activities but few states such as Andhra Pradesh(-1.18), Bihar(-5.7) and Orissa(-8.05) respectively. Rural nonfarm activities show that a few states have observed a greater increase in nonfarm workers such as Gujarat (10.31), West Bengal (25.03), Karnataka (7.32), Rajasthan (7.65) and Haryana (6.03) respectively.

Liberalization period (1993-94 to 2004-05) among the males almost all states recorded increase in rural nonfarm activities exceptional Madhya Pradesh (-0.9) which have registered a marginal in nonfarm activities. Some States which have recorded high scores such as Andhra Pradesh(9.3),Bihar(6.2),Haryana(11.7),Kerala(15.9),Orissa(12.9),Punjab(13.9),Rajasthan(9.4) and Tamil Nadu(5.5) respectively. Liberalization Period (1993-94 to 2004-05) during the rural nonfarm workers among females most of the states showed an increase in the rural nonfarm

activities except Karnataka (-1.4) respectively. Some states showed high scores increase in the ruralNon-Farm

activities,,among,,females,,such,,asMadhyaPradesh(14.9),Kerala(11),Orissa(10.5),Bihar(5.6),An dhraPradesh(5.4) and Tamil Nadu(5) respectively. In Person LiberalisationPeriod (1993-94 to 2004-05) almost all states showed an increase in the rural nonfarm activities exceptionally a marginal decline in Karnataka(-0.2).

Table 2.5: Distribution of rural non-farm workers amongstates(percentage change)

STATES	1983-1993-94			1993-94 - 2005			1983-2005		
	m	f	total	m	F	total	M	f	Total
AP	0.04	-1.22	-1.18	9.3	5.4	14.7	9.34	4.18	13.52
Bihar	-1.53	-4.17	-5.7	6.2	5.6	11.8	4.67	1.43	6.1
Gujarat	8.79	1.52	10.31	1.9	1.9	3.8	10.7	3.42	14.11
Haryana	11.4	-5.33	6.03	11.7	1.9	13.6	23.1	-3.43	19.63
karnataka	3.44	3.88	7.32	1.2	-1.4	-0.2	4.64	2.48	7.12
Kerela	4.44	5.82	10.26	15.9	11	26.9	20.3	16.8	37.16
M.P	-0.02	0.12	0.1	-0.9	14.9	14	-0.92	15	14.1
maharastra	2.36	0.77	3.13	3.8	0.6	4.4	6.16	1.37	7.53
Orissa	-0.66	-7.39	-8.05	12.9	10.5	23.4	12.2	3.11	15.35
Punjab	6.49	-3.1	3.39	13.3	3	16.3	19.8	-0.1	19.69
rajasthan	8.6	-0.95	7.65	9.4	3.4	12.8	18	2.45	20.45
tamilnadu	2.53	1.78	4.31	5.2	5	10.2	7.73	6.78	14.51
UP	1.63	-1.45	0.18	9.9	3.5	13.4	11.5	2.05	13.58
WB	7.7	17.33	25.03	1	0.11	1.11	8.7	17.4	26.14
All India	2.87	0.58	3.45	7.6	2.9	10.5	10.5	3.48	13.95

Source: various relevant NSSO rounds

Overall Period(1983 to 2004-05) showed almost all states have recorded increases in rural nonfarm activities among the rural males except Madhya Pradesh(-0.92) have exhibited a marginal decline.Some states among rural males have displayed high scores as Haryana(23.1),Kerala(20.3),Punjab(19.8),Rajasthan(18),UttarPradesh(11.5),Gujarat(10.7),Andhr a Pradesh(9.34),West Bengal(8.7) and Tamil Nadu(7.73) respectively. Similar among the females almost all states showed an increase in the nonfarm activities except Haryana (-3.43)

In person during the overall period shows an increase in rural nonfarm activities in all states .some states have recorded high scores in the growth of nonfarm activities.The states which have recorded high scores above the 10 percentage change as follow Andhra

Pradesh(13.52),Gujarat(14.11),Haryana(19.63),Kerala(37),MadhyaPradesh(14),Orissa(15.35),Punjab(19.69),Rajasthan(20),Tamil Nadu(14.51),UttarPradesh(13.58),westBengal(26) respectively. There have been structural changes from agriculture to non-agricultural activities both India and rural India levels (Unni 1998).From this table, we can infer that between 1993-94 to 2004-05 rural non-farm sector has picked up almost all states.We can infer that during the pre-liberalisation era rural non-farm sector had fewer opportunities.There was a predominance of agriculture, However, during the post-liberalization era, the rural non-farm sector has shown an increase across all the states.

2.4: Discriminant Analysis

Different states are the different growth of the nonfarm sector so an attempt is made here to explain the differences. We have classified states into two groups: one with high NFS and the second with low NFS. Table for two years high and low NFS table states to be identified.Table 2.6 based on the share of nonfarm sector among the Indian states.Table 2.6 shows the change in the group from high nonfarm sector to low nonfarm sector between 1983 to 2009-10.The table shows that states.In 1983 states such as Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharastra, Rajasthan, Uttar Pradesh in group one states,whileAP, Haryana, Kerala, Orissa, Punjab, Tamil Nadu, and WestBengal in group two states.Interestingly there is a change of states 2009-10 Andhra Pradesh, Tamil Nadu which were group 2 shifted to group 1 in 2009-10.Bihar and Rajasthan which were in group 1 states shifted to group 2 in 2009-10.

Table 2.6: Percentage share of nonfarm sector (based on income) among the major Indian states

States	1983	group	2009-10	group
Andhra Pradesh	29.2	2	45.4	1
bihar	26.3	1	55.4	2
gujarat	28.9	1	35.6	1
haryana	39	2	54.8	2
karnataka	23.6	1	40.5	1
kerala	44.9	2	65.2	2
Madhya Pradesh	16.1	1	44.33	1
maharastra	25.1	1	35.7	1
orissa	32	2	54.5	2
punjab	34	2	56.1	2
rajasthan	24.7	1	51.4	2
tamilnadu	34	2	47.7	1
Uttar Pradesh	25.7	1	48.02	1
West Bengal	33.2	2	48.8	2

Source: Relevant NSSO rounds

i)Discriminant analysis for understanding the rural non-farm sector among the major state

Discriminant analysis has used to classify the states into in two groups/clusters based on rural non-farm sector and the factors influencing the grouping between 1983 and 2009-10.Since the effort is to differentiate and determine the factors which play a pivotal role in low nonfarm states (Group 1) and High nonfarm states (Group 2), the ideal choice is to employ discriminant analysis. It is similar to regression function**.**

$$D_i = a + b_1x_1 + b_2x_2 + \ldots + b_nx_n$$

Di is predicted score (discriminant score)/Discriminant function

x is predictor(discriminating variable) ,a is constant and b is discriminant coefficient

Data and Methodology:

The determinants for the study of rural non-farm sector taken for NSSO Reports final report on employment and unemployment 2009-10,sarveskhana April 1988, Statistical abstract 1989 land statistics, EPW foundation.SPSS 20 Version has used for analysis the data.The 14 major states are used for discriminate analysis as follows Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Orissa, Punjab, Tamil Nadu, West Bengal, Madhya Pradesh, Maharastra, Rajasthan, Uttar Pradesh.The data of the new created states Jharkhand, Chattisgarh and Uttaranchal clubbed together with original states.

Discriminating analysis in the understanding rural non-farm sector in 1983 and 2009-10

Their variables selected for the discriminant functions for estimating the determinants of rural non-farm sector are;

a)The area under the food crops- food crops supplies raw material for the agro-processing industries.Agro processing units like rice mills, sugar factories located in the region directly influence the growth of the nonfarm sector.food crop sector is related to the rural non-farm sector by consumption and investment linkages(Mellor 1976, Hazell and Haggblade(1991). Food crops is considered as a vital determinant of rural non-farm employment among the states

The specification is Total cropped area under total foodgrain.

b)The area under the non-food crops- farm and non-farm linkages have shown that the degree of commercialisation of agriculture influences the shares and growth of the Rural nonfarm economy.Empirical studies have to use the percentage of area under non-food crops as an index of commercialisation(Vaidyanathan 1986, Basant and Parthasarathy 1991, Murty and Durga 1992)Area under non-food crops also affects the urban linkages and growth of the modern nonfarm sector (Ranis and Stewart 1993).The specification of Area under the non-food crops - sugarcane and cotton under total cropped area

c)Irrigation- Agro-economy is directly influenced by irrigation. Irrigation increases the land productivity and uses of modern inputs(Hazell and Haggblade 1991).It changes the agriculture through changing the cropping pattern, extension of cultivation and increases the cropping intensity(Vaidyanathan 1986).It is the reason for commercialization and mechanization of the

farm(Hazell and Ramasamy 1973).The variable is explained net irrigated area(by govt, private, tanks, tube wells, and others)

d) Per Capita Income Per Capita Income determine the share of consumption and investment in states.High per capita income has influence in the growth of the nonfarm sector.The specification is SGDP at constant prices in 2004-05 series

e)Unemployment rate in rural areas-It helps in understanding the distress in rural areas.Unemployment rate show number of persons who unemployed in the rural areas show the distress led rural non-farm sector growth in rural India.(Vaidyanathan 1986)The specification is unemployment rate(15-59 years) in percent in rural areas for both male and female

Group statistics and Tests of Equality of Group Means 1983

The group's means of each of independent variable tell us the differences between different groups. All the independent variable means and standard derivations show clear differences and separations between two groups, Group 1 and Group 2. Hence, all variables such male, unfemale, food crop, a non-food crop, irrigate and PCI act as good discriminators in the model. From the group statistics, we can find that among variables in group1 states differ noticeable from group1 states to group2 states.

Table 2.7: Group Statistics in 1983

Group Statistics					
States		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
1	unmale	.71	.488	7	7.000
	un female	.00	.000	7	7.000
	foodcrop	71.71	14.361	7	7.000
	nonfood	7.29	5.678	7	7.000
	irrigate	8.71	7.342	7	7.000
	PCI	-1119.00	3746.440	7	7.000
2	unmale	2.29	1.704	7	7.000
	un female	.86	1.464	7	7.000
	foodcrop	64.29	16.700	7	7.000
	nonfood	3.86	4.880	7	7.000
	irrigate	5.57	3.047	7	7.000

	PCI	1119.14	2848.743	7	7.000
Total	unmale	1.50	1.454	14	14.000
	un female	.43	1.089	14	14.000
	foodcrop	68.00	15.452	14	14.000
	nonfood	5.57	5.388	14	14.000
	irrigate	7.14	5.641	14	14.000
	PCI	.07	3401.803	14	14.000

Note :Area under the food crops(foodcrop),Area under the non-foodcrops(nonfood),Irrigation(irrigate) ,Percapita income(PCI),unemployment rate in rural areas(unmale,unfemale),

Table 2.8 :Test of Equality of Group Means in 1983

Tests of Equality of Group Means in 1983					
	Wilks' Lambda	F	df1	df2	Sig.
unmale	.686	5.500	1	12	.037
un female	.833	2.400	1	12	.147
foodcrop	.938	.796	1	12	.390
nonfood	.891	1.468	1	12	.249
irrigate	.916	1.094	1	12	.316
PCI	.883	1.583	1	12	.232

Note :Area under the food crops(food crop),Area under the non-food crops(non-food),Irrigation(irrigate) ,Percapita income(PCI),unemployment rate in rural areas(male,unfemale),

Table 2.8 shows that Test of equality of group means Unemployment rate among rural males(male)(5.500), unemployment rate among females(unfemale)(2.400) ,Percapita Income(PCI)(1.583) Irrigation (1.094) and Area under nonfood crops(nonfood crop)(1.468) showing strong statistical evidence of significant difference between means of independent variables by getting high 'F' value. Except for Area under food crop(food crop)(.796).All the variables The test F for Wilks's Lambda was significant for all the variables (sig.smaller than 0.05)Wilk's lambda is used to test for significant difference between groups.Wilk's lambda is between 0 and 1.wilk's lambda shows that variable which has highest importance in discrimination function as follows Unemployment rate among rural males(male)(.686), unemployment rate among females(unfemale)(833) ,Percapita Income(PCI)(.883),Area under nonfood crops(nonfood crop)(.891)(Irrigation (.916)are high values the F tests.

Box's Test of Equality of covariance matrices

Table 2.9: Box's Test of Equality of Covariance Matrices in 1983

Log Determinants		
States	Rank	Log Determinant
1	5	.[a]
2	6	14.595
Pooled within-groups	6	23.458

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

a. Singular

The assumption of equality of variance-covariance matrices tested by Box's M test. The log determinants for group 1 states and group 2 should be very close and should not very much. Here there is singular matrix problem, but however, with large samples, a significant result is not regarded too important.

Summary of Canonical Discriminant Functions

Here, we got a canonical correlation of 0.924, which says that the model explains 0.924% of the variation in the grouping variables i.e whether the states belong to low(group1) or high(group2)Wilks' Lambda is one of the multivariate statistics. It is the product of the values of (1-canonical correlation) and indicates the significance of the discriminate function. It gives the total variability not explained so far, that is, only 6% is not explained.smaller Wilks' lambda(.147) greater the discriminating function between two groups.

Tables 2.10 :Eigenvalues and Wilks' lambda in 1983

Eigenvalues				
Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	5.798[a]	100.0	100.0	.924

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.147	17.250	6	.008

a. First 1 canonical discriminant functions were used in the analysis.

Table 2.11presents results of structure matrix, canonical discriminant function coefficients, and standardized canonical discriminant functions coefficients. Standardized canonical discriminant function coefficients provide an index of the importance of each predictor. The sign indicates the direction of the relationship. Here unemployed males in rural area(male) ,unemployed

females(unfemale),Area under food crop(food crop),area under nonfood crop(non-food) ,irrigation(irrigate) and Percapita income(PCI)a play an important role in Low nonfarm states(group 1) and High nonfarm states(group 2). The structure matrix table shows the relative importance of the predictors and put them in order according to their coefficient values.

Table 2.11 :Structure Matrix in 1983

Structure Matrix		**Canonical Discriminant Function Coefficients**		**Standardized Canonical Discriminant Function Coefficients**	
Function		Function			Function
	1		1		1
unmale	0.281	unmale	1.466	unmale	1.838
unfemale	0.186	unfemale	-1.922	unfemale	-1.989
PCI	0.151	foodcrop	.027	foodcrop	.415
nonfood	-0.145	nonfood	-.613	non-food	-3.246
irrigate	-0.125	irrigate	.093	irrigate	.523
foodcrop	-0.107	PCI	.001	PCI	3.256
		constant	-0.436		

The Canonical Discriminate Function coefficients can be used to construct discriminate function.

D= -0.436 + 1.466*unmale + (-1.922*unfemale) + .027*foodcrop + (-.613* nonfood) + 0.093*irrigate+.001*PCI.

Table 2.12 :Classification Results in 1983

Classification Results[a,c]					
		States	Predicted Group Membership		Total
			1	2	
Original	Count	1	7	0	7
		2	0	7	7
	%	1	100.0	.0	100.0
		2	.0	100.0	100.0
Cross-validated[b]	Count	1	7	0	7
		2	1	6	7
	%	1	100.0	.0	100.0
		2	14.3	85.7	100.0
a. 100.0% of original grouped cases correctly classified.					
b. Cross-validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.					
c. 92.9% of cross-validated grouped cases correctly classified.					

Classification results is a simple summary of number and percent of subjects classified correctly and incorrectly.The leave-one-out classification is a cross-validation method of which the results are also presented.The ‘leave –one –out classification ’is a cross –validation method, of which the results are also presented.

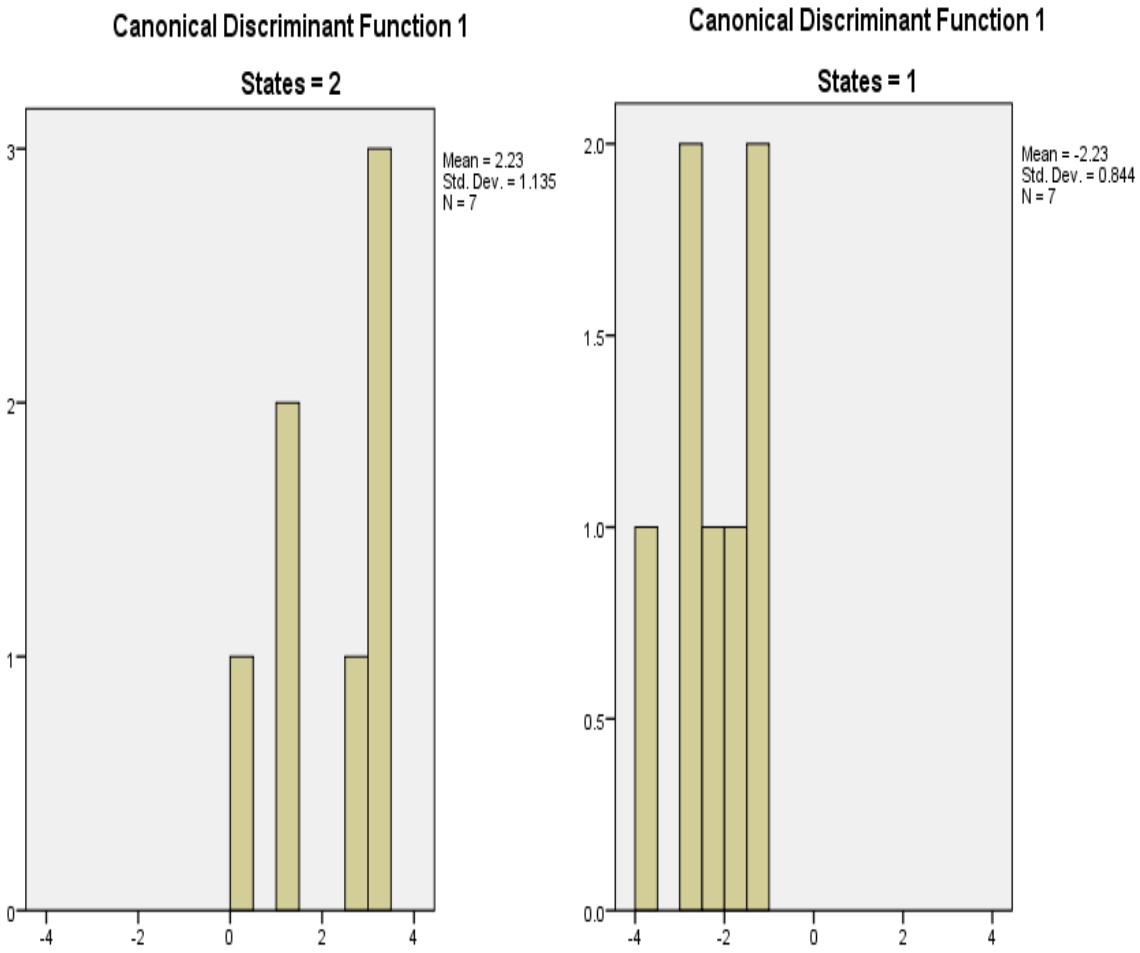
This table is used to identify how well the discriminant function works and if its work equally well for each group of the dependent variables.Here it correctly classifies more than 100 % of the cases making about the same proportion.Overall,100% of the cases are correctly classified. This is the “Hit Ratio”. Both Group 1 and Group 2 were classified with almost similar accuracy formal (100%) and informal (85.7%).

The Territorial Map

The territorial map provides a nice picture of the relationship between the predicted group and two discriminant functions.It helps you to study the relationship between the groups and discriminant functions.If the two distributions chart overlaps too much it means they don’t discriminate too(poor discriminate function.)

The Graph 2.1shows that two groups don’t overlap each other it means they do discriminate each other.The discrimination function is good.

Graph 2.1 ,Canonical Discriminant function in 1983



Discriminating analysis in the understanding rural non-farm sector in 2009-10

The variables selected for the discriminant functions for 2009-10 is same as in 1983.

1)Area under the food crops

2)Area under the non-food crops

3)Irrigation

4)Percapita income

5)unemployment rate in rural areas(both male and female)

6) Per Capita Income

Group statistics and Test of Equality of means

In the discriminant analysis, we are trying to predict a group membership so firstly, we examine whether there are any significant differences between groups on each of the independent variables using group means and ANOVA results in data All the independent variable means and standard derivations show clear differences and separations between two groups.

Table 2.14: Group Statistics in 2009-10

Group Statistics

states		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
1	unmale	1.43	.535	7	7.000
	un female	1.14	.690	7	7.000
	foodcrop	56.57	13.100	7	7.000
	nonfood	11.71	7.566	7	7.000
	irrigate	9.43	6.347	7	7.000
	PCI	2022.00	14357.319	7	7.000
2	unmale	2.86	1.345	7	7.000
	un female	6.71	7.088	7	7.000
	foodcrop	63.57	27.011	7	7.000
	nonfood	2.71	3.729	7	7.000
	irrigate	5.00	3.000	7	7.000
	PCI	-2022.00	15692.518	7	7.000
Total	unmale	2.14	1.231	14	14.000
	un female	3.93	5.636	14	14.000
	foodcrop	60.07	20.716	14	14.000
	nonfood	7.21	7.392	14	14.000
	irrigate	7.21	5.294	14	14.000
	PCI	.00	14601.278	14	14.000

Note :Area under the food crops(foodcrop),Area under the non-foodcrops(non-foodcrops),Irrigation(irrigate) ,Percapita income(PCI),unemployment rate in rural areas(unmale,unfemale),

Table 2.15: Test of Equality of means in 2009-10

Tests of Equality of Group Means					
	Wilks' Lambda	F	df1	df2	Sig.
unmale	.638	6.818	1	12	.023
un female	.737	4.285	1	12	.061
foodcrop	.969	.381	1	12	.549
nonfood	.601	7.970	1	12	.015
irrigate	.812	2.786	1	12	.121
PCI	.979	.253	1	12	.624

Note :Area under the food crops(foodcrop),Area under the non-foodcrops(non-food),Irrigation(irrigate) ,Percapita income(PCI),unemployment rate in rural areas(unmale,unfemale),

All the variables The test F for Wilks's Lambda was significant for all the variables (sig.smaller than 0.05)Wilk's lambda is used to test for significant difference between group.Area under non-foodcrops(7.970) have highest value in F tests.Wilk's lambda shows that variable which has highest importance in discrimination function as follows Area under nonfoodcrops(nonfoodcrop)(.601) Unemployment rate among rural males(unmale)(.638), unemployment rate among females(unfemale)(.737) ,Irrigation (.812)and Area under foodcrops(foodcrop)(.969)are high values the F tests.

Box's Test of Equality of covariance matrices

Table 2.16: Box's Test of Equality of Covariance Matrices in 2009-10

Log Determinants		
states	Rank	Log Determinant
1	6	22.281
2	6	28.110
Pooled within-groups	6	32.944

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

The assumption of equality of variance-covariance matrices tested by Box's M test. The log determinants for group 1 states and group 2 should be very close and should not very much.

Summary of Canonical Discriminant Functions

Here, we got a canonical correlation of 0.811, which says that the model explains 0.811% of the variation in the grouping variables i.e whether the states belong to low(group1) or high(group2)Wilks' Lambda is one of the multivariate statistics. It is the product of the values of (1-canonical correlation) and indicates the significance of the discriminate function. It gives the total variability not explained so far, that is, only 6% is not explained.smaller Wilks' lambda(.570) greater the discriminating function between two groups.

Tables 2.17: Eigenvalues and Wilks' lambda in 2009-10

Eigenvalues				
Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	1.918[a]	100.0	100.0	.811

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.570	9.639	6	.141

Table 2.18 :Structure Matrix in 2009-10

Structure Matrix		**Canonical Discriminant Function Coefficients**		**Standardized Canonical Discriminant Function Coefficients**	
Function		Function			Function
	1		1		1
nonfood	-.588	unmale	.255	unmale	.261
unmale	.544	unfemale	.116	unfemale	.582
unfemale	.431	foodcrop	.031	foodcrop	.668
irrigate	-.348	nonfood	-.088	nonfood	-.525
foodcrop	.129	irrigate	-.120	irrigate	-.593
PCI	-.105	PCI	.000	PCI	-.052
			-1.393		

Note :Area under the food crops(food crop),Area under the non-food crops(non-food crops),Irrigation(irrigate) ,Percapita income(PCI),unemployment rate in rural areas(male,unfemale),

Table 2.11presents results of structure matrix, canonical discriminant function coefficients, and standardized canonical discriminant functions coefficients. Standardized canonical discriminant

function coefficients provide an index of the importance of each predictor. The sign indicates the direction of the relationship. Here unemployed males in rural area(male) ,unemployed females(unfemale),Area under food crop(food crop),area under nonfood crop(non-food) ,irrigation(irrigate) and Percapita income(PCI)a play an important role in Low nonfarm states(group 1) and High nonfarm states(group 2). The structure matrix table shows the relative importance of the predictors and put them in order according to their coefficient values. The 'canonical Discriminant function coefficients' indicate the unstandardized scores concerning the independent variables.It is the list of coefficients of the unstandardized discriminate equation.Each subject's discriminant score would be computed by entering his or her variable values(raw data) for each of the variables in the equation.

The Canonical Discriminate Function coefficients can be used to construct discriminate function.

D= -1.393+ .255*unmale + .116*unfemale + .031*foodcrop + (-.088* nonfood) + (-.120*irrigate)+.000*PCI.

Table 2.19 :Classification Results

Classification Results[a,c]					
		states	Predicted Group Membership		Total
			1	2	
Original	Count	1	7	0	7
		2	1	6	7
	%	1	100.0	.0	100.0
		2	14.3	85.7	100.0
Cross-validated[b]	Count	1	6	1	7
		2	3	4	7
	%	1	85.7	14.3	100.0
		2	42.9	57.1	100.0
a. 92.9% of original grouped cases correctly classified.					
b. Cross-validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.					
c. 71.4% of cross-validated grouped cases correctly classified.					

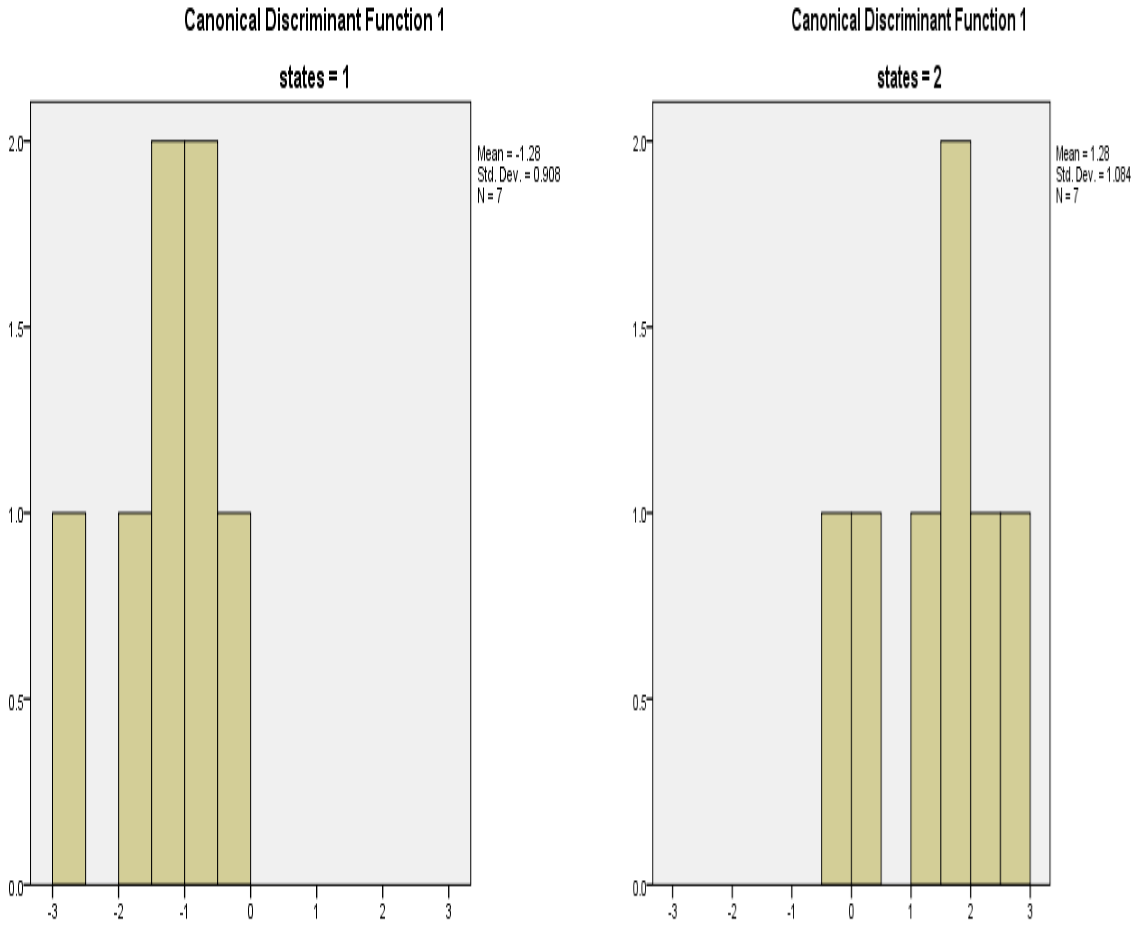
This table is used to identify how well the discriminant function works and if its work equally well for each group of the dependent variables.Here it correctly classifies more than 92.9 % of the cases making about the same proportion.This is the "Hit Ratio". Both Group 1 and Group 2 were classified as almost similar accuracy Group 1(85.7%) and Group2 (57.1%).

The Territorial Map

The territorial map provides a nice picture of the relationship between the predicted group and two discriminate functions.It helps you to study the relationship between the groups and discriminate functions. The charts show whether graphs is overlapping each other it means that they discriminate each other.

In the two distribution charts shows that graphs don't overall each other, it means they do discriminate each other. The discriminate function is good.

Graph 2.2 ,Canonical Discriminant function in 2009-10



2.6: Conclusion

In India, there is the decline in the agricultural activities, while there is the growth of the rural non-farm sector in the country.Durning 1999 to 2004-05 both LFPR and WPR among the females showed an increase.This shows some distress employment in agriculture.There is a rise in the casual labourers among males and females in rural India. There is also decline in self-employed activities among the males and females. Regular employment revealed a small increase in from 1999-00 to 2007-08 among females and males. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities. There has been an overall increase in the nonfarm sector in all states, some states such as Andhra Pradesh, Karnataka, Kerala, Punjab, Rajasthan, Tamil Nadu and West Bengal showed exceptionally high growth of the nonfarm sector. At All India, the level agriculture sector has

revealed a decline for both males and females. Construction activities exhibiting an emerging as important sector among the rural nonfarm activities. Construction showed greater rise followed by trade, hotel and restaurant, transport and communication and other services and lastly followed by the manufacturing sector. There is a shift from the agriculture but more towards services than manufacturing.Discriminant analysis wilks lamba shows that during 1983 are has highest importance in discrimination function as follows Unemployment rate among rural males(male)(.686), unemployment rate among females(unfemale)(833) ,Percapita Income(PCI)(.883),Area under nonfood crops(nonfood crop)(.891)(Irrigation (.916),while 2009-10 in shows that variable which has the highest importance in discrimination function as follows Area under nonfood crops(nonfood crop)(.601) Unemployment rate among rural males(male)(.638), unemployment rate among females(unfemale)(.737) ,Irrigation (.812)and Area under food crops(food crop)(.969) Finally, it may be concluded that distress factors such as unemployment rate among males and females in rural areas were important in formation of group among low and high nonfarm states in 1983, while In 2009-10 commercialisation of agriculture and unemployment among males were important for the growth low and high nonfarm sector.There was distress led factors influencing the growth of nonfarm sector among the states in the eightes ,while the mix of growth and distress factors reason for the growth of the nonfarm sector in 2009-10

CHAPTER III

Nature and characteristics of households in the rural non-farm sector:

A study of all India and Tamil Nadu

3.0: Introduction

There are two important trends on employment seen on Indian economy in the recent period. One is the steady decline in the share of farm households in the rural area and the second is the secular increase in the share of households in the rural non-farm sector. The occupational or employment pattern remained constant in India till the 1950s and 1960s but there was a change after 1970 with the increase in employment in the non-farm sector in the country (Himanshu et.al, 2011). The developing countries, where there was a major decline in the share of income originating in agriculture and also a major decline in the share of households seeking employment in the farm sector. The all-India trend shows a significant decline in the share of income originating from agriculture but the decline in workforce engaged in agriculture was much slower than the decline in the share of income. Until the 1980's a dominant opinion that existed was that agriculture sector was seen as the reservoir for surplus labour but post In the 1980's it was felt that agriculture cannot hold the surplus labour and the non-farm sector has become the reservoir for the surplus labour. In this context, this chapter attempts to analyze two features. One has there been a steady increase in the share of households in the rural non-farm sector. Two, what are the characteristics of households who are moving into the rural non-farm sector. Are the poor – distress driven households moving into the non-farm sector or are the resource-rich households moving out of the farm sector.

Tamil Nadu is a state with a relatively more important role for Industry in terms of employment as well as a share of income originating from the non-primary sector. An implication of this is that share of households dependent on the farm sector has declined more when compared to the all-India trend. This could be either due to demand-pull by industry, or supply push from agriculture as water from Kaveri River dried up (Janakarajan 2016).Given the context, one would expect a difference in the nature of households entering the rural non-farm sector in the

state of Tamil Nadu. So the second set of issues being studied in the chapter is the nature and composition of the rural non-farm sector in Tamil Nadu state.

Given the emphasis on all India and state level trends, this chapter would depend on secondary sources for data. The NSSO rounds on Employment and Unemployment in India are one of the most used rounds to analyze trends. The inquiry is based on relevant rounds of NSSO on Employment and unemployment. The rounds under consideration are 38th (1983), 50th (1993-94), 55th (1999-2000), 61st (2004-05) and 66th (2009-10).

The plan of the present chapter is as follows. Section 3.1 brings out the distribution of population and the trend of a share of the population over time in India and Tamil Nadu for both rural and urban sector. Section 3.2 provides the occupational classification of the rural household based on the five major NSSO categories both at all-India rural as well as for rural Tamil Nadu. The changing composition of different occupation has also been checked in this section. Percentage change in the distribution of the rural farm and non-farm sector households over social groups for the period 2004-05 and 2009-10 is presented in section 3.3. Section 3.4 deals with the characteristic of the non-farm sector by emphasizing the location (fixed or non-fixed) of the non-farm household. Section 3.5 explains the factors influencing the decision of the household to enter into the non-farm sector. A Logistic regression analysis has been done to verify the empirical validity of the factors influencing the decision of the household to enter into the non-farm sector in section 3.6 for all India level. In Section 3.7 a comparison of the empirical result for participation in the non-farm sector for two different periods for India has been presented. A Logistic regression analysis has been done to verify the empirical validity of the factors influencing the decision of the household to enter into the non-farm sector in section 3.8 for Tamil Nadu. In Section 3.9 a comparison of the empirical result for participation in the non-farm sector for two different periods for Tamil Nadu has been presented. The difference between the characteristic of non-farm sector between All India and Tamil Nadu is presented in section 3.10. The conclusion is presented in section 3.11.

3.1: Distribution of the Individuals in rural/urban and farm/non-farm axis:

Before analyzing the nature of the rural non-farm sector, it would be pertinent to look into the share of households in the rural and urban sector. One of the dominant opinions is that

urbanization has not increased to a significant level in the country but households have moved out of the agrarian sector, but have moved from the farm to the rural non-farm sector. So this section would present tables to see, one, the changing share of the rural population over time and secondly, to see if Tamil Nadu has the same level and change in the trend of the rural population at the all India level.

Table 3.1: percentage Distribution of Population in India and Tamil Nadu in rural over time

Rural	**1983**	**1993-94**	**1999-00**	**2004-05**	**2009-10**
India	76.26	75.17	74.68	74.53	72.68
Tamil Nadu	65.19	64.77	72.78	61.24	55.21

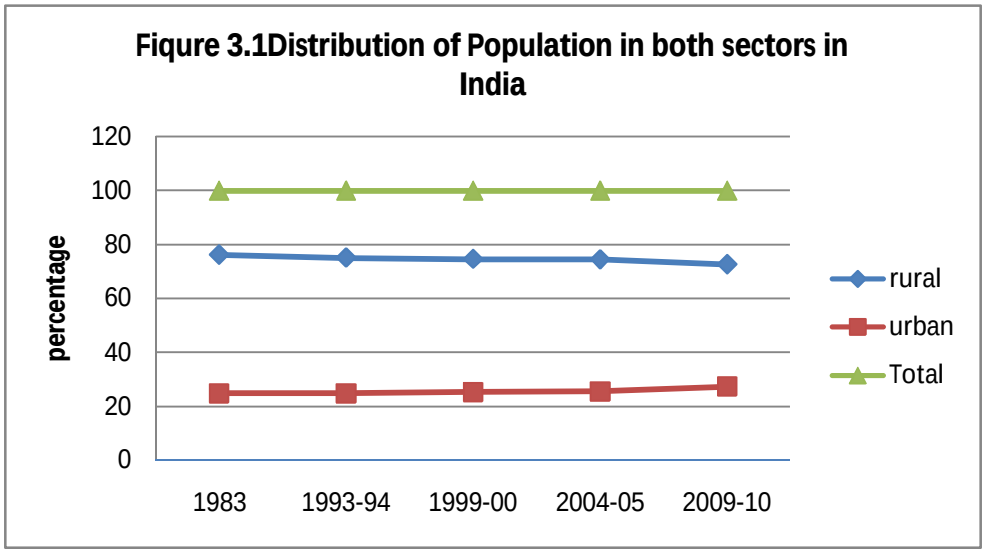
Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

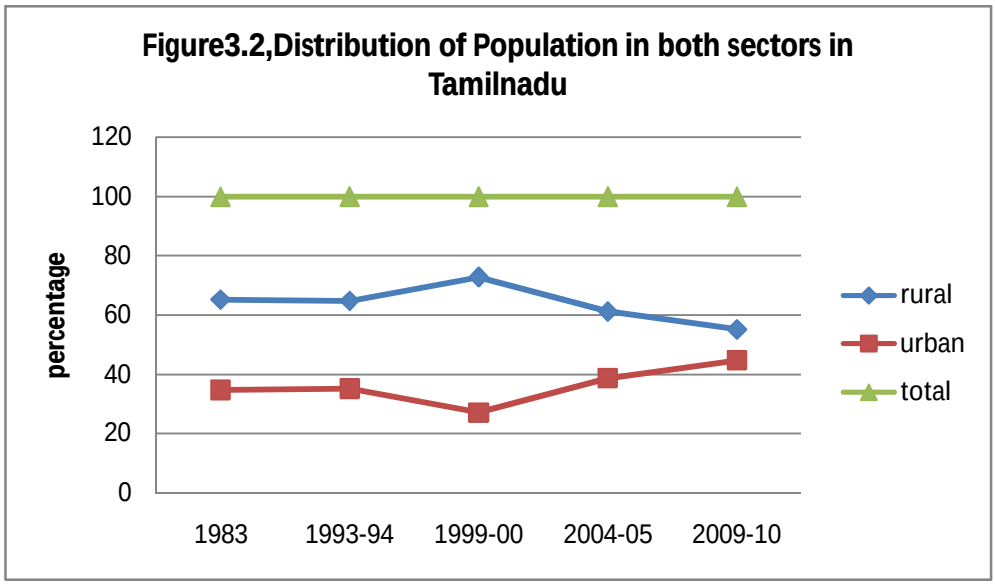
Table 3.1 provides information on the percentage distribution of individuals in the rural areas at all India and for Tamil Nadu state. The period on which the data is presented is between 1983 to 2009-10 for All India and Tamil Nadu state. At the all India level, in the year 1983, the share of individuals staying in rural areas was around 76 per cent. This declined to around 72 per cent (or a less than 4 per cent decline in more than 33 years). So at the all India level, there is a decline in the share of the population in the rural but one can make two observations. One, Indian economy continues to be a rural economy and two; there is a marginal decline in the share of rural households over time.

Tamil Nadu state showed a different trend when compared to all-India trend. In the case of Tamil Nadu state, the share of rural individuals is 65 per cent, which is nearly 10 percent below the all-India figure. This is an indication of a higher share of the urban sector in the Tamil Nadu economy. The second important feature of Tamil Nadu is the decline in the share of rural households in the reference period. The share of the rural population has decreased by approximately 10 percentage points in the reference period. In addition, the decline in rural individuals is fluctuating. In the reference period, 1993-94 to 1999-2000, there is a large increase in the share of rural individuals and later it has fallen to 61 percent in 2004-05 and again to 55 percent in 2009-10. So the state of Tamil Nadu has a relatively smaller share of rural households

and also a faster decline in the share of rural households as compared to all India level. The figure 3.1 and 3. 2 presents the trends over time for all India and for Tamil Nadu state.

Distribution of Population in both sectors from 1983 to 2009-10 for All India & TN





Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

The figures 3.1 & 3.2 show the distribution of the population in the rural and urban area in the country between 1983 to 2009-10. The country witnessed a steady increase in urban population in general. But year to year fluctuation was observed over the period.There was less constancy between 1999-00 to 2004-05.The rural sectors also witnessed a steady decline between 1983 to 2009-10. In the case of Tamil Nadu, the distribution of population among the both sectors from

1983 to 2009-10, witnessed an inconsistent trend. In the period between 1993-94 and 1999-00, there was a decline in the urban population and after that, there was a large increase in the share of urban population. The rural population also observed a fluctuating trend increased between 1993-94 and 1999-00 and decline after that period.

3.2: Occupational Composition of the rural sector:

All India

Given the relative importance of rural sector at the all India level, and declining importance of the rural economy in Tamil Nadu, it is pertinent to see the occupational change of rural households. Has there been a decline in the farm sector in the rural populations and an expansion of rural non-farm sector? To look into this feature this section presents information on the occupational distribution of households in the rural sector based on five NSSO classes as presented in the reports. NSSO in its reports classifies households into five classes based on the major source of income of the households. The five classes are self-employed in agriculture, agricultural labour households (these households can be identified as households in farm sector), self-employed in non-agriculture, other labour and others (these households can be identified as households in the non-farm sector). Households have been classified based on income if the income is 50% or more from any particular economic activity (NSSO employment and unemployment report 2007-08). Self-employed in agriculture is loosely identified as cultivators. Self-employed in non-agriculture is a more complex connotation and may include even small enterprises. Other labour can be classified as non-agriculture labour. Others are non-descriptive in nature. Other may include landlords, money lender, commission agents, etc.

Table 3.2 provides information on the distribution of rural workers according to household type at all India level. The data is presented for three periods: 1993-94, 2004-05 and 2009-10.

Table 3.2: Distribution of rural workers according to household Type in All India

HH type	1993-94	2004-05	2009-10
		24.08	23.83
AGL labour	27.53	(-3.45)	(-0.25)
		39.78	35.53
Self-Employed AGL	42.38	(-2.6)	(-4.25)
Farm Sector		63.86	59.36

	69.91	(-6.05)	(-4.5)
		16.75	16.41
Self-Employed NF	13.06	(3.69)	(-0.34)
		10.57	14.85
Other labour	7.49	(3.08)	(4.28)
		8.82	9.38
Others	9.54	(-0.72)	(-0.56)
		36.14	40.64
Non-Farm Sector	30.09	(6.05)	(4.5)

Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

Note: Figures in the brackets provide the change over the period.

In Rural India, the share of the self-employed in agriculture (cultivators) has witnessed a decline from 42 percent in 1993-94 to 35 percent in 2009-10. Similarly, the share of agricultural labour also registered declined from 27.03 percent in 1993-94 to 23.83 percent in 2009-10. As a result of which the overall farm sector registered a decline from 69 percent in 1993-94 to 59 percent in 2009-10. In the reference period 1993-94 to 2009-10, there was a large decline of approximately 10 per cent in the farm sector. Overall farm sector exhibited decline, cultivators showed sharper decline than the agricultural labour at the all India level.

In the non-farm sector, self-employed in non-agriculture registered a decline from 13 per cent in 1993-94 to 16.41 per cent in 2009-10. Other Labour household (non-agricultural labour) is registering a greater increase from 7.49 per cent in 1993-94 to 14.85 per cent in 2009-10. Another household category has observed marginal decrease from 9.54 per cent in 1993-94 to 9.38 per cent in 2009-10. The overall non-farm sector has increased by 10 percentage points from 30 percent in 1993-94 to 40 percent in 2009-10.

Interestingly, at the all India level the when share of rural households did witness a marginal decline; the composition within the rural sector has witnessed a significant change. On the one hand, farm sector has witnessed a significant decline with both cultivators and agricultural labourers witnessing a fall, on the other hand, the non-farm sector has seen a significant increase with self-employment in non-agriculture and other labour witnessing an increase. This gives an indication of increasing importance to the rural non-farm sector in the rural economy.

Tamil Nadu

Table 3.3: Distribution of rural workers according to household Type in Tamil Nadu

HH type	1993-94	2004-05	2009-10
AGL labour	23	22.12 (-0.88)	35.99 (13.87)
Self-Employed in AGL	40	35.59 (-4.41)	18.48 (-17.11)
Farm Sector	63	57.71 (-5.29)	54.47 (-3.24)
Self-Employed in Non-Farm	13.59	14.42 (0.83)	12.62 (-1.8)
Other labour	12.78	17.41 (4.63)	23.99 (6.58)
Others	10.12	10.47 (.35)	8.91 (-1.56)
Non-Farm Sector	36.49	42.3 (5.81)	45.52 (3.22)

Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

Note: Figures in the brackets represent change over the period.

The above table 3.3 discusses the distribution of the rural workers according to their household type in Tamil Nadu. The period on which the data is presented is between 1993-94 and 2009-10. The present section tries to understand which occupational group has increased in the non-farm sector. In Rural Tamil Nadu, the share of the self-employed in agriculture (cultivators) has witnessed a decline from 40 percent in 1993-94 to 18 percent in 2009-10. There was a large decline of approximately 22 percent among the cultivators. The share of agriculture labour inconsistently increased from 23 percent in 1993-94 to 35 percent in 2009-10. In reference period 1993-94 to 2004-05 there was a decline from 23 percent in 1993-94 to 22 percent in 2004-05 and lately increased to 35 percent in 2009-10. There was an increase of approximately 12 percent of the agricultural labour. Overall farm sector registered a decline from 63 percent in

1993-94 to 54 percent in 2009-10. There was a decline of approximately 9 percent in farm sector which can be attributed to the significant decline in the self-employed in agriculture household. Interestingly the cultivators registered a greater decline, while the agricultural labour showed an increase.

In Tamil Nadu, self-employed in non-agriculture exhibited an inconsistent declined from 13 percent in 1993-94 to 12 percent in 2009-10. Self-employed in non-agriculture registered a marginal increase of 13 per cent in 1993-94 to 14 per cent in 2004-05 and again declined to 12 percent in 2009-10. There was a marginal decline of approximately 1 percent among self-employed in the non-agriculture household between 1993-94 and 2009-10. The share of Other Labour household (non-agricultural labour) has shown an increase from 12 percent in 1993-94 to 23 percent in 2009-10 and this trend was consistent. The share of Other Household experienced a marginal decline by 1.50 per cent in the reference period between 1993-94 and 2009-10 which was an inconsistent trend. It was 10.12 per cent in 1993-94, experienced a marginal increase of 10.47 per cent in 2004-05 and then declined to 8.41 per cent in 2009-10. The overall share of non-farm sector increased from 36 percent in 1993-94 to 45 percent in 2009-10. There was an increase of approximately 9 per cent between two periods.

In the case of Tamil Nadu, the rural sector had shrunk more as compared to the All India trend. Here also the farm sector witnessed a decline due to the decline of the share of cultivators when compare to all-India trend. There was a shift from the self-employed in agriculture (cultivators) to the non-agricultural activities. In the non-farm sector, the major increase is in the share of 'other labour' households in the rural economy.

At the all India level as well as at the Tamil Nadu state level, one is witnessing a decline in the share of the farm sector in the rural economy and an increase in the rural non-farm sector. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agriculture. But the difference of Tamil Nadu was in terms of significantly higher increase in the share of 'other labour' when compared to all-India trend. In other words, based on the classification of households into five groups, one is witnessing a significant increase in the proportion of rural non-farm sector in the form of an expansion of households classified as 'other labour' in the rural sector.

3.3: Rural Non-Farm sector and social groups

An expansion in the rural non-farm sector over time would imply households moving into this sector. But it would be interesting to look at is households of some specific caste groups moving into a rural non-farm sector or are all households having the equal possibility to enter the rural non-farm sector? In other words, is caste positon of an individual an entry barrier or facilitator to enter the rural non-farm sector?

Table 3.4: Percentage Change in Distribution of Households over Social Group and Rural Classes during 2004-05 to 2009-10

HH type	ST	SC	OBC	OTHERS
AGL labour	0.72	-1.92	1.6	-0.39
Self-Employed in AGL	1.52	-0.78	-0.99	0.23
Farm Sector	2.24	-2.7	0.61	-0.16
Self-Employed in Non-Farm	0.58	0.05	-0.99	-0.64
Other labour	-2.25	2.77	0.03	-0.56
Others	1.54	0.89	-0.53	-1.89
Non-Farm Sector	-0.13	3.71	-1.49	-3.09

Note: ST-Scheduled tribes, SC-Scheduled Castes, OBC-Other backward castes
Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

Table 3.4 provides information on the distribution of households over income classes and social groups. The period on which the data is presented is between 2004-05 and 2009-10. In the table data has been presented only for two periods because in the earlier period the data related to OBCs was not collected by NSSO in the employment and unemployment reports. In the table data on the actual share is not presented. It is only the percentage change in the share of households in the relevant group that has been presented.

The share of Scheduled Tribes (ST) household witnessed an increase in farm sector by 2.24 per cent from 2004-05 to 2009-10. The overall increase in the farm sector was due to the increase in

both Self-employed in agriculture (by 1.52 per cent) and agricultural labour (by 0.72 per cent) category in the farm sector. In the non-farm sector, the share of ST household has registered a marginal decline of -0.13 per cent which was due to the significant decline in the otherlabour household. The share of self-employed in non-farm and other ST household have witnessed an increase in the non-farm sector.

The share of Scheduled Caste (SC) in the farm sector has declined due to decline in both agricultural labour and self-employed in agriculture (cultivator) households. It has registered a decline of -2.27 percent between the two periods. SCs are generally agricultural labour in the rural sector and the decline in the share could represent some amount of distress in the rural sector. In non-farm sector, SC households prefer to join other labour (non-agricultural labour) compared to others and Self-employed in non-farm. However, there is an increase in the share of SC households in the non-farm sector by 3.71 per cent in the two reference period.

Other Backward Caste (OBCs) exhibits a marginal increase of 0.61 percent between the two periods in the farm sector. Interestingly, cultivators showed a marginal decline, while agricultural labour household showed an increase. OBCs in the non-farm sector have witnessed a decline of -1.49 percent. The decline was attributed to the decline in the Self-employed in non-agriculture (0.99 per cent) and others (0.53 per cent).

The share of others (forward caste) household has witnessed a decline in both farms as well as non-farm sector. It witnessed a small marginal decline of -0.16 percent between two periods in the farm sector. Cultivators showed a marginal increase and agricultural labour household has a decline among the other social group.In non-farm sector, other social group witnessed a decline of -3.09 percent between two periods. Others social group showed a decline among otherlabour (non-agricultural labour) and others. One reason could be the migration of this other social group from rural sector to urban sector.

So in a nutshell in the farm sector ST and OBC witnessed an increase at all India level. SC and Others social group showed a decline in the farm sector. SCs could have shifted from farm sector which might be because of the distress in the rural farm sector. In non-farm sector, Other labour (non-agricultural labour) is increasing in SC and marginally increasing for OBCs, while ST and other social group exhibited a decline over the period. Other social group decline in both farm and rural non-farm sector shows that they might have shifted to urban sector.

Tamil Nadu

Table 3.5: Social Group and Rural Non-Farm Sector according to their Household type in Tamil Nadu (% change) during 2004-05 to 2009-10

HH type	ST	SC	OBC	OTHERS
AGL labour	0.65	-7.51	6.46	0.4
Self-Employed in AGL	1.04	-0.53	-0.6	0.09
Farm Sector	1.69	-8.04	5.86	0.49
Self-Employed in Non-Farm	1.7	-4.88	3.91	-0.74
Other labour	-0.36	1.68	-1.84	0.53
Others	0.3	-1.34	3.51	-2.48
Non-Farm sector	1.64	-4.54	5.58	-2.69

Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

Table 3.5 provides information regarding the distribution of the household over income classes and social groups in Tamil Nadu. The period for which the data is presented is between 2004-05 and 2009-10. In Tamil Nadu, Scheduled Tribe (ST) exhibited an increase of 1.69 percent in farm sector between the two periods. In farm sector, both agricultural labour and self-employed in agriculture (cultivators) have registered an increase. Similar is the case for a non-farm sector where STs have witnessed an increase of 1.64 percent between two periods. Other labour (non-agricultural labour) witnessed a marginal decline, while self-employed in non-agriculture and others showed an increase.

Scheduled caste (SCs) in Tamil Nadu has shown a larger decline in farm sector by 8.04 percent between two reference periods due to decline in both cultivator and agricultural labour household. But the decline was predominantly because of the decline of the agricultural labour household by 7.51 per cent. In non-farm sector also SC exhibited a decline of 4.54 per cent between two periods and it was due to the larger decline in the self-employed in the non-farm household by 4.88 per cent. The other labour households have increased by 1.68 per cent during

the same periods. The decline of SCs both farm and rural non-farm sector prove that SCs moving towards urban sector for employment.

Other Backward Caste (OBCs) among farm sector exhibited an increase of 5.86 per cent between 2004-05 and 2009-10. Surprisingly self-employed in agriculture (cultivators) witnessed a marginal decline, while agricultural labourer among OBCs showed a rise in a big way. In non-farm sector, OBCs registered an increase of 5.5 percent between two periods. Interestingly otherlabour (Non-Agricultural labour) witnessed a decline, while Self-employed in non-agriculture and others showed an increase.

The share of others (forward caste) experienced a marginal increase of 0.49 percent between two periods in the farm sector. Cultivators and Agricultural labour showed a marginal increase among the other social group. In non-farm sector, other social group witnessed a decline of -2.48 percent between two periods. Forward castes group showed a decline in other and Self-employment in non-agriculture, while a marginal increase in otherlabour (non-agricultural labour). The forward castes social group might be migrating from rural sector to urban sector.

In the case of Tamil Nadu in the share of households in the farm sector is increasing for Scheduled castes (ST), Other Backward Caste (OBC) and marginally for others. Scheduled castes (SC) households are exiting from both farm and non-farm sector but the rate of exit is high from the farm sector. They might be shifting to the urban sector for employment in the non-farm labour category.

Overall in All India and Tamil Nadu SCs are leaving the farm sector. But for Tamil Nadu, the share for SCs is also declining for the rural non-farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. ST and OBCs share in the farm sector are increasing in both at All India and Tamil Nadu level. Interestingly when others social group shows a marginal decline from farm sector at the all India level, in the case of Tamil Nadu it has shown a marginal increase in the farm sector. In the non-farm sector other social group declines for both All India as well as for Tamil Nadu.

3.4 Characteristics of the rural non-farm sector in India and Tamil Nadu

Given the expansion of the rural non-farm sector and also the significant entry of non-ST households in the sector, the present section would like to analyses where the employment in rural NFS is fixed or non-fixed. A household having a fixed location might imply that these households have either present surplus or accumulated surplus. A household with a non-fixed location might have a small surplus or no surplus which might be important decision variables when one is trying to analyze occupational diversification. There is a movement of rural workers from location either fixed or non-fixed in both rural and urban location.

Jatav, Manoj and Suchitra Sen (2013) have tried to see the relation between employment and location. The location of the work place is classified according to rural fixed location, rural non-fixed location, urban fixed and Urban non-fixed.The rural fixed location is defined as a person having fixed place of working in the rural areas for example own dwelling unit or street with a fixed location,own enterprise/unit/office/shop but away from own dwelling etc. Rural non-fixed location can define as a person who doesn't have fixed workplace in rural Areas for example construction site etc. Urban fixed location can define as a person who has fixed work place in Urban areas for example employer's dwelling unit etc. Urban non-fixed location can define as a person having no fixed work location in Urban Areas for example construction site, no fixed location, and others etc. Rural non-farm sector primarily situated in a rural location is not exclusive to it. The rural workers diversified to urban areas or both rural and urban areas show the larger ambit of rural non-farm work.

Another method of classification of households used by NSSO for employment is the nature of employment. The nature of employment is regular, casual and self-employment. A self-employed person is identified as a "Persons who operate their own farm or non-farm enterprises or are engaged independently in a profession or trade on own-account or with one or a few partners are self-employed in household enterprises" (NSSO employment and unemployment report 2007-08). Casual labour is defined by NSSO as "A person engaged in casual labour in others farm or non-farm enterprises (both household and non-household) and getting in return wage according to the terms of the daily or periodic work contract is a casual wage labour." And regular and Salaried Employed defined by NSSO as" a person working in other's farm or non-

farm enterprises(both household & non-household) and getting in return salary or wages on a regular basis(and not on the basis of a daily or periodic renewal of work contract)".

The analysis on the nature of employment and location is being conducted for *two* years, 2004-05 and 2009-10. These rounds of NSSO on em*ployment and unemployment in India* are used as they provide information on work location.

Table3.6: Distribution of Rural workers usually employed in the non-farm sector according to their usual place of work, All India

Usual place of work									
			males				**Female**		
Employ	**year**	**R-fixed**	**R-N.Fixed**	**U-fixed**	**U-N.Fixed**	**R-fixed**	**R-N.Fixed**	**U-fixed**	**U-N.Fixed**
SE	**2004-05**	52.76	46.14	39.47	43.79	66.21	61.43	37.61	53.69
	2009-10	53.35	25.57	36.6	42.52	59.33	18.84	34.58	37.94
RE	**2004-05**	20.26	23.3	45.15	39.04	17.02	16.09	47.97	33.03
	2009-10	27.18	5.62	53.74	12.07	22.34	3.03	53.64	7.77
CL	**2004-05**	26.98	30.56	15.38	17.17	16.77	22.48	14.42	13.28
	2009-10	19.47	68.81	9.66	45.4	18.33	78.13	11.78	54.3

Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

Note: SE-Self-employed, RE-Regular employed, CL –Casual labourers, R-Fixed-Rural fixed location, R-N.Fixed-Rural non-fixed location, U-Fixed-Urban fixed location, U-N.Fixed-Urban non-fixed location.

Table 3.6 describe the characteristics of the rural non-farm sector according to the usual place of work in India from 2004-05 to 2009-10. All India Level the males rural fixed areas showed a marginal increase in self-employed from 52 percent to 53 percent. There was around 1 percent approximate marginal increase in self-employed males in a fixed location. Regularly employed males in rural fixed location areas exhibited an increase from 20.3 percent in 2004-05 to 27 percent in 2009-10. In fixed location regular employed males approximate increase around 7 percent.Fixed location among casual labourers males witnessed a decline from 26 percent in 2004-05 to 19 percent in 2009-10. There is approximate 7 percent decline in casual labourers between two periods.

At All India among the male rural non-fixed areas the self-employed exhibited decline from 46 percent in 2004-05 to 25 percent in 2009-10. Self-employed males in non-fixed location showed a large decline of 21 percent in between two periods. Self-employed males in rural non-fixed decline faster than self-employed males in a fixed location while the regular employed among the males in rural fixed location deteriorated from 23 percent in 2004-05 to 5 percent in 2009-10. In reference period 2004-05 to 2009-10, there was an enormous decline of approximate 21 percent in regularly employed males in rural non-fixed. Casual labourers among the males in rural non-fixed location shot up from 30 percent in 2004-05 to 68 percent in 2009-10. Casual labourers shot up approximately 38 percent in rural non-fixed location. Rural workers who have no fixed location of their workplace are likely to join the casual workforce (ManojJatav 2012).

The trends among the Males in urban fixed location self-employed registered decline from 39 percent to 37 percent between 2004-05 and 2009-10. A regular group among the males in urban fixed location exhibited increased from 45 percent in 2004-05 to 53 percent in 2009-10. In reference period 2004-05 to 2009-10, there was approximately 8 percent increase in urban fixed location among regularly employed males. Interestingly casual labourers among the males in urban fixed location declined from 15 percent in 2004-05 to 9 percent in 2009-10. There was a decline of 6 percent approximately among the casual labourers in urban fixed location among

males. Casual Males labourers in rural non-fixed location showed a larger increase in contrast with casual males labourers in urban non-fixed location.

The males in urban non fixed location self-employed declined from 43 to 42 percent from 2004-05 and 2009-10.Regular employment among the Males in urban non-fixed location exhibited declined from 39 to 12 percent between 2004-05 to 2009-10. In reference period 2004-05 to 2009-10, regularly employed males in urban non-fixed location showed an enormous decline of approximately 27 percent. Casual labourers among the Males in the urban non- fixed location registered an increased from 17 percent to 45 percent from 2004-05 to 2009-10.casual labourers mount to 27 percent approximately between two periods. Interestingly Casual labourers both rural and urban non-fixed location showed an immense increase between two periods.

The females in fixed rural areas in self-employed witnessed reduction from 66 percent in 2004-05 to 59 percent in 2009-10.There was a decline of 7 percent approximately between 2004-05 to 2009-10.Regular employment among females in Rural fixed location registered increase from 17 percent in 2004-05 to 22 percent in 2009-10. Regular Casual labourers among the females in rural fixed location exhibited an increase of 16 percent in 2004-05 to 18 percent in 2009-10.

The trends among the females in non-fixed rural areas in self-employed observed a deteriorated from 61 percent in 2004-05 to 18 percent in 2009-10. Females in non-fixed rural areas in reference period 2004-05 to 2009-10 registered enormous decline of approximately 43 percent.Similarly, Regular employment among females in non-fixed rural areas also observed greater decline from 16 percent in 2004-05 to 3 percent in 2009-10. Interestingly casual labourers among the females in rural non-fixed areas observed greater increase from 22 percent in 2004-05 to 78 percent in 2009-10. In reference period 2004-05 to 2009-10 registered an enormous rise of approximately 56 percent. There is extensive casualization of labourers in a rural non-fixed location in the country.

At All India level among females in urban fixed location self-employed declined from 37 to 34 percent between 2004-05 and 2009-10. There is a decline of approximately 3 percent in urban fixed location among self-employed females. Regular employment among the females in urban fixed location observed expansion from 47 to 53 percent between 2004-05 and 2009-10.In the reference period 2004-05 to 2009-10 there approximately 6 percent decline. Casual labours

among the females in the urban fixed location registered a decline from 14 percent to 11 percent from 2004-05 to 2009-10. Females Casual labourers in rural non-fixed location showed larger increase in contrast with casual labourers in urban fixed location

The trends among the females in urban non-fixed location self-employed witnessed decline from 53 percent to 37 percent between 2004-05 and 2009-10. There was an approximately large decline of 16 percent among females self-employed. A regular group of the females in urban non-fixed location exhibited greater declined from 33 percent in 2004-05 to 7 percent in 2009-10.Interestingly casual labourers among the females in urban non-fixed location increased drastically from 13 percent in 2004-05 to 54 percent in 2009-10.There was an enormous increase of approximately 41 percent among the casual labourers. There is extensive casualization of labourers in rural non-fixed & urban non-fixed location in the country.

In rural-fixed location among the regular employed and casual labourers showed a decline. Rural Non-fixed areas among the males share of casual workers has increased while there is a decline in the share of the regular and self-employed workers in a rural non-fixed location in the country. The increase of the share of the casual labourers in non-fixed areas shows the casualization of the labour force. Interestingly increase in the self-employed among the non-fixed location in rural India. Similar trends have also been registered among the females in non-fixed self-employed and regular employed which registered a decline, while the casual labourers among the females in non-fixed areas exhibited an enormous increase. In Urban non-fixed location, casual labourers showed drastically increase for the males and females showed mostly total non-farm work is done by rural workers. There is an increase in casual labourers among males and females in the rural non-farm sector. The rural workers who have no fixed location might likely to join the casual workforce. The increase in casual labourers both among male and female among non-fixed areas showed an increase in casualisation in the rural non-farm sector in the country (Vinoj Abraham 2009, ManojJatav and Suchitra Sen 2013).

Tamil Nadu

Table3.7: Distribution of rural workers usually employed in the non-farm sector according to their usual place of work, Tamil Nadu.

usual place of work									
			males				Female		
Employ	year	R-fixed	R-N.Fixed	U-fixed	U-N.Fixed	R-fixed	R-N.Fixed	U-fixed	U-N.Fixed
SE	2004-05	44.43	50.47	33.39	64.56	66.57	85.25	42.06	58.94
	2009-10	42.05	17.6	28.2	32.06	52.4	15.44	38.73	20.34
RE	2004-05	24.99	27.85	47.96	20.7	17.86	8.63	46.19	28.2
	2009-10	33.14	4.49	56.47	11.48	18.73	9.21	43.96	9.85
CL	2004-05	30.59	21.68	18.65	14.75	15.57	6.12	11.75	12.86
	2009-10	24.8	77.91	15.32	56.46	28.87	75.35	17.31	69.81

Source: Unit level data from various quinquennial rounds of NSS on employment and Unemployment situation in India.

Note: SE-Self-employed, RE-Regular employed, CL –Casual labourers, R-Fixed-Rural fixed lo cation, R-N.Fixed-Rural non-fixed location, U-Fixed-Urban fixed location, U-N.Fixed-Urban non-fixed location,

The males rural fixed areas in Tamil Nadu witnessed a decline in self-employed from 44 percent to 42 percent. Regular males employed in rural fixed location exhibited an increase from 24 percent in 2004-05 to 33 percent in 2009-10.In the reference, Casual males labourers in rural fixed location showed a reduction from 30 percent in 2004-05 to 24 percent in 2009-10. There was marginal decline of approximately 6 percent among casual labourers in rural fixed location

The Males rural non-fixed location the self-employed deteriorated from 50 percent in 2004-05 to 17 percent in 2009-10. While the regular employed among the males in rural non-fixed location also deteriorated drastically from 27 percent in 2004-05 to 4 percent in 2009-10. While casual labourers among the males in rural non-fixed location increased drastically from 21 percent in 2004-05 to 77 percent in 2009-10.In Reference period there was the enormous rise of 56 percent approximately among casual labourers. There is extensive casualization of labourers in a rural non-fixed location in rural Tamil Nadu.

Self-employed males in urban fixed location exhibited decline from 33 percent to 28 percent between 2004-05 and 2009-10. Regular males employed group among the males in urban fixed location registered increase from 47 percent in 2004-05 to 56 percent in 2009-10. Casual labourers among the males in urban fixed location declined from 18 percent in 2004-05 to 15 percent in 2009-10.

The males in urban non-fixed location in Tamil Nadu self-employed deteriorated from 64 to 32 percent between 2004-05 and 2009-10. Regular employment among the Males in urban non-fixed location observed declined from 20 to 11 percent between 2004-05 and 2009-10. Casual labourers among the Males in the urban non- fixed location registered increased drastically from 14 percent to 56 percent from 2004-05 to 2009-10. In reference period 2004-05 to 2009-10, there is the extensive rise of 42 percent approximately in casual labourers. There is casualization of labourers both rural and urban non-fixed location in Tamil Nadu.

In Tamil Nadu females in fixed rural location in self-employed exhibited reduction from 66 percent in 2004-05 to 52 percent in 2009-10. Regular employment among females in fixed rural location registered a marginal increase from 17 percent in 2004-05 to 18 percent in 2009-10.Casual labourers among the females in fixed rural location registered increase 15 percent in 2004-05 to 28 percent in 2009-10.

Females in a non-fixed rural location in self-employed deteriorated from 85 percent in 2004-05 to 15 percent in 2009-10. Regular Females employment in non-fixed rural location also observed marginal decline from 8 percent in 2004-05 to 9 percent in 2009-10. Interestingly casual labourers among the females in non-fixed rural location observed enormous increase from 6

percent in 2004-05 to 75 percent in 2009-10.There was approximately 69 percent rise of casual female labourers in non-fixed rural location.

In Tamil Nadu females in urban fixed location self-employed reduced from 42 percent to 38 percent between 2004-05 and 2009-10.Regular employment among the females in urban fixed location observed increase from 46 percent to 43 percent between 2004-05 to 2009-10.Casual labours among the females in the urban fixed location registered an increase from 11 percent to 17 percent from 2004-05 to 2009-10.

In Tamil Nadu among the females in urban non-fixed location self-employed exhibited decline from 58 percent to 20 percent between 2004-05 and 2009-10. A regular group among the females observed greater declined from 28 percent in 2004-05 to 9 percent in 2009-10. Interestingly casual labourers among the females increased drastically from 12 percent in 2004-05 to 69 percent in 2009-10. There approximately 57 percent rise in casual labourers among the females in urban non-fixed location.

In Tamil Nadu, Rural Non-fixed areas among the males share of casual workers has increased, while there is a decline in the share of the regular and self-employed workers in rural non-fixed location. The increase of the share of the casual labourers in non-fixed areas in rural location showed the increase in casualization of labour. Interestingly self-employed among the non-fixed rural location showed a decline. Similarly among the females in non-fixed self-employed and regular employed which observed a decline, while the casual labourers among the females in non-fixed areas observed increase drastically. In Urban non-fixed location, casual labourers witnessed drastically rise for the males and females showed mostly total non-farm work is done by rural workers. There is a movement of the labourers from rural to urban location frequently.

Overall in India and Tamil Nadu, there has been an increase in casual labourers for both males and females in rural non-fixed location. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. In both All India level as well as Tamil Nadu showed that urban non-fixed location casual labourers witnessed increase for the males and females.The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers (Jatav and Sen 2013). There is an increase in casualisation in the rural non-farm sector in Tamil Nadu as

India. Interestingly at All India, the casual labourers in urban fixed location are on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females.

3.5: Logistic Model for understanding Participation in Rural Non-Farm sector

Over time there is a tendency for a decline in the share of households in the rural areas as well as in the farm sector. Caste wise also one sees that this tendency is more pronounced for SCs households and other castes when compared ST and OBC households. These tendencies are more pronounced for Tamil Nadu state when compared to the all-India trend. So this section would like to analyze the factors influencing the movement from the farm to non-farm sector. The specific question being asked here is: are the characteristics of households different between households entering the farm and non-farms sectors.

Econometrically one can formulate this as a choice an agent has between farm and non-farm as a dummy variable. The variable would take a value of one if the individual is in non-farm sector and take a value of zero if the individual is in the non-farm sector. Here one is considering only the principal occupation of the individual as reported in the schedule.

In the regression models, some variables are qualitative in nature. Logistic regression is used to model dichotomous outcome variables.For example, To study the individual participation in labour force decision of males. Males can be either in labour force or not.The response variable can take two values say 1 if the male is in labour force and 0 if he is not.Theregressand is binary or dichotomous variable.cofficients in logistic regression is less straightforward than in OLS.Usually, a positive coefficient for an independent variable shows that a high value of the variable will increase the probability of an individual being upwardly mobile.Log odds of the outcome is modeled as a linear combination of the predictor variables. Odds ratios less than 1 correspond to decreases and odds ratios more than 1 correspond to increases in odds.

To analyze the determinants of participation in the rural non-farm sector as a main occupation among the rural population we have used a binary logistic model. In logit models, the dependant variable is a dummy (i.e a dichotomous variable which takes a value of 0 and 1). Here the

dependent variable takes a value Y=1 if the current status of the i^{th}worker is employed in the non-farm sector, and Y=0, otherwise. Here independent variables are X_{ij} are defined below.

$$\mathbf{Y}_{i=} \mathbf{a_o} + \mathbf{b_j X_{ij}} + \mathbf{u_i}$$

Where 'i' denotes individuals and 'j' denotes the independent variables

$Y_{i=}$ takes the value 0 if usually employed in the farm sector and assume the value =1 otherwise.

Period.

Xj= (Gender, Age group, Social group, Family size, Education, Technical education and Landgroup)

i=time period

Abraham (2009) used the earlier following model set for his analysis.He used to analyze the choice of individuals between farm and non-farm employment.One of the early studies on the choice of entering rural non-farm sector is based on rural data from 32,000 households in 1765 villages across India collected by NCAER in 1993-94.The major explanatory variables are the size of household, landholding of household, the percentage of family members engaged in cultivation, gender, age, educational status, and caste. They found out that education and wealth strongly correlated with high remunerative non-farm activities. Another study found that Low caste status of individual posed a barrier for entering the non-farm sector(Lanjouw and Sharriff 2004).The later study by Abraham (2009) using variables like age, gender, education , caste, land ownership, the size of household and social group.The data is based was NSSO employment and unemployment reports particular 61^{st} round of the NSSO. The study aimed to identify the differential effects of these factors on the rural non-farm sector in regions that are affected by agrarian distress vis-a-vis normal regions. The studies showed that social group had a significant effect on distress and normal regions. Education, landownership had greater influence in the normal regions than distress regions. Jatav and Sen(2013) analyze the choice using unit-level data on employment and unemployment reports from 1983 to 2009-10 the unit level data employment and unemployment report based 2009-10 for the binary logistic model. The latter study by Manojjatav and Suchitrasen (2013) to identify the probability of individuals participating in the rural non-farm sector using a similar set of dependent variables using binary

logistic model also showed that farm sector failed to observed the rural labour which forcing them to seek employment in the non-farm sector.The study shows that growth of the rural non-farm sector is distress –oriented , there is the little role for agricultural growth.The inadequate opportunities in farm sector compel the rural worker to seek employment in the non-farm sector. Landless and literates are more likely to move the non-farm sector.SC may accommodate in lower level jobs in the non-farm sector. The factors influencing the individual's decision to enter the rural non-farm sector based on his individual and households.Gender, the age of the individual, education are individual while land size and social group which is household characteristics which he belongs influence the entering the rural non-farm sector(Jatav and Sen 2013).

The existing literature identifies the following factors to influence the choice between farm and non-farm sector.

Gender:

One of the variables which was expected to influence the choice of entering the non-farm sector is the gender of the individual. In the general context, of non-viability of the agricultural sector, one opinion that exists is the feminization of farm sector. Feminisation would imply that males migrate out and females have a greater propensity to working in farm sector than males (Basant and Kumar 1989, Lanjouw and Shariff 2004). So one would expect that if the gender of the individual is female, there is a higher probability for this individual would be in the farm sector. This is identified as a dummy variable and male represents the reference category, while female represents the categorical variable.

Age group:

Age of the individual has been important factor influences the decision to join the rural non-farm sector. Non-farm work requires a certain level of skills, age, and risk taking capacity. The Younger population have a high probability to enter entering the non-farm sector (Lanjouw and sheriff 2004). While the older age groups are in agriculture sector than other sectors (Eswaran et.al, 2009). So one would expect a higher probability for an educated to enter the non-farm sector. In other words, we expected that age is inversely related to the participation in the non-farm employment. Abraham (2009) shows that as age increased there is a higher probability of

taking farm employment than non-farm employment. Here, this variable is defined in terms of four variables. The age group is divided into 3 categories first 15 to 29 years, second 30 to 59 years is the reference category, and the third is 60 to 79 years.

Education:

The level of the education influence the individual joining the rural non-farm sector. Education improves an individual capability for the non-farm jobs as well as ability his for mobility and income earning capability. One also observes educated youth (in the age group of 18-24) are more in the non-farm sector than agriculture, (Eswaran et.al, and 2009) identify education as a premium to migrate out of the rural sector. Education by providing skill helps individuals to move to the non-farm sector. The levels of the schooling can be identified as an instrument for the influence of education (Chadha 1991, Jayaraj 1989, Lanjouw and Shariff 2004). Education acts as Premium to get non-farm sector jobs and the probability of getting jobs rises with Education. (Eswaran et.al, 2009). Here Education is divided into 7 categories. Illiterate represents the reference category, while literate with no formal schooling, below primary, primary to the middle,secondary to higher secondary, diploma, graduate and above represents the categorical variables.

Technical education

Technical education increases the probability of individual entering the modern non-farm sector. Technical education provides an opportunity to enter the non-farm sector (Jatav& Sen 2013). Technical education is divided two categories technical education and no technical education. No technical education is reference category and Technical education is categorical variables.

Land size

The land is an asset which hedges households against risk and uncertainties. An individual who is moving from the known risk agriculture to the unknown risk situation of non-farm sector needs a mechanism to hedge against risk. The land is one of the most important assets in rural areas to function as an instrument to hedge risk. There exists an inverse relationship between the farm size and non-farm activitiesHo (1985), Islam (1987). There are also studies which show that Land size affects the growth of rural non-farm sector (Hazell and Ramswamy 1973).The

landholding has been grouped according to their size of the holding.The households which have less than.99 hectares is considered as landless households.The households having landholding of 1to 1.99 hectares is considered as marginal landowner households, while households having 2 to 3.99 hectares is small landowner household.The household having land size of 4 to 9.99 hectares is considered as a semi-large landowner , while 10 hectares and above is supposed to large landowner household.The land size is divided into 5 categories .landless is reference category , while rest of landholding groups belong to categorical variables.

Family size:

It is generally expected that household size and the probability of the household entering the rural non-farm sector is positive. It generally expected that the in larger household at least one member work in the non-farm sector.(Abraham 2009)Young member in the larger in the family tends to participate the non-farm sector. Household size has classified to according to a number of the members. Household size group shows 1-4 members,5-8 members,9-12 members and 13 and above.1-4 members group considered as the reference category , while rest of the member groups belong to Categorical variables.

Social Group

The social position of an individual plays an important role in choices they make. Individuals from higher caste may have social capital which could reduce the problems due to migrations. It is generally expected that the general and Backward categories have better opportunities in the entering the non-farm sector than SC and STs category (Murthy (1996) Himanshu et.al,(2009)) Social group is divided into 3 categories. Scheduled tribe (ST) is reference category, while Scheduled Caste (SC) and Others (General &OBCs) are categorical variables.

3.6: Estimated equations for analyzing factors influencing the choice to enter rural non-farm sector:

To analyze the factors influencing the choice to enter the non-farm sector at all India and at the state level of TN we have used two rounds of NSSO data of employment and Unemployment in India. The years are 1993-94 and 2009-10. We have been considering two years as we are trying to analyze whether there are any changes in the factors influencing the choosing to enter the non-farm sector. So we formulating the question as households are in the farm sector and are moving into the non-farm sector. We are considering two years as one is attempting to see whether the characteristics of households in the farm and non-farm sector are differencing and then attributing this change to individual-specific factors. The two periods for analysis is being seen are one year which is near the initial year for economic reforms and i.e., 1993-94. The second year is nearly 20 years after the reforms i.e., 2009-10.

All India trend:

Table3.8: logistic Regression: Participation of Rural Population in the non-farm works in 1993-94 in India.

Explanatory variable	Coefficients	Odds Ratio
Female	-0.606(-21.09)**	0.545(-21.09)**
Age Group (reference group is 30-59)		
age group:15-29	0.003(0.11)	1.002(0.11)
age group:60-79	0.059 (1.07)	1.06 (1.07)
Social Group (reference group is ST)		
SCs	0.116(2.48)*	1.122(2.48)*
Others	0.216(5.55)**	1.241(5.55)**
Household size (Reference group is HH size 1-4)		
Householdsize:5-8	0.049 (1.74)***	1.05 (1.74)***
Household size:9-12	0.086(1.74)***	1.09 (1.74)***
Householdsize:13&above	-0.017(-0.21)	0.983(-0.21)
Level of Education(Reference group is not literate)		
Literate no formal schooling	0.569(5.66)**	1.767(5.66)**
below primary	0.31(7.52)**	1.363(7.52)**
primary to middle	0.465(14.56)**	1.592(14.56)**
Secondary to HSC	0.432(9.55)**	1.539(9.55)**
Diploma/certificate	0.931(2.11)*	2.536(2.11)*
Graduate & above	0.404(4.77)**	1.498(4.77)**
Land size(Reference group is Landless)		

marginal landowner	-0.229(-6.64)**	0.795(-6.64)**
Small landowner	-0.234(-5.79)**	0.791(-5.79)**
semi-large landowner	-0.234(-4.57)**	0.791(-4.57)**
larger landowner	-0.35(-3.76)**	0.704(-3.76)**
Technical education	-0.195(-1.83)	0.822(-1.83)
constant	-2.018(-45.02)**	0.132(-45.02)**
Number of Observation	59185	
LR Chi2(22)	1286.86	
Prob>Chi2	0	
Pseudo R2	0.0286	
Mcfadden's R2	0.029	
Log likelihood ratio	-21824.183	

Source: Unit level data from NSSO employment and unemployment situation in India,1993-94(50th round)

Note:** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 level. Figures in brackets are computed Z-values

The tables 3.8 estimates results of logit model for All India at 1993-94. The males tend to prefer non-farm sector compared to females. The Individuals in the age group of 30-59 have a high probability of participation in non-farm activities compared to other age groups.Age group 15-29 and 60-79 shows the positive impact on the non-farm sector but they are not statistically significant. The young population which was out of labour force in 1983 entered in the non-farm sector rather than agriculture (Eswaran et.al 2009). Others (general &OBCs) have a high probability of entering rural non-farm sector than other social groups. This implies that forward caste and OBCs might join higher-level occupation in the non-farm sector.largehousehold (5-8 members and 9-12 members) more favorable to enter the rural non-farm sector. The literate seems to enter non-farm sector is greater than illiterates are. The Diploma /certificate educated individuals have a high probability of joining the non-farm activities than other educational groups. Literate with no formal schooling likely to enter the non-farm sector. The landless are more likely to enter the rural non-farm sector compared to the land owned households. This implies that agricultural surplus has not much role in entering the non-farm sector. Technical expertise individuals are entering the non-farm sector.

Table 3.9: Logistic Regression: Participation of Rural Population in the Non-farm Work in 2009-10.

Explanatory variable	Coefficients	Odds Ratio
Female	-0.911(-48.72)**	0.402(-48.72)**
Age Group (reference group is 30-59)		
age group:15-29	-0.12(-6.95)**	0.886(-6.95)**
age group:60-79	-0.759(-25.05)**	0.468(-25.05)**
Social Group (reference group is ST)		
SCs	0.025(0.94)	1.025(0.94)
Others	0.079(3.73)**	1.081(3.73)**
Household size (Reference group is HH size 1-4)		
Householdsize:5-8	-0.002 (-0.13)	0.997 (-0.13)
Household size:9-12	-0.03(-1.01)	0.97(-1.01)
Householdsize:13&above	-0.145(-2.70)**	0.864(-2.70)**
Level of education(Reference group is not literate)		
literate no formal schooling	0.406(4.08)**	1.501(4.08)**
below primary	0.218(7.56)**	1.243(7.56)**
primary to middle	0.514(25.04)**	1.671(25.04)**
Secondary to HSC	0.999(41.75)**	2.714(41.75)**
diploma\certificate	1.915(18.91)**	6.787(18.91)**
graduate&above	2.154(56.76)**	8.615(56.76)**
Land size(Reference group is Landless)		
marginal landowner	-0.4(-11.34)**	0.67(-11.34)**
Small landowner	-0.73(-26.79)**	0.481(-26.79)**
semi-large landowner	-1.49(-70.91)**	0.225(-70.91)**
largerlandowner	-2.531(-116.07)**	0.0795(-116.07)**
Technical education	0.855(8.93)**	2.35(8.93)**
constant	0.683(24.44)**	1.98(24.44)**
Number of Observation	95008	
LR Chi2(21)	28358.58	
Prob>Chi2	0	
Pseudo R2	0.2158	
Mcfadden's R2	0.216	
Log likelihood ratio	-51539.681	

Source: Unit level data from NSSO employment and unemployment situation in India, 2009-10 (66th round)

Note:** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 level. Figures in brackets are computed Z-values

Table 3.9 shows the results of logit model for All India for 2009-10.In general, results suggest that males, in comparison to females have a high probability of joining the non-farm sector. Individuals in the age group of 30-59 have a high probability of participation joining the non-farm sector compared to other age groups. Eswaran et.al, (2009) made the observation that members which may in the education system in 1983 in the later period entered the non-farm sector rather than agriculture sector. Keeping the STs as reference category shows that others (Forward castes &OBCs) seem to have a high probability of entering the rural non-farm sector in rural India compared to other social groups.Though SCs have a positive impact on the non-farm sector but they are not statistically significant.Household size shows that 5-8 and 9-12 members are not statistically significant.Small households are more likely to enter than the non-farm sector than larger household size. Education might have positive impacts on the growth of the non-farm sector in the Rural India.Illiterate is considered as the reference category. Higher education achievements have a greater probability of the entering the non-farm sector than the low level of educated individuals.Graduates and Diploma holder individuals are more likely to participate in the non-farm sector than other educational groups.

The size of the landholding has an inverse relationship of entering the rural non-farm sector.There is clearly observation that landless more likely to enter the rural non-farm sector than individuals in the landed households.The participation of the individual's members in the rural non-farm sector declines with an increase in the lands of the household.Technical knowledge individual educated individuals have a high probability of entering the non-farm sector.

3.7: Comparision of empirical results between 1993-94 and 2009-10 for All India level.

The comparison between logit results for two periods.female participation in the non-farm sector declined for the both periods.Individuals in the age group of 30-59 have a higher probability of participation compared to other age groups in the both period.There might young cohort(1983) between 18-26 age group who out of labour force(studying) entered in labour force later period entered non-farm sector rather than agriculture (Eswaran et.al, 2009).Social groups showed others which consist of OBCs and general castes showed that favorable participation in the non-farm sector in the other social groups.Large family size(5-8 and 9-12 members) are more likely to enter the non-farm sector in 1993-94 , while small family (1-4 members) more likely enter the

non-farm sector in 2009-10.Education has systematic effect on employment choices.1993-94 showed diploma\certificate educated individuals have a probability to join than other educational groups.However, 2009-10 Graduate individuals are more likely to participate in the non-farm sector than other educational groups.Land size plays an important role to enter the non-farm sector.Durning both the periods there is the probability that landless are more likely to enter the rural non-farm sector compared to the land owned households. Interestingly 1993-94 no technical however the technical educated individuals have favor participation probability of entering the non-farm sector than no technical educated individuals.

3.8 :Empiricalresults for participation in the non-farm sector in Tamil Nadu

i) Tamil Nadu trends:

Table 3.10: Logistic Regression: Participation of Rural Population in the Non-farm Work in 1993-94 for Tamil Nadu.

Explanatory variable	Coefficients	Odds Ratio
Female	-0.31(-2.43)*	0.73(-2.43)*
Age Group (reference group is 30-59)		
age group:15-29	0.012(0.09)	1.012(0.09)
age group:60-79	0.095(0.41)	1.1(0.41)
Social Group (reference group is ST)		
SCs	1.44(1.41)	4.222(1.41)
Others	1.897(1.87)***	6.666(1.87)***
Household size (Reference group is HH size 1-4)		
Householdsize:5-8	-0.089(-0.74)	0.914(-0.74)
Household size:9-12	-0.389(-1.19)	0.677(-1.19)
Householdsize:13&above	0.134(0.12)	1.143(0.12)
Level of education(Reference group is not literate)		
literate no formal schooling	1.203(2.47)*	3.33(2.47)*
below primary	0.45(2.39)*	1.568(2.39)*
primary to middle	0.655(4.32)**	1.924(4.32)**
Secondary to HSC	0.62(2.70)**	1.858(2.70)**
diploma\certificate	3.169(2.14)*	23.792(2.14)*
graduate&above	0.701(1.54)	2.016(1.54)
Land size(Reference group is Landless)		
marginal landowner	-0.326(-1.92)***	0.721(-1.92)***
Small landowner	-0.352 (-1.74)***	0.703 (-1.74)***
semi-large landowner	-0.747(-2.49)*	0.473(-2.49)*

Larger landowner	-0.688(-0.91)	0.502(-0.91)
Technical education	-0.763(-1.62)	0.466(-1.62)
constant	-3.844(-3.78)**	0.021(-3.78)**
Number of Observation	2904	
LR Chi2(20)	74.21	
Prob>Chi2	0	
Pseudo R2	0.0351	
Mcfadden's R2	0.035	
Log likelihood ratio	-1019.4838	

Source: Unit level data from NSSO employment and unemployment situation in India,1993-94 (50th round)

Note:** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 level. Figures in brackets are computed Z-values

The table 3.10 shows the results of the logistic model for the rural population in the non-farm sector in Tamil Nadu during 1993-94.The participation of the female in the non-farm sector has declined with reference to the males.Age group 30 to 59 exhibits the positive impact participation in the non-farm sector compared to their other groups.age group 5-14,15-29,and 60-79 are not statistical significant.Keeping ST as reference category.SCs have a positive impact in entering non-farm sector though SCs is not statistically significant. Others which consist of OBCs and General have more probability of entering the non-farm sector than other social groups.Illiterate is considered as reference category.The diploma\certicifate educational group has the more probability of participation in the non-farm sector compared to the other educational groups.Interestingly literate no formal schooling role in high probability entering the non-farm sector except Diploma\certificate holders.It implies that Diploma generally skills based educated groups who greater demand in the modern rural non-farm sector.Small Household size(1 to 4) exhibited more probability of engagement in non-farm sector than the larger household size.

Keeping Landless as reference category.Landless exhibited favorable participation in the rural non-farm sector compared to landowner groups. This implies that investment in agricultural surplus is not the major cause of participation in the non-farm sector.TheLarge landowner is not

statistically significant. Technical education is not statistically significant.No technical individuals more likely to participate in the rural non-farm sector.

Table3.11: Logistic Regression: Participation of Rural Population in the Non-farm Work in 2009-10 for Tamil Nadu.

Explanatory variable	Coefficients	Odds Ratio
Female	-0.911(-48.72)**	0.492(-48.72)**
Age Group (reference group is 30-59)		
age group:15-29	-0.12(-6.95)**	0.886(-6.95)**
age group:60-79	-0.759(-25.05)**	0.468(-25.05)**
Social Group (reference group is ST)		
SCs	0.025(0.94)	1.025(0.94)
Others	0.079(3.73)**	1.081(3.73)**
Household size (Reference group is HH size 1-4)		
Householdsize:5-8	-0.002(-0.13)	0.997(-0.13)
Household size:9-12	-0.03(-1.01)	0.97(-1.01)
Householdsize:13&above	-0.145(-2.70)**	0.864(-2.70)**
Level of education(Reference group is not literate)		
literate no formal schooling	0.406(4.08)**	1.501(4.08)**
below primary	0.218(7.56)**	1.243(7.56)**
primary to middle	0.514(25.04)**	1.671(25.04)**
secondary to HSC	0.999(41.75)**	2.714(41.75)**
diploma\certificate	1.915(18.91)**	6.787(18.91)**
graduate&above	2.154(56.76)**	8.615(56.76)**
Land size(Reference group is Landless)		
marginal landowner	-0.4(-11.34)**	0.67(-11.34)**
Small landowner	-0.73(-26.79)**	0.481(-26.79)**
semi-large landowner	-1.49(-70.91)**	0.225(-70.91)**
largerlandowner	-2.531(-116.07)**	0.0795(116.07)**
Technicaleducation	0.855(8.93)**	2.35(8.93)**
constant	0.683(24.44)**	1.98(24.44)**
Number of Observation	95008	
LR Chi2(21)	28358.58	
Prob>Chi2	0	
Pseudo R2	0.2158	
Mcfadden's R2	0.216	
Log likelihood ratio	-51540	

Source: Unit level data from NSSO employment and unemployment situation in India, 2009-10 (66th round)

Note: ** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 level. Figures in brackets are computed Z-values

The table 3.11 shows the results of a logistic regression of the rural population in the non-farm work in 2009-10 for Tamil Nadu.females have a low probability of entering the non-farm sector compared to the males.agegroup:30 to 59 is considered reference category. In the age group, 15 to 29 have a positive impact on participation in the non-farm sector compared to other age groups. Others (General and OBCs castes) have positive participation in the non-farm sector compared to other social groups. Small household size (1to 4) have positive participation in the non-farm sector. Literate participate more than illiterate in the non-farm sector. Graduate holders have a positive probability of participating in the non-farm sector then other educational groups. This implies that higher education has higher benefit in joining the non-farm sector.

Individuals from Landless households have a favourable probability of participating in the non-farm activities than landed household individuals.This implies investment in agricultural surplus doesn't lead to major changes in the non-farm sector.Non-technical educated individuals possibility of participation in the non-farm sector is positive impact than technically educated individuals.

3.9:Comparison of empirical results between 1993-94 and 2009-10 for Tamil Nadu

The comparison of empirical results between the changes in the non-farm sector between 1993-94 to 2009-10 in Tamil Nadu.Male participation in the non-farm sector is a high probability in comparison to the females in the both time period.Male migrating to the non-farm sector to more productive employment compared to the stagnant agricultural sector.In Tamil Nadu during period 1993-94 witnessed age group 30 to59 the greater participation in the non-farm sector compared to their other groups.However, durning 2009-10 age group 15 to 29 have a high probability of participation compared to other age groups.The young population involvement in the non-farm sector has increased in the state due to education.Compared to the general category(consists of general and OBCs) , the socially deprived castes(SC/ST) seems to have less probability of being employed in the non-farm sector during the both period.In Both period shows that Literate has a high probability of the entering the non-farm sector compared to the Illiterate. Diploma\certificates educational group have the positive impact in the non-farm sector compared to the other educational groups compared to the educational groups in 1993-94. In

2009-10 Graduate holders have a high probability of contribution in the non-farm sector then other educational groups.In both period small household size(1 to 4) exhibits a high probability of engagement in the non-farm sector compared to the larger household size.Individuals from the Small family higher prospects towards the engagement in the non-farm sector compared to large family.In Both periods among the landownership , Landless showed high participation in the rural non-farm sector compared to landowner groups.This implies investment in agricultural surplus doesn't lead to major changes in the non-farm sector.Both periods exhibited that nontechnical education individuals participation in the rural non-farm sector compared to the technical education.

3.10 :The difference between characteristics of rural non-farm sector in India and Tamil Nadu

The states within India differ greatly in term of economic growth and employment.There is some significant difference between the rural non-farm sector in India and Tamil NaduThere has been an increase in urban population in India.Tamil Nadu urban population rise faster than all India. Casual labourers for both males and females in a rural non-fixed location in At all India as well in state level.The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers.The share of non-agricultural workers rose faster in Tamil Nadu in comparison to All India level.At All India level, there was a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities. Interestingly In Tamil Nadu, the self-employed in agriculture (cultivators) shifted to the non-agricultural activities while agricultural labour households showed the rise. Scheduled castes (STs) showed an increase in farm sector activities in the country, while in Tamil Nadu Other backward castes (OBCs) and Scheduled tribes (STs) have reported an expansion in the non-farm sector.The two multivariate analyses carried out for time period 1993-94 and 2009-10 both India and Tamil Nadu.At India, level as well in Tamil Nadu exhibited that females have a low probability of entering the rural non-farm sector. Individuals in the age group of 30-59 have a high probability of participation compared to other age groups in the both periods at India level. Individuals in the young group who out of labour force (studying) in 1983 entered the non-farm sector rather than agriculture (Eswaran et.al, 2009). Interestingly In Tamil Nadu during 2009-10 the age group from 15-29 exhibited higher participation in the non-farm

sector.Individuals from the Small family higher prospects towards the engagement in the non-farm sector compared to a large family in both periods at All India level as well in Tamil Nadu. .Interestingly in trend was registered during 1993-94 at All India level members from large family were preferring non-farm occupation.General category (consists of general and OBCs) were participating more in the non-farm sector than socially deprived groups in India as well in Tamil Nadu.Interestingly 1993-94 SCs participation in the non-farm sector was high at All India level.

Education has a positive impact on the growth of the non-farm sector.Literate have a high opportunity in joining the non-farm sector.At all India level during 1993-94 exhibited diploma\certificate educated individuals have a probability to join than other educational groups.However during 2009-10 Graduate individuals are more likely to participate in the non-farm sector than other educational groups.Interestingly In the landownership, Landless showed higher involvement in the rural-farm sector compared to landowner groups in both periods in India and Tamil Nadu. Big landlords might not like to move from the farm to non-farm activities.

3.11 :Conclusion

This chapter had aimed at understanding the characteristics of the rural non-farm sector in India and Tamil Nadu. Tamil Nadu has a high share of the urban and industrial sector in relation to All India. There has been a decline in the agriculture sector, while the non-farm sector showed the rise. The nature and structure of employment show that casual labourer was rising both in rural and urban non-fixed location in at All India level and Tamil Nadu. This shows that much of the work is done by rural workers. Cultivators in Tamil Nadu were shifting to the non-farm sector, while agricultural labourers were increasing in the farm sector. Scheduled Tribes (STs) have been entering farm sector in the country. Other backward castes (OBCs) and Scheduled tribes (STs) have shown a rise in non-farm activities in Tamil Nadu. The multivariate analysis for period 1993-94 and 2009-10 carried out for All India and Tamil Nadu.There are not enough opportunities in farm sector which push labour to move out of the farm sector. The females' participation in the non-farm sector is lower than males both India and Tamil Nadu. Individuals from the age group of 30-59 showed the higher participation in the non-farm sector. Interestingly in Tamil Nadu young population has a higher probability of entering the non-farm sector. OBCs and general castes have a higher probability of entering non-farm sector than marginalized social

groups at All India level and Tamil Nadu. Members of the large family were entering non-farm sector at all India level. Interestingly in Tamil Nadu small family have preferred to enter the non-farm sector in both periods. Higher education has effects on entering the non-farm sector in the country. Landless are more likely to participate in the non-farm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector.

The growth of rural non-farm sector largely distress oriented as farm workers(cultivators and agricultural labourers) are moving out of the agriculture in search of new option in non-farm sector.female participation in the farm has increase in the non-farm sector.Males are moving out of agriculture in search of non-farm opporunities.Landless are shifting to non-farm sector shows tha agriculture surplus might not the cause of joining non-farm sector.However, growth of non-farm sector is purely distress factors.OBCs and general castes are moving to the non-farm sector.We can conclude that largely distress oriented factors has major role in individual to enter the non-fam sector.In Tamil Nadu though distress factors plays a significant role in te growth of non-farm sector.There are various pull factors such as high manufacturing activities etc has role for the shifting of individuals to non-farm sector.

CHAPTER IV

The characteristics of households entering manufacturing sector in rural non-farm sector: A study of all India and Tamil Nadu

4.0: Introduction

The economic development of an economy should follow a pattern of structural change from primary to secondary to tertiary. The structure of Indian economy in terms of the composition of output has been steadily changing over the last few decades. If one analysis share of income, the economy moved from primary sector dominated to service sector dominated economy. In this process of transformation the secondary sector, especially the manufacturing sector has been bypassed. Agriculture continues to provide employment to a large section of the peoples. The share of households depended on farm sector is decreasing overtime but not in comparison to decreasing in the share of income from agriculture. Though the service sector contribution to output has risen at a faster rate, in terms of employment its share is meager. The manufacturing sector share both in terms of output and employment remains stagnant since decades. This has led the researcher to claim that, the structural transformation in India to be stunted one (Hans Binswanger, 2013). This has been the all-India trend, but regional specificities exist. States like Tamil Nadu, Gujarat, and Maharashtra are states where manufacturing are relatively more important both in terms of share in income originating from the sector as well as in the share of individuals employed in the sector. The post-reform period saw a growth of the rural non-farm sector. The previous chapter deals with the determinants causing a movement from farm to the nonfarm sector. The recent period has seen a rise in the construction boom and slowdown in the manufacturing sector. Hence here an attempt is made to identify constraining factors to the entry of individuals into the manufacturing sector.

Tamil Nadu has a large share of the industrial and urban base in the country. In Tamil Nadu, rural agriculture sector and rural labour market tend to be integrated with commercial, industrial economic center. The manufacturing sector in Tamil Nadu has wide base than average India
While rural services have been growing faster in the state (Ramaswamy 2007). The present chapter is a continuation of earlier chapter observed that inadequate opportunities in the farm

sector forced labour to move to the nonfarm sector. The study focused on whether there are significant entry barriers to entering the manufacturing sector. This chapter used the unit level data from the three quinquennial rounds of 'Employment and unemployment in India' from the NSSO, 50th (1993-94), 61st (2004-05) and 66th (2009-10). The multinomial logistic method has been used to explain the factors influencing the participation of the individuals in the rural manufacturing.

The plan of the chapter is as follows. In Section 4.1 shows secondary sector in Tamil Nadu Section 4.2, explains the importance of manufacturing sector inTamil Nadu. Section 4.3, examines the model for explanations in the participation in manufacturing nonfarm sector. Section 4.4, examines the participation in the manufacturing nonfarm sector in the rural India. Section 4.5, the comparison of empirical results between 1993-94 and 2009-10 for India level. Section 4.6 examines the participation in manufacturing nonfarm sector in Tamil Nadu. Section 4.7, comparison of results between 1993-94 and 2009-10 in Tamil Nadu. Section 4.8 presents characteristics difference manufacturing and non-manufacturing sector between India and Tamil Nadu. Section 4.9, provides concluding remarks.

4.1: Secondary Sector in Tamil Nadu

The structure of the Indian economy is undergoing a change with the change in the sectoral contribution of different sectors of the economy to the aggregate production (income), employment generation and capital accumulation. One particular aspect that has been the central focus in studying the process of transformation is the moving away from agriculture to other non-agriculture sector and the intensity in which the dependency on agricultural sector declines. It creates the regional difference in the process of transformation but the standard literature on transformation have given less importance to the regional difference. The literature assumes a general process of transformation in Indian case that is the moving out from the agricultural sector to service and construction sector rather than to manufacturing sector. There is a significant difference in the process of transformation among the Indian states and the structural composition of the economy in Tamil Nadu provides counter-intuitive results to the general

understanding of transformation from agriculture to service and construction. For Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the aggregate production (income).

At the all India level the share of the workforce engaged in agriculture is 52.9 per cent whereas that of Tamil Nadu is 44.0 per cent which is less than the all-India average (Table 4.1). There were few other states where the share was less than the all-India average. Those states were Kerala, West Bengal, Punjab, Haryana, and Jharkhand. But when someone looks at the share of the workforce engaged in the manufacturing sector, Tamil Nadu is the second highest followed by West Bengal. It has a share of 17.1 per cent which is higher than the all-India average of 11.0 per cent. Though Punjab and Tamil Nadu have an equal share of the workforce in agriculture, the share of the workforce in manufacturing in Tamil Nadu is higher than the share of the workforce in Punjab.

Table 4.1: Share of workforce engaged in agriculture and manufacturing (2009/10)

States	Agriculture	Manufacturing
Kerala	27.8	13.0
West Bengal	42.8	19.0
Tamil Nadu	44.0	17.1
Punjab	44.2	12.8
Haryana	44.3	15.4
Jharkhand	45.8	7.7
Rajasthan	52.8	6.3
Maharashtra	52.2	11.1
Gujarat	53.1	13.9
Andhra Pradesh	54.1	11.7
Karnataka	55.2	10.4
Uttar Pradesh	56.1	10.7
Odisha	60.6	8.9
Bihar	61.9	5.8
Assam	63.6	4.0
Madhya Pradesh	68.7	6.1
Chhattisgarh	74.1	5.9
All India	52.9	11.0

Source: Author's calculation from NAS of CSO, govt. of India

In terms of the sectoral share of the Gross Sate Domestic Product also Tamil Nadu shows a similar result. Table.2 provides the share of agriculture and manufacturing to the GSDP for the year 2009-10. The share of agriculture to GSDP for Tamil Nadu is lowest as compare to the other states. It is 7.28 per cent which is half of the share of agriculture to GDP at all India level (14.64 per cent). But in terms of the contribution of manufacturing to total GSDP, Tamil Nadu stood at the second position among the major states of India. The share of manufacturing to total GSDP was highest for Gujarat (22.65 per cent) followed by Tamil Nadu (15.84 per cent) and Maharashtra (15.74 per cent). Vijaybaskar (2010) also found a similar kind of result.

Table 4.2: Contribution of Agriculture and Manufacturing sector to total GSDP (2009-10)

	Share to total GSDP in 2009-10 (GSDP is at constant price:2004-05)	
States	Share of Agriculture	Share of Manufacturing
TAMIL NADU	7.28	15.84
MAHARASHTRA	7.73	15.74
KERALA	8.83	5.96
GUJARAT	13.26	22.65
KARNATAKA	15.07	13.79
HARYANA	15.25	14.81
ODISHA	16.30	12.45
WEST BENGAL	16.34	8.72
JHARKHAND	16.65	14.42
CHHATTISGARH	19.15	13.93
BIHAR	19.76	3.62
RAJASTHAN	20.00	11.00
ASSAM	20.73	6.47
PUNJAB	21.39	16.02
UTTAR PRADESH	21.93	11.12
ANDHRA PRADESH	24.27	8.43
MADHYA PRADESH	28.09	9.89
All India	14.64	16.17

Source: Author's calculation from NAS of CSO, govt. of India

So for Tamil Nadu, economy manufacturing sector plays an important role both in generating employment and contributing to the total GSDP of the state. The economy is moving away from agriculture towards the manufacturing, however, recently the economy has also experienced a decline in the share of manufacturing employment.

The third way to look at the transformation from an agrarian economy to industrial economy is the classic case of studying the investment of agrarian surplus in the economy. In the process of transforming towards the manufacturing based economy, it is argued by Lerche (2015) that, the agricultural capitalists have succeeded in moving into agribusiness and onwards to industrial production in Tamil Nadu as a result of which by 1930s Coimbatore and by 1980s Tiruppur had become a diversified industrial town. However, the success story of transformation was not primarily because of agrarian surplus invested in the industry in the Tiruppur regions of Tamil Nadu; rather it was the gradual transformation of Gounder garment workers from the countryside into garment producers. Lerche called it "Workers-to-Capital" trajectory. This feature of transformation in Tamil Nadu differs from other agricultural surplus producing states like Punjab where the agricultural surplus has not been reinvested in industry.

4.2: Importance of manufacturing sector in Tamil Nadu -

Table 4.3: Sector-wise Employment Share in TN				
Sectors	1993-94	1999-2000	2004-05	2009-10
Agriculture	53.00%	46.63%	42.52%	43.16%
Mining & Quarrying	0.37%	0.46%	0.34%	0.42%
Manufacturing	17.98%	19.05%	20.73%	17.54%
Electricity-Gas & Water	0.35%	0.38%	0.26%	0.28%
Construction	3.85%	5.19%	6.25%	10.17%
Trade, Hotel	8.93%	12.70%	12.74%	12.04%
Transport	3.67%	4.83%	4.83%	6.01%
Finance Inter, Business	1.46%	1.86%	3.16%	3.08%
Public administration	10.39%	8.88%	9.17%	7.29%

Source: NSS EUS various rounds

The above table shows the employment scenario across various sectors in Tamil Nadu. The share of primary sector in total employment was 53.37% in 1993-94 and 47.09% in 1999-2000 which further decreased to 42.86% in 2004-05 and increased slightly to 43.58% in 2009-10. The contribution of mining and quarrying sector which comes under the primary sector remained below 0.5% throughout the period. The secondary sector employment share in total employment increased from 22.18% in 1993-94 to 24.62% in 1999-2000 and further to 27.24% in 2004-05 and 27.99% in 2009-10. Within the secondary sector, it is the construction sector that generated huge employment over the last two decades. The share of construction employment increased from 3.85% in 1993-94 to 10.17% in 2009-10. The contribution share of electricity, water sector

remain below 0.4% throughout the period. The manufacturing sector employment share increased from 17.8% in 1993-94 to 20.73% in 2004-05, after that its share declined to 17.54% in 2009-10. The manufacturing sector did not create much employment. The tertiary sector employment share was 24.45% in 1993-94 and increased to 28.28% in 1999-2000 and further to 29.90% in 2004-05. It declined slightly to 28.42% in 2009-10. Within the tertiary sector, trade, hotel sector, transport sector, financial intermediaries and business sector increased its share of employment to 8.93% in 1993-94 to 12.04% in 2009-10, 3.67% in 1993-94 to 6.01% in 2009-10 and 1.46% in 1993-94 to 3.08% in 2009-10 respectively. The share of public administration, education sector declined from 10.39% in 1993-94 to 7.29% in 2009-10. The decline in the employment share of the tertiary sector between 2004-05 and 2009-10 is due to the decline in the share of employment in the public administration and education sector from 9.17% in 2004-05 to 7.29% in 2009-10.

Among all the sectors, it is the construction sector which has added a number of employment between 1993-94 and 2009-10. The employment share of manufacturing, electricity, water and construction which constitutes the secondary sector witnessed an increase between 1993-94 and 1999-2000. The employment share of trade, hotel, transport, financial intermediaries, business and public administration, education which constitutes service, witnessed an increase between 1999-2000 and 2004-05. The employment share of agriculture and allied activities and, mining and quarrying which constitutes primary sector witnessed an increase between 2004-05 and 2009-10.

The table I below shows the sector-wise employment in lakhs in Tamil Nadu. In 2009-10 Agriculture and allied activities are the largest employment providing sector followed by manufacturing which employs about 54.84 lakh people. Trade, hotel sector is the third largest employment providing sector with 37.63 lakh persons followed by construction sector which employs 31.81 lakh people.

Table 4.4: Sector-wise Employment (In Lakh) TN				
Sectors	1993-94	1999-00	2004-05	2009-10
Agriculture	148.74	131.9	132.76	134.94
Mining & Quarrying	1.04	1.31	1.06	1.32
Manufacturing	50.46	53.89	64.74	54.84
Electricity-Gas & Water	0.98	1.08	0.81	0.88
Construction	10.82	14.68	19.52	31.81
Trade, Hotel	25.05	35.92	39.79	37.63
Transport	10.31	13.67	15.09	18.79
Finance Inter, Business	4.09	5.27	9.85	9.64
Public administration	29.15	25.12	28.63	22.8
Total Employment	280.64	282.84	312.27	312.65

Source: NSS EUS various rounds

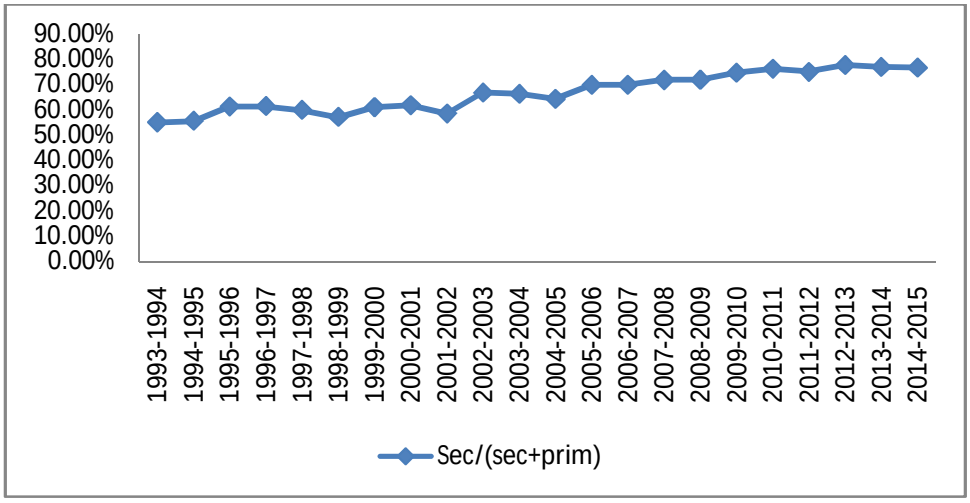
Between 1993-94 and 1999-2000 the number people employed in agriculture declined from 148.74 lakh to 131.90 lakh and the employment in public administration, education sector declined from 29.15 lakh to 25.12 lakh. All the other sector added more people in its employment during this period. The highest addition to total employment during this period came from trade, hotel sector. This sector added about 10 lakh people. Between 1999-2000 and 2004-05 the manufacturing sector added the highest number of people to its employment about 11 lakh. Between 2004-05 and 2009-10 construction sector added about 12 lakh employment and emerged has the sector with highest employment addition.

The manufacturing sector is the second largest employment providing sector. The manufacturing employment share in total employment increased from 17.98% in 1993-94 to 19.05% in 1999-2000 and then to 20.73% in 2004-05. It declined to 17.54% in 2009-10 which is similar to the 1993-94 level. The manufacturing employment witnessed an absolute decline of about 10 lakh from 64.74 lakh in 2004-05 to 54.84 lakh in 2009-10. Despite the decline in the manufacturing employment, the share of secondary sector employment to total employment increased throughout the period. It increased from 22.18% in 1993-94 to 24.62% in 1999-00 and to 27.24% in 2004-05 and further to 27.99% in 2009-10. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. The construction sector employment increased by about 12 lakh between 2004-05 and 2009-10.

Table 4.5: Share of income originating in secondary sector divided by primary and secondary sector TN	
Year	Sec/(sec+prim)
1993-1994	55.07%
1994-1995	55.64%
1995-1996	61.42%
1996-1997	61.50%
1997-1998	59.93%
1998-1999	57.14%
1999-2000	61.12%
2000-2001	61.92%
2001-2002	58.58%
2002-2003	66.90%
2003-2004	66.37%
2004-2005	64.39%
2005-2006	69.95%
2006-2007	69.99%
2007-2008	71.90%
2008-2009	71.98%
2009-2010	74.72%
2010-2011	76.38%
2011-2012	75.18%
2012-2013	77.77%
2013-2014	77.05%
2014-2015	76.82%

Source: NSDP data from EPWRF

Figure 4.1: Share of income originating in secondary sector divided by primary and secondary sector Tamil Nadu



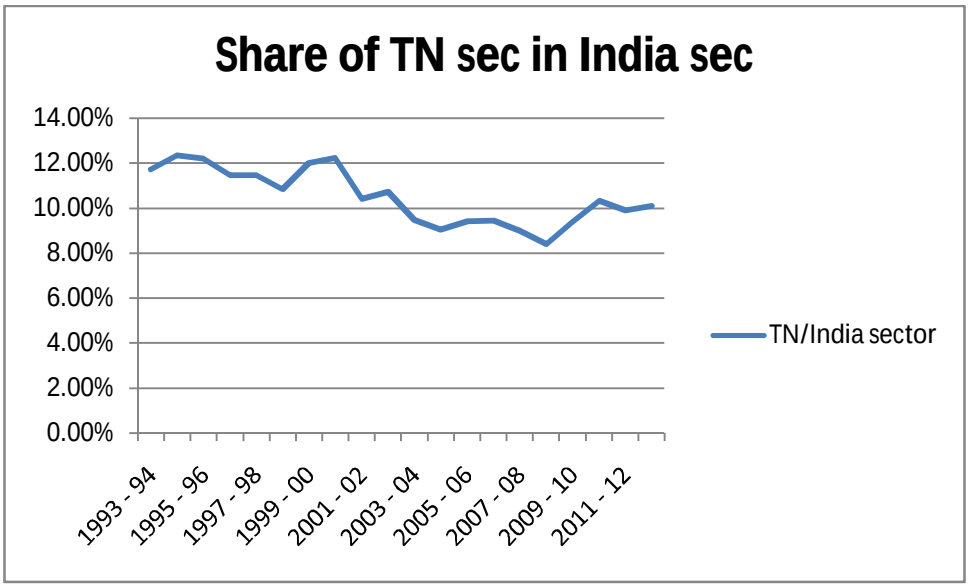
The share of income originating in secondary sector to primary sector and secondary sector together is given in table III from 1993-94 to 2014-2015. It was about 55% in 1993-94 and increased to 61% in 2000-01 and in 2014-15 it stands at 76.82%. The secondary sector contributes significantly to the state's income.

Table 4.6: Share of TN Secondary sector in all India Secondary sector (at 2004-05 Constant prices)

Year	Secondary sector NSDP Tamil Nadu	Secondary sector NDP India	TN secondary sector/ India Sec Sector
	Rs Crore	Rs Crore	
1993 - 1994	37623.08	321020	11.72%
1994 - 1995	42956.49	347997	12.34%
1995 - 1996	47255.68	387054	12.21%
1996 - 1997	46925.47	409898	11.45%
1997 - 1998	47839.42	417368	11.46%
1998 - 1999	46616.29	429576	10.85%
1999 - 2000	51920.48	433059	11.99%
2000 - 2001	56186.42	459778	12.22%
2001 - 2002	48849.78	468970	10.42%
2002 - 2003	54090.88	504315	10.73%
2003 - 2004	51709.63	546174	9.47%
2004 - 2005	54188.6	598795	9.05%
2005 - 2006	62482.65	663271	9.42%
2006 - 2007	70867.53	748851	9.46%
2007 - 2008	73944.6	822849	8.99%
2008 - 2009	71655.14	853193	8.40%
2009 - 2010	87395.18	930794	9.39%
2010 - 2011	102550.5	993746	10.32%
2011 - 2012	106413.6	1074065	9.91%
2012 - 2013	107777.1	1066258	10.11%

Source: NDP and NSDP data from EPWRF

Figure 4.2: Share of TN Secondary sector in all India Secondary sector



The share of the secondary sector in Tamil Nadu to the share of the secondary sector all over India is given in table IV. Between 1993-94 and 2012-13 it fluctuated between 8% and 12 %. The share of Tamil Nadu secondary sector was 11.72% in 1993-94 and 10.11% in 2012-13. It was at its highest in 1994-95 contributing 12.34% and lowest in 2008-09 contributing 8.40%.

4.3: Model for explanations in the participation in the Manufacturing sector in the rural non-farm sector.

One can make two major observations on labour allocation at the all India and Tamil Nadu level. One, the importance of farm sector in terms of providing employment is declining. Two, in the period between 1993-94 and 2004-05, the manufacturing sector was the main providers of employment followed by construction, but between 2004-05 and 2009-10, there was a decline in the share of workers engaged in manufacturing for all India as well as Tamil Nadu. But Tamil Nadu manufacturing sector continues to be a second main provider of employment in the state. Hence it is important to analyze the factors influencing, entering into the manufacturing sector. Is there any entry barriers into manufacturing sector and what are these? We use a similar model as

used in the last chapter and also use same variables to explain the participation in the manufacturing sector.

To analyze the determinants of participation in the rural non-farm sector as a main occupation, we have used a binary logistic model. In logit models, the dependent variable is a dummy (i.e a dichotomous variable which takes a value of 0 and 1). Here the dependent variable takes a value Y=0 if the current status of the i^{th}worker is employed in the manufacturing sector, and Y=1, otherwise.

$$\mathbf{Y}_{i=} \mathbf{a_0} + \mathbf{b_j X_{ij}} + \mathbf{u_i}$$

Here the independent variables are X_{ij}. Where 'i' denotes individuals and 'j' denotes the independent variable.

Xj = (Gender,Agegroup,Socialgroup,Familysize, Education,Technical education and Land size)

i =timeperiod.

A logistic regression model allows us to establish a relationship between a binary outcome variable and a group of predictor variables. It models the logit-transformed probability as a linear relationship with the predictor variables. More formally, let **y** be the binary outcome variable indicating failure/success with 0/1 and p be the probability of y to be 1, p = prob(**y**=1). Let **x1**, .., **xk** be a set of predictor variables. Then the logistic regression of **y** on **x1**, ..., **xk**estimates parameter values forβ_0, β_1, . . . , β_k via maximum likelihood method of the following equation.

$$\text{logit}(p) = \log(p/(1-p)) = \beta_0 + \beta_1 * \mathbf{x1} + ... + \beta_k * \mathbf{xk}$$

Factors influencing choice -

In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector. So we are analyzing using the same variables which were used for analyzing farm and non-farm behavior in order to know, whether the choice variable is different.

Gender: One of the variables which were expected to influence the choice of entering the manufacturing sector is the gender of the individual. One would expect that if the gender of the

individual is female, there is a higher probability for this individual would not enter manufacturing sector due to social bias. So one would expect that if the gender of the individual is male, there is a higher probability for this individual would be in the rural manufacturing sector. This is identified as a dummy variable and male represents the reference category, while female represents the categorical variable.

Age group: Age of the individual has been important factor influences the decision to join the manufacturing sector. The Younger population have a high probability to enter entering the manufacturing sector. Here, age group is defined in terms of four variables. The age group is divided into 3 categories first 15 to 29 years, second is 30 to 59 years, which is the reference category and third is 60 to 79 years.

Education: Education provides the skill to enter manufacturing sector. The levels of the schooling can be identified as an instrument for the education (Chadha 1991, Jayaraj 1989, Lanjouw and Shariff 2004). Education acts as Premium to get nonfarm sector jobs and the probability of getting jobs rises with Education (Eswaran et.al, 2009). Here Education is divided into 7 categories. Illiterate is the classified as the reference category, while literate with no formal schooling, below primary, primary to the middle, secondary to higher secondary, and diploma, graduate and above represented as the categorical variables.

Technical education: Technical education increases the probability of individual entering the modern manufacturing sector. Technical education required in the manufacturing sector as majority of the work in manufacturing unit is skill based. Technical education is divided two categories technical education and no technical education. No technical education is reference category and Technical education is categorical variables.

Family size: It is generally expected that household size and the probability of the household entering the manufacturing sector are related. The family size had been classified according to a number of the members. Family size grouped as 1-4 members, 5-8 members, 9-12 members and 13 and above. 1-4 members group considered as the reference category, while rest of the member groups belong to Categorical variables.

Land size: Land is an asset which helps individuals to hedge risk and uncertainties. Land can be grouped according to the size of holding. The household which has less than 0.99 hectares is

considered as landless households. The households having landholding of 1to 1.99 hectares is considered as marginal landowner households, while households having 2 to 3.99 hectares are small landowner household. The household having land size of 4 to 9.99 hectares is considered as a semi-large landowner, while 10 hectares and above is supposed to large landowner household. The land size is divided into 5 categories. Landless is reference category, while rest of landholding groups belong to categorical variables.

Social Group: It is generally expected that the general and Backward social groups have better opportunities in the entering the manufacturing compared to the marginalized sections of the society. The social group is divided into 3 categories. Scheduled tribe (ST) is reference category, while Scheduled Caste (SC) and Others (General &OBCs) are categorical variables.

4.3.1 :Model for explanations in the participation in the Manufacturing sector in the rural non-farm sector.

One can make two major observations on labour allocation at the all India and Tamil Nadu level. One, the importance of farm sector in terms of providing employment is declining. Two, in the period between 1993-94 and 2004-05, the manufacturing sector was the main providers of employment followed by construction, but between 2004-05 and 2009-10, there was a decline in the share of workers engaged in manufacturing for all India as well as TN. But TN manufacturing continues to be a second main provider of employment. In this context, this section would like to analyze the factors influencing entering the manufacturing sector. This is being used to identify entry barriers into the manufacturing sector. We use a similar model as used in the last chapter and also use same variables to explain the participation in the manufacturing sector.

To analyze the determinants of participation in the rural non-farm sector as a main occupation among the rural population we have used a binary logistic model. In logit models, the dependent variable is a dummy (i.e a dichotomous variable which takes a value of 0 and 1). Here the dependent variable takes a value Y=0 if the current status of the i^{th}worker is employed in the manufacturing sector, and Y=1, otherwise. Here independent variables are X_{ij} are defined below.

$$\mathbf{Y}_{i=} \mathbf{a_o} + \mathbf{b_j X_{ij}} + \mathbf{u_i}$$

Where 'i' denotes individuals and 'j' denotes the independent variable

$Y_{i=}$ takes the value 0 if usually employed in the manufacturing sector and assume the value =1 otherwise. Xj=(Gender, Age group, Social group, Family size, Education, Technical education and Land size)

i =timeperiod.

ii. *Factors influencing choice*

In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector. So we are analyzing using the same variables which were used for analyzing farm and non-farm behavior but hoping that the variables which influencing the choice are different.

Gender:

One of the variables which were expected to influence the choice of entering the manufacturing sector is the gender of the individual. One would expect that if the gender of the individual is female, there is a higher probability for this individual would not enter manufacturing sector due to social bias.). So one would expect that if the gender of the individual is male, there is a higher probability for this individual would be in the rural manufacturing sector. This is identified as a dummy variable and male represents the reference category, while female represents the categorical variable.

Age group:

Age of the individual has been important factor influences the decision to join the manufacturing sector. The Younger population have a high probability to enter entering the manufacturing sector. Here, age group is defined in terms of four variables. The age group is divided into 3 categories first 15 to 29 years, second is 30 to 59 years, which is the reference category and third is 60 to 79 years

Education:

Education by providing the skill to enter manufacturing sector. The levels of the schooling can be identified as an instrument for the influence of education (Chadha 1991, Jayaraj 1989, Lanjouw and Shariff 2004). Education acts as Premium to get nonfarm sector jobs and the probability of getting jobs rises with Education.(Eswaran et.al, 2009). Here Education is divided into 7 categories. Illiterate is the classified as the reference category, while literate with no formal schooling, below primary, primary to the middle,secondary to higher secondary, diploma, graduate and above represented as the categorical variables.

Technical education

Technical education increases the probability of individual entering the modern manufacturing sector. Technical education required in the manufacturing sector as majority of the work in manufacturing unit is skill based. Technical education is divided two categories technical education and no technical education. No technical education is reference category and Technical education is categorical variables.

Family size:

It is generally expected that household size and the probability of the household entering the manufacturing sector. .family size had been classified according to a number of the members. family size grouped as 1-4 members,5-8 members,9-12 members and 13 and above.1-4 members group considered as the reference category, while rest of the member groups belong to Categorical variables.

Land size:

The land is an asset which helps individuals to hedge risk and uncertainties. Land can be grouped according to the size of holding.The households which have less than.99 hectares is considered as landless households.The households having landholding of 1to 1.99 hectares is considered as marginal landowner households, while households having 2 to 3.99 hectares is small landowner household.The household having land size of 4 to 9.99 hectares is considered as a semi-large landowner, while 10 hectares and above is supposed to large landowner household.The land size is divided into 5 categories .landless is reference category, while rest of landholding groups belong to categorical variables.

Social Group

It is generally expected that the general and Backward categories have better opportunities in the entering the manufacturing compared to the marginalized sections of the society. The social group is divided into 3 categories. Scheduled tribe (ST) is reference category, while Scheduled caste (SC) and Others(general and OBCs) are categorial variables.

To analyse the factors influencing the choice to enter the manufacturing non-farm sector at the all India and at the state level of TN we have used two rounds of NSSO data of employment and Unemployment in India. We have been considering two years as we are trying to analyse whether there are any changes in the factors influencing the choosing to enter the manufacturing non-farm sector. So we formulating the question as households are in the non-manufacturing farm sector and are moving into manufacturing non-farm sector. The two periods for analysis is being seen are one year which is near the initial year for economic reforms and i.e., 1993-94. The second year is nearly 20 years after the reforms i.e., 2009-10.

i) All India trends:

4.4 :Explanations for the participation of rural population in non-manufacturing nonfarm sector in Tamil Nadu

Table4.7: logistic Regression: Participation of rural population in the non-manufacturing non-farm work in 1993-94

Explanatory variable	Cofficients	Odds Ratio
Female	-1.137(20.01)**	0.32(20.01)**
Age Group (reference group is 30-59)		
agegroup:15-29	-0.1367(-2.47)*	0.871(-2.47)*
agegroup:60-79	-0.286(-2.60)**	0.75(-2.60)**
Social Group (reference group is ST)		
SCs	-0.035(-0.36)	0.964(-0.36)
Others	0.031(0.39)	1.03(0.39)
Householdsize(reference group is HHsize 1-4)		
Householdsize:5-8	-0.194(-3.31)**	0.823(-3.31)**
Householdsize:9-12	0.038(-0.39)	0.962(-0.39)
Householdsize:13&above	-0.207(-1.25)	0.812(-1.25)
Level of Education(Reference group is not literate)		
literate no formalschooling	-0.094(-0.49)	0.91(-0.49)

below primary	0.147(1.77)***	1.159(1.77)***
primary to middle	0.267(4.14)**	1.305(4.14)**
secondary to HSC	0.495(5.14)**	1.639(5.14)**
diploma\certificate	0.268(0.31)	1.307(0.31)
graduate&above	1.007(4.66)**	2.737(4.66)**
Landsize(Reference group is Landless)		
marginal landowner	0.156(2.15)*	1.169(2.15)*
Small landowner	0.275(3.14)**	1.316(3.14)**
semi-large landowner	0.047(0.44)	1.047(0.44)
largerlandowner	0.454(2.07)*	1.588(2.07)*
Technicaleducation	0.455(1.64)	1.575(1.64)
constant	0.958(10.14)**	2.61(10.14)**
Number of Observation	7484	
LR Chi2(21)	708.18	
Prob>Chi2	0	
Pseudo R2	0.0736	
Mcfadden's R2	0.074	
Log likelihood ratio	-4458.803	

Source: Unit level data from NSSO employment and unemployment situation in India,1993-94(50th round)

Note:** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 level.Figures in brackets are computed Z-values

Table 4.7 provides the logic results for All India during 1993-94.

Given the work choice of work, the probability of employment in the Rural India displayed that whether their positive impact of non-manufacturing or manufacturing nonfarm on the males and females.Males have a high probability of entering others nonfarm employment.Age group 30-59 is assumed as the reference category.The Individuals in the age group of 30 to 59 have a high possibility of participating in non-manufacturing compared to other age groups.The earlier studies (Eswaran et.al 2009) showed that young population (18-26) which was out of labour force(studying) in the later period enter the nonfarm sector rather than agriculture. Social status also plays an important role in determining her employment choice.ST is reference category.SC and others(General & OBCs) though they are not statistically significant but others have a high probability of entering others nonfarm sector compared to other social groups.The Individuals in small household 1 to 4 tends to join the non-manufacturing nonfarm activities compared to the individuals in larger size households.Smaller family households are more likely to enter the than

larger family size households.A Large family may prefer manufacturing oriented nonfarm sector. The earlier studies showed that level of education has a positive impact on the nonfarm sector (Jayaraj 1989). The literate has a high probability to enter non-manufacturing oriented nonfarm sector is compared to than illiterates. Graduates have a high probability of joining other nonfarm sector compared to other educational groups.Literate with no schooling Diploma\certificate holders are not statistically significant.There is clear indication the size of the landholding increases, there is an increase in the probability joining the rural services sector. Big landlords 10 hectares and above exhibited a high probability of join non-manufacturing sector than other landholding groups. Semi-medium landowners are not statistically significant.No Technical education is reference category.Technically educated individuals have a high probability of the entering the non-manufacturing sector but they are not statistically significant.

Table 4.8: logistic Regression: Participation of rural population in the non-manufacturing non-farm work in 2009-10

Explanatory variable	Coefficients	Odds Ratio
Female	-0.667(21.97)**	0.513(21.97)**
Age Group (reference group is 30-59)		
agegroup:15-29	-0.396(14.94)**	0.672(-14.94)**
agegroup:60-79	-0.078(-1.4)	0.924(-1.4)
Social Group (reference group is ST)		
SCs	-0.224(-4.86)**	0.799(-4.86)**
Others	-0.495(12.64)**	.609(-12.64)**
Household size(reference group is HHsize 1-4)		
Householdsize:5-8	-0.122(4.70)**	0.884(-4.70)**
Householdsize:9-12	-0.218(-4.45)**	0.804(-4.45)**
Householdsize:13&above	-0.404(-4.15)**	0.667(-4.15)**
Level of Education(reference group is not literate)		
literate no formalschooling	0.186(1.15)	1.204(1.15)
below primary	0.074(1.58)	1.076(1.58)
primary to middle	0.118(3.58)**	1.124(3.58)**
secondary to HSC	0.539(14.04)**	1.714(14.04)**
diploma\certificate	1.062(7.82)**	2.891(7.82)**
graduate&above	1.704(23.96)**	5.495(23.96)**
Land size(Reference group is Landless)		
marginal landowner	0.151(2.89)**	1.163(2.89)**
Small landowner	0.082(1.93)***	1.085(1.93)***
semi-large landowner	0.198(5.43)**	1.219(5.43)**
largerlandowner	0.213(5.18)**	1.237(5.18)**
Technical education	-0.363(2.92)**	0.695(-2.92)**
constant	1.76(36.14)**	5.81(36.14)**

Number of Observation	44967	
LR Chi2(21)	2172.97	
Prob>Chi2	0	
Pseudo R2	0.0488	
Mcfadden's R2	0.049	
Log likelihood ratio	-21161.3	

Source: Unit level data from NSSO employment and unemployment situation in India,2009-10 (66th round)

Note:** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 levelFigures in brackets are computed Z-values.

Table 4.8 provides the logistic regression of participation of the rural population in the non-manufacturing nonfarm work in 2009-10. Given the choice of work, the probability of employment in the rural India showed that males have a high probability of entering the non-manufacturing nonfarm sector. Age group: 30-59 is reference category.Individuals in the age group of 30-59 have a high probability of participation in the non-manufacturing oriented nonfarm sector compared to other age groups.Age group 60-79 is not statistically significant. Keeping the STs as reference category reported that STs shows the high probability of entering the non-manufacturing rural non-farm sector in rural India compared to other social groups.Small households are more likely to enter than the nonfarm sector than larger household size.Household size 1 to 4 exhibited a high probability of entering the non-manufacturing oriented nonfarm sector.

Higher education achievements have a sizeable probability of the entering the non-manufacturing nonfarm sector than less educated ones. Graduates and above individuals are more likely to participate in the nonfarm sector in comparison to other educational groups. Landless is kept as the reference category. The size of the landholding has a positive relationship of entering the non-manufacturing oriented nonfarm sector.There is clearly observation that members of land holding more likely to enter the non-manufacturing oriented nonfarm sector than landless Individuals.Members of big landlords (10 hec&above) are more likely to enter the rural non-manufacturing than other landowner groups.No Technical educated individuals have a higher possibility of entering the non-manufacturing than the manufacturing sector.

4.5: The comparison of results of logistic regression between 1993-94 and 2009-10 in India

The comparison of results of logistic regression between 1993-94 and 2009-10 in India.female participation declined in compared to the males entering nonmanufacturing sector during both periods.Individuals in the age group of 30-59 have a high probability of participation in the non-manufacturing nonfarm sector compared to other age groups in the both period.The young Population which was studying in 1983 later entered the nonfarm sector employment rather than agriculture.(Eswaran et.al, 2009).Social groups showed others which consist of OBCs and general castes exhibited a high participation in the non-manufacturing nonfarm sector in the other social groups in 1993-94. STs showed higher involvement in rural non-manufacturing compared to other social groups in 2009-10.forward castes and OBCs might prefer manufacturing over non-manufacturing.marginalized groups (STs) may join low-level activities in the non-manufacturing sector.Interestingly family size in 1993-94 and 2009-10 showed that individuals from the small family household are more likely to enter the non-manufacturing nonfarm sector than the larger family.literate seemed to involve more in the non-manufacturing oriented nonfarm sector in the both period.Graduates and above have a high probability of entering the non-manufacturing nonfarm sector than other educational groups.In the both period landholding households registered the entering in non-manufacturing oriented nonfarm sector comparison to landless households. In both period members from Big Landlords(10 Hec& above) exhibited higher probability in entering the services oriented nonfarm sector.small landowners (2-3.99 Hec) reported higher engagement except for Big Landlords in 1993-94, while 2009-10 semi-medium landowners(4-9.99 Hec) members presented a high participation in non-manufacturing nonfarm sector except Big Landlords.Interestingly 1993-94 technical educated individuals more likely to enter the non-manufacturing oriented nonfarm sector than no technical educated individuals however, In 2009-10 no technical educated individuals have greater participation probability of entering the services oriented nonfarm sector than technically educated individuals.

4.6: Explanations for the participation of rural population in non-manufacturing nonfarm sector in Tamil Nadu

Table4.9; logistic Regression: Participation of Rural Population in the non-manufacturing non-farm work in 1993-94

Explanatory variable	Coefficients	Odds Ratio
Female	-1.189(4.40)**	0.304(4.40)**
Age Group (reference group is 30-59)		
agegroup:15-29	-0.679(-2.43)*	0.507(-2.43)*
Social Group (reference group is ST)		
SCs	0.798(2.09)*	2.221(2.09)*
Household size(reference group is HHsize 1-4)		
Householdsize:5-8	0.37(1.42)	1.448(1.42)
Householdsize:9-12	0.73(0.85)	2.075(0.85)
Level of Education(reference group is not literate)		
literate no formalschooling	-1.366(-1.43)	0.255(-1.43)
below primary	-0.064(-0.16)	0.937(-0.16)
primary to middle	0.628(1.95)***	1.874(1.95)***
secondary to HSC	0.127(0.25)	1.135(0.25)
graduate&above	1.053(0.92)	2.867(0.92)
Land size(Reference group is Landless)		
marginal landowner	0.679(1.73)***	1.971(1.73)***
Small landowner	-0.179(-0.4)	0.836(-0.4)
semi-large landowner	0.131(0.18)	1.139(0.18)
Technical education	1.421(1.12)	4.139(1.12)
constant	0.691(2.03)*	1.995(2.03)*
Number of Observation	339	
LR Chi2(16)	61.91	
Prob>Chi2	0	
Pseudo R2	0.1374	
Mcfadden's R2	0.137	
Log likelihood ratio	-194.25	

Source: Unit level data from NSSO employment and unemployment situation in India,1993-94 (50th round)

Note:** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 levelNote: Figures in brackets are computed Z-values.

note: age group:60-79 dropped					
Social group: sc dropped and 1 observation not used					
household size:13&above dropped and 1 observation not used					
general education:diploma&certificate dropped and 1 observation not used					
large landowner household:10 hectares & above and 2 observation not used					
social group(obc&general) omitted because of collinearity					

The table 4.9, explained the logistic model for the rural population in the non-manufacturing nonfarm sector in Tamil Nadu during 1993-94.Males have high probability entering the rural non-manufacturing sector.Age group 30-59 exhibited the high participation rural non-manufacturing compared to their other groups.Age group 80& above are not statistically significant.SCs have high participation in rural non-manufacturing compared to STs. Literate have a high probability of the entering the rural non-manufacturing nonfarm sector compared to the Illiterate.Graduates and above educational group have the high participation in the nonmanufacturing farm sector compared to the education groups.Literate with no formal schooling and below primary are not statistically significant. Marginal landowners exhibited a high participation in the non-manufacturing nonfarm sector in compared to other land groups.Semi-Medium landowners though have positive coefficients but it is not statistically significant.Tamil Nadu majority of small & marginal groups are landholding groups belong to OBCs might entering non-manufacturing nonfarm sector compared to other landowner groups.No technical education is reference category.Technical education has high participation in the non-manufacturing nonfarm sector in comparison to no technical education.

Table 4.10: Participation of Individuals in manufacturing and non-manufacturing sector among rural Tamil Nadu during in 2009-10

Explanatory variable	Coefficients	Odds Ratio
Female	-0.74(-7.50)**	0.477(-7.50)**
Age Group (reference group is 30-59)		
agegroup:15-29	-0.541(-5.33)**	0.582(-5.33)**
agegroup:60-79	-0.099(-0.5)	0.906(-0.5)
Social Group (reference group is ST)		
SCs	0.345(0.66)	1.411(0.66)
Others	0.084(0.16)	1.087(0.16)
Household size(reference group is HHsize 1-4)		
Householdsize:5-8	-0.077(-0.82)	0.926(-0.82)
Householdsize:9-12	1.756(1.68)***	5.789(1.68)***
Householdsize:13&above	-2.431(-2.63)**	0.087(-2.63)**

Level of Education(reference group is not literate)		
literate no formalschooling	-0.371(-0.5)	0.689(-0.5)
below primary	-0.285(-1.73)	0.751(-1.73)
primary to middle	0.041(0.29)	1.042(0.29)
secondary to HSC	0.417(2.60)**	1.517(2.60)**
diploma\certificate	0.98(2.42)*	2.663(2.42)*
graduate&above	1.197(4.57)**	3.31(4.57)**
Land size(Reference group is Landless)		
marginal landowner	0.473(1.31)	1.604(1.31)
Small landowner	0.078(0.33)	1.081(0.33)
semi-large landowner	0.493(2.76)**	1.637(2.76)**
largerlandowner	-0.003(-0.02)	0.997(-0.02)
Technical education	-0.34(-0.91)	0.712(-0.91)
constant	1.169(2.26)*	3.217(2.26)*
Number of Observation	2826	
LR Chi2(20)	174.68	
Prob>Chi2	0	
Pseudo R2	0.0549	
Mcfadden's R2	0.055	
Log likelihood ratio	-1504.6	

Note:** significant at 0.01 level,*significant at 0.05 level and *** significant at 0.1 level. Figures in brackets are computed Z-values.

Note: Age group 5-14 dropped and 2 obs not used.

The table 4.10, exhibited the logistic regression for the participation of the rural population in manufacturing and non-manufacturing sector among rural India during in 2009-10.Males have a high probability of entering the rural services compared to the females. Age groups 30 to 59 exhibited high participation in the non-manufacturing oriented rural non-farm sector compared to other age groups.Age groups 60-79 and 80 & above are not statistically significant.SCs and Others have a high probability of entering non-manufacturing sector are not statistically significant. Household size(9-12) exhibited a high probability of participating in rural non-manufacturing compared to other Household groups.Household size 5-8 is not statistically significant. Literate participation in the non-manufacturing oriented nonfarm sector is high compared to illiterate. Graduates and above have high participation in the non-manufacturing in comparison with other educational groups. Higher education led to participation in the higher participation in the rural non-manufacturing.Members of land owned households advantage over the landless households in the entering non-manufacturing over the manufacturing.semi medium landowners(4-9.99 Hec) have a high probability of the entering the rural non-manufacturing than

other groups.No technical background individuals more likely to join the non-manufacturing compared to Technical backgrounds

4.7 :Comparision of empirical results between 1993-94 and 2009-10 in Tamil Nadu

The comparison of logistic results between1993-94 and 2009-10 in Tamil Nadu .female participation declined for rural non-manufacturing between the both period.Individuals in the age group of 30-59 have a high probability of participation in the non-manufacturing oriented nonfarm sector compared to other age groups in the both period. SCs exhibited that high participation in the non-manufacturing nonfarm sector in the other social groups in 1993-94.SCs showed a high probability of rural non-manufacturing in compared to other social groups. Interestingly Household size in 1993-94 and 2009-10 exhibited that individuals from the larger family (9-12) are more likely to enter the non-manufacturing nonfarm sector compared to the small family household.literate seemed to involve more in the non-manufacturing oriented nonfarm sector in the both period.Graduates and above have a higher possibility of entering the non-manufacturing oriented nonfarm sector than other educational groups in Tamil Nadu.In the both periods landed households registered the enter in non-manufacturing oriented nonfarm sector comparisons to landless households.Marginal(1-1.99 Hec) and semi-medium (4-9.99 Hec) larger landholding households have high participation in the services than landless in 1993-94.Semi-medium(4-9.99 Hec) and Marginal(1-1.99 Hec) have a high contribution in the non-manufacturing in comparison to other landed groups in 2009-10.Interestingly 1993-94 technical educated individuals more likely to enter the non-manufacturing nonfarm sector than no technical educated individuals however In 2009-10 non- technically educated individuals have a greater probability of entering the non-manufacturing oriented nonfarm sector than technical educated individuals in Tamil Nadu.

4.8: The difference between Manufacturing and non-manufacturing rural non-farm sector in India and Tamil Nadu.

The nonfarm sector has been the largest source of employment growth in the country including Tamil Nadu. In the Rural India is some sign of the decline of the casualisationlabourers for the SCs.OBCs and General still hold the major regular employment.Interestingly In Tamil Nadu, there has been an increase in casual labourers for both SCs and OBCs.OBCs are getting

benefitted from the regular employment.In the rural non-farm sector services-driven growth which primarily in dominated by Construction activities.Indian states have witnessed a decline in growth in agriculture's activities, while manufacturing sector has a exhibited a marginal decline, however, In states, there is growth in manufacturing activities. Bihar and Uttar Pradesh witnessed a relatively higher growth in construction.female participation declined for non-manufacturing between the both periods in India and Tamil Nadu.Individuals in the age group of 30-59 have a high probability of participation compared to other age groups in the both periods in India and Tamil Nadu. At All India level, STs exhibited a high probability of rural non-manufacturing compared to others and SCs in 2009-10.In Tamil Nadu, SCs have a probability of entering the rural non-manufacturing sector during 2009-10.

Interestingly In India individuals from the small family household is more likely to enter the non-manufacturing nonfarm sector than the larger household, While It is fascinating to note that in Tamil Nadu larger family Household(9-12) more likely to enter the non-manufacturing than manufacturing. literate seems to involve more in the non-manufacturing oriented sector in India and Tamil Nadu.Graduates and above have a higher possibility of entering the non-manufacturing oriented nonfarm sector than other educational groups in India, while In Tamil Nadu also exhibited the similar trend. Landholding households likely to enter in Non-manufacturing oriented nonfarm sector comparison to landless households in both periods in the country. In both period members from Big Landlords(10 Hec& above) exhibited higher possibility to enter the non-manufacturing oriented nonfarm sector.small landowners (2-3.99 Hec) reported higher participation except for Big Landlords in 1993-94, while In 2009-10 semi-medium landowners(4-9.99 Hec) members likely to participate in non-manufacturing oriented nonfarm sector except Big Landlords in the country.In Tamil Nadu also the landholding households displayed the higher participation in the non-manufacturing than the individuals from landless households. Marginal(1-1.99 Hec) and semi-medium (4-9.99 Hec) larger landholding households have a higher probability of entering the non-manufacturing than landless in 1993-94.Semi-medium(4-9.99 Hec) and Marginal(1-1.99 Hec) have higher participation in the non-manufacturing in comparison to other landholding groups in 2009-10 in Tamil Nadu.InterestinglyIn All India and Tamil Nadu in 1993-94, technically educated individuals more likely to enter the non-manufacturing nonfarm sector than no technical educated individuals.In 2009-10 no technical educated individuals have greater participation probability of

entering the non-manufacturing oriented nonfarm sector than technically educated individuals in India and Tamil Nadu.

4.9: Conclusion

This chapter had aimed at understanding the characteristics of manufacturing and non-manufacturing in the rural non-farm sector in India and Tamil Nadu. This feature of transformation in Tamil Nadu differs from other agricultural surplus producing states like Punjab where the agricultural surplus has not been reinvested in industry. Tamil Nadu agricultural surplus in invested back in the industry.Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. India. The share of manufacturing to total GSDP was highest for Gujarat (22.65 per cent) followed by Tamil Nadu (15.84 per cent) and Maharashtra (15.74 per cent). The manufacturing sector is the second largest employment providing sector. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector.Females participation in the non-manufacturing oriented nonfarm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled castes(SCs) have been entering non-manufacturing oriented non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented nonfarm sector in the country. Interestingly Tamil Nadu large family (9-12) prefer non-manufacturing oriented nonfarm sector. Individuals from the age group of 30-59 showed the higher participation in the non-manufacturing oriented nonfarm sector both in India and Tamil Nadu. Graduates and higher educated prefer non-manufacturing over manufacturing both in India and Tamil Nadu. Literate with no schooling showed sizeable participation in 2009-10 in comparison to 1993-94 at all India level. Landholding household more likely to participate in the non-manufacturing nonfarm sector in comparison to landless households in the country. Interestingly members from marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing nonfarm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu during 2009-10. Interestingly during 1993-94 Technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu.

The enter of the SCs and ST in nonfarm sector shows the distress oriented growth of non-manufacturing sector.They may be might be accomodated in the low level activity in service sector.The increase in landholding household in non-manufacturig sector may settle down in high level jobs in non-manufacturing sector.

CHAPTER V

The pattern of rural non-farm employment in Tamil Nadu: Evidence from village studies.

5.1: Introduction

Tamil Nadu is considered as a highly industrialized and urbanized state in the country. The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. There has been a steady transformation of state economy towards the non-farm sector, resulting in declining share of the agriculture sector to NSDP. The proportion of the rural population to total population was on the decline from 56 percent in 2001 to 51.6 percent in 2011, implying the process of urbanization in the state. However, the agriculture sector still continues to play an important role as it provides livelihood and food security for a large section of the population. The principal food crops in the state are paddy, millets, and pulses. The commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chilies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom, and rubber. Major forest produces are timber, sandalwood, pulpwood, and fuelwood.

The earlier chapters based on secondary data showed a steady expansion in the non-farm sector both at all India and Tamil Nadu. Hitherto, the focus was on characteristics of the rural non-farm sector in both all India and Tamil Nadu. The aggregate studies do not provide enough scope to understand the process of diversification to non-farm sector. The micro level studies contribute to understanding the changing dynamics in the non-farm sector in more details. The present chapter is an investigation into the broad characteristics of non-farm sector in two villages of Namakkal district, Tamil Nadu. Tamil Nadu has been divided into seven agro-ecological zones. The first village, Thirumangalam of Tirchengodu taluk is present in the western zone of agro-ecological zones and the Second village Irruttanai of ParamathiVelur taluk is present in North Eastern zone. These two villages selected based on the nature of the irrigation facility and the distance from the nearest town. Thirumangalam is dry village which has no perennial source of

Irrigation and the major source of irrigation are wells\bore wells and rain-fed. The Irruttanai is a wet village which has canal irrigation facility along with wells and bore wells.

In a general context of an increase in the non-farm sector and urbanization in Tamil Nadu, this chapter would like to analysis the nature of rural non-farm sector in two villages in Tamil Nadu. One of the villages in an irrigated village and the second village is a non-irrigated village. The objective of the chapter are two, One, is irrigation a variable influencing the growth of the non-farm sector or is the growth of non-farm sector agricultural growth led. Two, are households shifting to completely to the non-farm sector or are one is plural households increasing in rural areas? A plural households are identified as one where one member of the household is in the farm sector and another may be in the non-farm sector.

The plan of the chapter is as follows In section 5.2 discuss the data and methodology and also the classification of households.5.3 discuss the brief socio-economic background about Namakkal district.5.4 examines the profile of the two surveyed villages.In section 5.5, Demographic details and social grouping of the total population of two surveyed villages.In section 5.6 provides information about land Distribution, cropping pattern and irrigation facilities in two villages.Section 5.7,brings out the diversification of household and Individuals in the two villages.Lastly, Section 5.8, provides the concluding remarks.

5.2: Data and Methodology

The main objective of the study is to understand the agro-economic background of the two surveyed villages and the nature of diversification of individuals\household towards the non-farm sector. In two villages, a census survey has been conducted in November-December 2012. To study the economic context of Namakkal district, secondary data has been collected from various sources such as Census of India 2001, District census handbook of Namakkal district 2011 and District statistical Handbook 2009-10, 2010-11, 2011-12 and 2012-13.

A census type of survey was conducted in November to December 2012. First village Thirumangalam is which Tirchengodu taluk is present in the western zone of agro-ecological zones and Second village Irruttanai is which in ParamathiVelur taluk is present in North Eastern zone. The different between the two agro-climate zones western zone and northwestern zone.the north western zone has been identified as moderately drought prone.The annual normal rainfall

of zone is 849 mm.The western zone annual normal rainfall is 653.7 mm.The major rivers of the north western zone are Cauvery, Thenpennai and Manimuthar.Mettur and Krishnagiri are the major dams in this zone.The major crops are paddy, wheat, maize, ragi, bajra, sugarcane, groundnut, cotton, sunflower, tobacco, and mango.In western zone Cauvery, Royal, Bhavani,uppar,sirvani and amaravathi are major rivers.The major crops are cholam, groundnut, cotton, pulses, and millets.

The chapter investigates the structure of farm andnon-farm sectors in the villages of Namakkal district in Tamil Nadu.The selection of the villages was purposive the villages was selected in canal irrigated area and another village in the dry area. In this survey, a detailed information collected on various variables like caste, sex, educational attainment of members, occupations, livestock, landholdings, tenancy, sale and purchase of land, cropping pattern, household assets, family labour, labour time, type of non-farm activity, migration and credit for last 2years. These villages might not be representative of their area but we get some understanding of the farm andnon-farm sectors.There limitation of an attempt to derive dynamic consequences based on one-year data.

5.2.1 :Method of Classification

Generally Rural household can classify on the basis of land, labour and (vyas 2003), credit (Eswaran and kotwal 1989) labour (Ramachandran,et.al,2010) In addition to classifying households into classes based on land and caste an attempt was made to classify households in the primary survey into three broad groups. One, households purely in the farm sector, second are households purely in the non-farm sector and the third groups are the households in farm and non-farm sector.

The classification of households is as follows:

i.Households in the Farm sector:

Households are identified as one in the farm sector if all members of the households are involved only in the farm sector. In turn, these households are classified into agricultural labour households and cultivators.

a.Cultivator household: The households who own and operate land. They also both demand and supply labour for agriculture activities. Some of them might be pure labour demanding household. The there major source of income is agriculture.

b. Agricultural labour household: the households those who only supply labour for agricultural activities and do not operate any land. Their major source of income is labour activities in labour market and do not have any other source of income. They receive their income in cash or kind. They generally receive the payment end of the day or completion of the task.

ii. Mixed Household: These households supply labour for agricultural operations or cultivate their land but more importantly they work in non-farm activities. They may derive a part income from agricultural activities. They have two main sources of income: income from agricultural and allied activities and income from non-farm activities.

iii. Pure non-farm household: These households do not supply labour for agricultural operations or cultivate any land. They depend upon earning from non-farm activities. These household do not have any income from agricultural operations.

iv. Others household: This household does not supply labour for agricultural operations and do not cultivate any land. These households depend upon pension or remittances for survival.

In addition to the above groups, the chapter also broadly classifies groups into two classes:

a) Traditional or non-diversified household –Traditional occupation is hereditary which includes agriculture activities, priest, toddy tapping, goat rearing, dhobi, barber, broomstick making etc.

b) Modern\Diversified household- Includes all activities except agriculture and traditional occupations such as mill workers, drivers, construction workers, mason, businessman etc.

5.3: A brief socio-economic background of Namakkal District

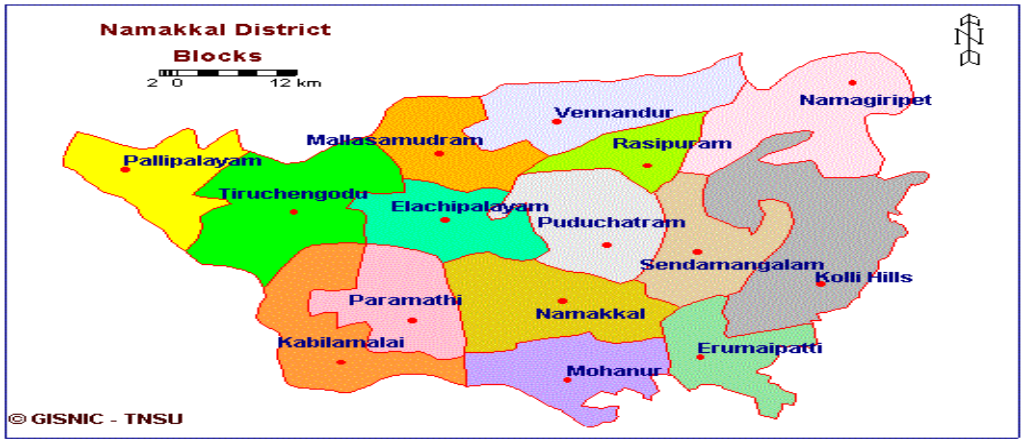
The state has major industries in textiles, commercial vehicles, auto components, railway coaches, power pumps, leather, cement, sugar, paper, automobiles, knowledge-based industries like IT and biotechnology. The state is considered a large exporter of tanned skin&leather, leather, yarn, tea, coffee, spices, engineering goods etc. Main minerals in the state are granite, lignite, and limestone.

Tamil Nadu is divided into 32 districts and the Namakkal district is one of them. It was formed in 1997 by bifurcating from the Salem district. The geographical area of the district is 3363.35 km which lies between 11.00 and 11.360 North latitude and 77.280 and 78.300 east longitude. It consists of 7 taluks namely; Namakkal, Rasipuram, Tirchengodu, Paramathivelur, Kolli hills, Sendamangalam and Komarapalayam. It is surrounded by Salem on the north, karur on the south, Trichy and Salem on the east and Erode on the west. The Northern part of namakkal is mountainous and southern part are plains. The rivers flow through the district are Cauvery, Aiyar, Karipottanaaru and Thirumanimutharu .Cauvery rivers flow through Paramathi taluks and it helps irrigation of lands in Paramathi and Mohanur Blocks.

The Namakkal district finds an important place in the map of India because of its lorry building industry and other heavy weight vehicles like trucks, tractors, tankers and rig units. The Textiles and weaving industry is another important and fast growing industries in Namakkal district. Rasipuram, Tirchengodu, PallipalayamKomarapalayam and other surrounding places are known for weaving industries and they are expanding rapidly. The Namakkal finds the second place after Salem district in starch and sago production. Tapioca is a raw material for the sago industry.

According to the 2011 census, the total population of the district is 17.26 lakhs.The rural population of the district is 10 .26 lakhs and urban population is 6.96 lakhs.The male population is 8.66 lakhs and females population is 8.54 lakhs.The density of Population is 506 square km.The sex ratio is 986 in the district.The major crop in the district is Paddy, Jowar, Bajra , ragi , millets etc.The major source of irrigation is Private tube wells followed by government canals and Tanks.Above 52 percent of the workers in engaged in agriculture and allied activities.The annual rainfall in 2012-13 is 793.4 m.m .The rainfall is received by both southwest monsoon and north-east monsoon.

Map 5.1 Namakkal District of Tamil Nadu



5.3.1: Land and land use pattern in the Namakkal district

Table 5.1 shows the land use pattern in Namakkal district. Over the period of four years from 2009-10 to 2012-13 the land use pattern relative stable with a marginal change in shares of the land use. Net sown area which was 54 percent in 2009-10 remained unchanged during 2010-11 but declined to 50 percent in 2011-12 and lately remained unchanged during 2012-13. The decline in the net sown area is compensated by an increase in the current follows during 2011-12.

Table 5.1: Land use pattern of the Namakkal district (area in hectares)

Sl. No	Category	2009-10	2010-11	2011-12	2012-13
1	Net area sown	160298.4 (54.55)	160009.74 (54.38)	148114.08 (50.34)	147832.52 (50.24)
2	Geographical area	293827.87 (100)	294211.83 (100)	294211.83 (100)	294211.83 (100)
3	Total Cropped area	183094.51 (62.31)	201718.07 (68.56)	179443.15 (60.99)	182255.28 (61.94)
4	Area sown more than once	22801.11 (7.76)	41708.33 (14.`17)	31329.07 (10.64)	34422.76 (11.69)

Note: figures in brackets are percentages to the total

Source: District Statistical Handbook 2009-10, 2011-12, 2012-13

The total cropped area also increased from 62.31 in 2009-10 to 68.56 per cent in 2010-11 but declined significantly in the next year to 60.99 and remained same for next year also. Similar is the trend of area sown more than once. The area increased, almost 2 folds from 7.76 per cent in 2009-2010 to 14.17 per cent in 2010-2011 but declined to 10.64 per cent in next two years.

5.3.2:Cropping pattern and irrigation facilities in the District.

Table 5.2 provides information about the cropping pattern in Namakkal district. The district is dominant by Cereals and Millets. It formed around 65 per cent approximately of the cropped area in 2012-13. Cereals and Millets rose from 37 percent in 2010-11 to 65 percent in 2012-13. There was approximately 28 per cent increase in cereals and millets from 2010-11 to 2012-13. Pulses constituted 10 percent in 2010-11 which showed a marginal increase to 11.86 percent in 2012-13. Interestingly, Oilseeds (non-food oil crops) which comprised of 34 per cent in 2010-11 declined to 1.75 per cent in 2012-13. There was approximately 32 per cent decline between two periods. There is a drastic shift from oilseeds to cereals and millets in this period. Cotton which had a share of 1.89 percent in 2010-11 increased marginally to 2.73 percent in 2012-13. Among the other crops, sugarcane constituted around 18 per cent in 2012-13 and increased by 3 percent approximately between 2010-11 and 2012-13.

Table 5.2: Cropping pattern in Namakkal district

Sl. No.	**Crops**	**2010-11**		**2012-13**	
1	• Foodgrains:	Area	Percent	Area	Percent
	a) Cereals and Millets	43603.7	37.66	68816.43	65
	b) Pulses	11621	10.03	12564.56	11.86
2	• Oilseeds (non-food Oil crops)	39879.55	34.45	1861.09	1.75
3	• Other crops				
	1.Cotton	2187.795	1.89	2897.365	2.73
	2.Sugarcane	18463.98	15.95	19732.4	18.63
	Total	115756	100	105871.8	100

Source: District Statistical Handbook 2010-11, 2012-13

Table 5.3 shows the irrigation facilities in the Namakkal district based on the net irrigated area. There is a various source of irrigation such as canals, tanks, other sources, and groundwater etc. Ground water irrigation constituted 90 percent of the in the district. There is a marginal increase in the area irrigated by tanks and ground water sources which increased from 0.080 percent in 2010-11 to 0.1 percent in 2012-13 and from 91.37 percent in 2010-11 to 91.52 percent in 2012-13 respectively. The area irrigated by canals witnessed a small marginal decline from 3.65 percent in 2010-11 to 3.52 percent in 2012-13. Likewise, the area under other sources also witnessed a marginal decline in share from 4.89 percent in 2010-11 to 4.84 per cent in 2012-13.

Table 5.3 :Irrigation facilities in Namakkal district (Area in Hectares)

		2010-11		**2012-13**	
Sl.no.	**Source of Irrigation**	**Net area Irrigated**	**Percent**	**Net area Irrigated**	**Percent**
1	Canals	3060	3.65	2510	3.52
2	Tanks	67	0.080	74	0.1
3	Other sources	4102	4.897	3443.93	4.84
4	Ground water	76546	91.37	65097.78	91.52
5	Total	83775	100	71125.71	100

Source: District statistical Handbook 2010-11, 2012-13

5.3.3: Small scale industries in Namakkal district

Namakkal district has a large number of small scale industries. The majority of the small scale industries are related to lorry building, weaving industry and food processing units. Table 5.4 depicts small scale industries in Namakkal district from the period of 2009-10 to 2012-13. There has been an increase in food and food product activities from 68 units in 2009-10 to 113 units in 2012-13.There has been around 45 units increase in food and food products between 2009-10 and 2012-13. Industries related to cotton has been closed down. Hosiery and readymade garments related small scale industries witnessed a large increase from 34 units in 2009-10 to 432 units in 2012-13. There has been around 398 units increase in Hosiery and readymade garments between the two periods. Industries related to wood and wooden products also registered an increase from 9 units in 2009-10 to 23 units in 2012-13. There have been around 14

units in wood and wooden products in Namakkal district. Paper and paper products showed a marginal increase from 16 units in 2009-10 to 18 units in 2012-13. There were around 4 units increase between two periods in paper industry. Leather industry came up in the district during 2012-13. Rubber and plastic products showed increase from 17 units in 2009-10 to 26 units in 2012-13. There was around 9 units increase in rubber and plastic products. Chemical and chemical products witnessed a decline from 20 units in 2009-10 to 10 units in 2009-10. There was a decline of 10 units in chemical and chemical products between two periods. Non-metallic minerals products increased from 23 units in 2009-10 to 36 units in 2012-13.There were around 13 units in non-metallic minerals products. Interestingly, basic metal products declined from 30 units in 2009-10 to 9 units in 2012-13. Machinery and part except electrical increased from 1 units in 2009-10 to 36 units in 2012-13. There were around 35 units increase in machinery and part industries between two periods. Electrical and electronic goods which were around 3 units in 2009-10 increase to 200 units in 2012-13. There was a large increase of 197 units in electrical and electronic goods between the two periods. Interestingly, 1 unit of transport equipment's and parts came up in 2012-13. The printing and reproduction of recorded media which was 7 units in 2009-10 increased to 30 units in 2012-13. There was an increase of 23 units in printing and reproduction of recorded media between two periods. Manufacturing of coke, petroleum products etc. which was absent in 2009-10 increased to 2 units in 2012-13. Manufacturing of motor vehicles and trailers etc. which was 20 units in 2009-10 increased to 34 units in 2012-13. There was an increase of 14 units in the manufacturing of motor vehicles etc. between two periods. Manufacturing of furniture was 2 units in 2009-10 increased to 9 units in 2012-13. Repair and maintenance of motor vehicles increased from 7 units in 2009-10 to 21 units in 2012-13. The manufacturing of repair of household goods increased from 3 units in 2009-10 to 7 units in 2012-13. Computers and related industries increased from 7 units in 2009-10 to 20 units in 2012-13. The other business industries increased from 6 units in 2009-10 to 11 units in 2012-13. Other service related industries also registered increase from 22 units in 2009-10 to 82 units in 2012-13. There was an increase of around 60 units in other services activities between two periods.

Table 5.4: Small scale industries in Namakkal district (in units)

SL. No.	NIC	Details of classification	2009-10	2012-13
1	20-21	food and food products	68	113
2	22	Beverages, Tobacco and Tobacco products	-	-
3	23	cotton	131	-
4	24	wool ,silk& synthetic fibre	-	-
5	26	Hosiery and readymade garments	34	432
6	27	wood and wooden products	9	23
7	28	paper and paper products	16	18
8	29	leather products	-	4
9	30	rubber and plastic products	17	26
10	31	chemical and chemical products	20	10
11	32	non-metallic mineral products	23	36
12	33	basic metal products	30	9
13	34	metal products and parts	24	96
14	35	machinery and part except electrical	1	38
15	36	electrical and electronic goods	3	200
16	37	transport equipment's and parts	-	1
17	38	Others	-	-
18	22	publishing, printing, and reproduction of recorded media	7	30
19		manufacturing of coke, refined petroleum products& nuclear fuel	-	2
20		manufacturing of electrical machinery and apparatus nec	-	-
21		manufacturing of motor vehicles, trailers and semi-trailers	20	34
22		manufacturing of furniture	2	9
23		repair and maintenance of motor vehicles	7	21
24		manufacturing and repair of household	3	7

		goods		
25		computer and related activities	7	20
26		other business activities	6	11
27		other service activities	22	82
		Total	**450**	**1222**

Source: District statistical Handbook 2010-11, 2012-13

In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities. There is some new industry coming up related to manufacturing of coke, leather industry and transport equipment's etc.

5.3.3: Occupational structure in Namakkal District

Table 5.5 provides an information about the occupation structure in Namakkal district for the two periods 2001 and 2011.The households are classified into two main groups, namely; farm sector andnon-farm sector. The farm sector includes cultivators and agriculture labourers and the non-farm sector includes households in the household industry and others.

Table 5.5: Occupation structure in Namakkal district based on Main workers

	Description (Main workers)	**2001**	**2011**
FARM SECTOR	Cultivators	171838 (22.28)	152497 (18.18)
	Agricultural labours	222900 (28.92)	228614 (27.24)
NONFARM SECTOR	Household industry	45201 (5.87)	35156 (4.18)
	others	331001 (42.93)	422885 (50.4)
	Total	770940 (100)	839152 (100)

Note: figures in the brackets are percentages.

Source: Census of India 2001 and District Census Handbook 2011 of Namakkal district

In the Farm sector, the share of cultivators was 22 per cent in 2001 which declined to 18 per cent in 2011. There was approximately 4 percent decline in the share of cultivators from 2001 to 2011. There has been a sharp decline in percentages of rural workers engaged in cultivation. Agricultural labourers witnessed a marginal decline from 28 per cent in 2001 to 27 per cent in 2011. There was approximately 1 percent decline in agricultural labourers between two periods. The share of agricultural labourers decline was very marginal. Cultivators declined faster than agricultural labour. Overall there was a decline in the farm sector.

In the Non-farm sector, the household industry witnessed a marginal decline from 5.87 per cent in 2001 to 4 per cent in 2011. There was a marginal decline of 1.50 percent among the household industry. Interestingly, others witnessed a large increase from 43 per cent in 2001 to 50 per cent in 2011. There was approximately 7 percent in others activities.

Overall, the Non-farm sector, the household industry showed a marginal decline between 2001 and 2011. Others witnessed a significant increase between the two periods. There was an increase innon-farm sector. It implies that there is a decline in cultivators (labour demanding) is faster than agricultural labour (Labour-supplying) in the district. There is a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in thenon-farm sector particularly others activities in the district.

5.4:Profile of the two surveyed villages:

The two villages called Thirumangalam and Irruttanai has been surveyed in namakkal district for this study. And, based on this field survey conducted in 2012 and the secondary data collected by the census of India 2001, we present some of the information on two villages in this section. The secondary data from the census of India has been used to compare and capture the changes happened with respect to basic nature of villages in the last one decade. The present survey was a full enumeration survey conducted in two villages in Nov-Dec 2012. The two villages are different in nature of the economy. The Thirumangalam village is a dry village which highly depends on rainfall and ground water for irrigation. On the other hand, the Irruttanai village is relatively wet and depend on the canal and bore wells for irrigation. Further, the following section presents some basic information like location, ecological zone, and the number of households, total population, and average household size of two surveyed villages.

Thirumangalam (Tirchengodu):

Thirumanglam village is 7 km away from taluk headquarters and 39 km from the Namakkal district headquarters. Tirchengodu is the nearest town from the village and it is known for small scale industries which comprise 37 spinning mills and 10,000 power looms. Thirumangalam (dry village) is a revenue village situated in the western agro-ecological zone and wells and bore wells are a major source of irrigation. The village has one Anganwadi School, one government primary school, and a post office. According to the census data (2001), there were 92 households in the village during the survey, which increased to 100 households by the time of field survey in 2012 with 381 of the population. There has been an increase in population from 320 in 2001 (as per census) to 381 in 2012 (as per field survey). The average size of the household was 3.47 in census 2001 increased to 3.81 in 2012.

Map 5.2: Thirumangalam village of Tirchengodu taluk, Namakkal district.

Irruttanai:

Irruttanai is another revenue and panchayat village located in ParamathiVelur taluk of Namakkal District. It is situated 22 km away from the Namakkal district Headquarters. Irruttanai has situated 15 km from the nearest town ParamathiVelur which is in North eastern agro-ecological zone. The canal and bore wells are the major sources of irrigation in the village. There is an angawadi center, government primary school and a post office in the village. According to the census data (2001), the village had 209 households and the population of 644. The average size of household was 3.08 which increased to 4.06 in 2012. When the author enumerated the village there were around 165 households and there was an increase in population from 644 to 671 in 2012. In both the villages, there is a difference in household size which could be because of

migration or out -migration in the surveyed villages between 2001 and 2010. There is also the possibility of difference in identification of households in the villages by census and researchers.

Map 5.3: Irruttanai village of Paramathivelur taluk, Namakkal district

5.5:Demographic details and social grouping of the total population of two surveyed villages.

Table 5.6: The details of number of households' population and household size among two surveyed villages

Thirumangalam				Irruttanai		
Survey	No. of households	Total population	Average household size	No. of household size	Total population	Average household size
Field survey	100	381	3.81	165	671	4.06
census 2001	92	320	3.47	209	644	3.08

Source: field survey,Dec 2012 and Census 2001

In both the villages, there are only two social groups namely; schedule caste and Backward caste. However, there is a difference in the share of these groups in two villages. The Census of India, 2001 reported that the Thirumangalam village has a population of 320 with 150 and 170 male and female population respectively. Further, 99 of the total population belongs to Scheduled castes which include 48 male members and 51 female members. There was no Scheduled tribe in

the village. According to the field survey (2012), there were around 381 persons in the village and the male population was 188 and female population was 197. The population belongs to Scheduled caste was 168 (around 44 per cent) in which 81 members were male and 87 were female. The population of backward caste was around 213 in which 107 and 106 are male and female respectively. Within the backward caste, the members of dominating landholding castes NattuGounder constituted around 50 percent of the population while the members of other backward castes other than NattuGounder constituted around 5-6 per cent of the population.

Table 5.7: the gender wise distribution of population among social groups in the two surveyed villages:

	Thirumangalam				**Irruttanai**			
caste	**Male**	**female**	**total**	**%**	**male**	**female**	**total**	**%**
SCs	81	87	168	44.1	58	52	110	16.36
BCs	107	106	213	55.9	292	270	562	83.63
Total	188	193	381	100	350	322	672	100

Source: Field survey, Dec 2012

Note: In bracket percentage

In the case of Irruttanai village, the census survey 2001 reported that the population in persons was 644 in which the male and female population was 325 and 319 respectively. In the census survey, it is also reported that a number of persons belong to Scheduled caste were 41 in the village. The population of males and females in scheduled caste was 15 and 26 respectively. The Field survey 2012 enumerated around 672 person in the village and the male population was 350 and the Female population was 322. Relatively, backward caste population is dominant in this village with the share of 83.63 per cent. Whereas the share of Scheduled caste population was 16.36 i.e. 110 persons in which the male population was 58 and female population was 52. The members of Dominant landholding castes like VellalarGounder constituted around 27 per cent of the population and other backward castes like vanniyar, vettuvagounder, thotinaicker and etc. constituted around 55 per cent of the population (see appendix 1)

5.6: The land Distribution, cropping pattern and irrigation facilities in two villages:

Table 5.8 provides information about the land distribution among the different land size groups. The report of land owned is less than land operated in both the villages. The possible reason for under-reporting of land owned and over reporting of land operated may be because of land reforms legislations. The Census data was collected for the people residing in villages and households but people residing outside the villages are not part of the survey. In Thirumangalam, the total owned land is 224.5 acres and operated land is 207.4 acres. This means the land has been leased out to the outsiders of the village. The leased-in area was 8.5 acres and lease out is 25.5 acres thereby creating the possibility of land being owned by households residing outside the village but being leasing out to the residents of this village.

Table 5.8: Land Distribution among land size classes:

	Thirumangalam				**Irruttanai**			
size of holdings	**owned land**		**Operated land**		**owned land**		**Operated land**	
	No of HHs	**Area**	**No of HHs**	**Area**	**No of HHs**	**Area**	**No of HHs**	**Area**
Landless	54 (54)	0 (0)	56 (56)	0 (0)	60 (36.36)	0 (0)	56 (33.93)	0 (0)
Marginal	8 (8)	12.2 (5.56)	9 (9)	11.7 (5.64)	38 (23.03)	58.2 (13.57)	41 (24.84)	63.2 (14.3)
small	18 (18)	63.75 (29.06)	19 (19)	68.75 (33.15)	44 (26.66)	141.1 (32.89)	44 (26.66)	155.55 (35.3)
Semi Medium	16 (16)	93.4 (41.63)	13 (13)	81.9 (39.49)	14 (8.48)	106.5 (24.84)	15 (9.09)	98 (22.2)
Medium	4 (4)	55 (25.07)	3(3)	45 (21.7)	8 (4.84)	98 (22.85)	8 (4.84)	98.6 (22.3)
Large	0	0	0	0	1 (0.6)	25 (5.83)	1 (0.6)	25 (5.67)
Total	100 (100)	224.5 (100	100	207.4 (100)	165 (100)	428.8 (100)	165(100)	440.35 (100)

Source:Fieldsurvey,Dec 2012

Note: In bracket percentage

Note: In brackets in percentage 0-not applicable	
1-less than 0.01 ha greater1.00 ha(marginal)	
2-1.01-2.00 ha(small)	
3-2.01-4.00 ha(semi medium)	
4-4.01 -10.00 ha(medium)	
5-large than 10.00 ha(large)	

In Irruttanai village the land owned is 428.8 acres and land operated is 440.3 acres. The leased-in area is 11.1 acres thereby creating the possibility of land being owned by households residing in the village but land being leasing out to the residents of this village. The two villages showed stark differences in the land owned and operated by size groups. In both surveyed villages, there are a significant number of landless households. In Thirumangalam village the share of landless households is 54 per cent, while the corresponding figure in Irruttanai village is 36 per cent. In both surveyed villages landless labourers are employed in the non-farm sector. This group is particularly labour supplying a household for both agriculture and non-agricultural activities. The significant share of landless households is employed in the non-farm sector. However, if one identifies landlessness in terms of operated land, the proportion increases to 56 per cent for Thirumanglam and 33 per cent for Irruttanai. The small decline in the proportion of landless labour households in Irruttanai implies that landless households are entering the tenancy market. The marginal landholding group in Thirumangalam village owned 5.5 per cent of land and the corresponding figure in Irruttanai is 13.7 percent. There is a decrease in the land owned by marginal landholders in Thirumangalam village and an increase in the land owned by this category of households in Irruttanai village. There is a marginal difference between land owned and operated in both the villages. In the same manner, the small landholding groups in Thirumangalam village owned 29 per cent of the land, while the corresponding figure in Irruttanai is 32 per cent. There was an increase in land owned to operate from 29 percent to 33 percent in Thirumangalam correspondingly in Irruttanai there was a small increase from 32 percent in land owned by 35 percent in land operated. In Thirumangalam, the land operated is

greater than land owned which implies that the leasing out land by small farmers in the village, while in the case of Irruttanai village the land operated is greater than land owned showing leasing in of land by small farmers.

The semi medium landholding group in Thirumangalam owned around 41.63 per cent of the land, while the corresponding figure for Irruttanai village is 24.84 per cent. However, the land operated was 39.49 percent while the corresponding figure in Irruttanai village is 22 per cent. This group farmers have decreased their operated land in the both surveyed villages. The medium landholding group in Thirumangalam village owned 25 percent of the land, while the corresponding figure for Irruttanai village is 23 per cent. However, in Thirumangalam, they operated 21.7 per cent of the land, while the corresponding figure for Irruttanai village is 22.3 per cent. The medium farmers have witnessed a small decline in their share of land operated in the two villages.

In Thirumangalam the large land holders were absent, while correspondingly in Irruttanai the large farmer's group owned 5.83 percent of total land owned. There was no difference between the land owned and land operated.In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irruttanai village the marginal farmers were gainers.

Table 5.8 provides the information about the cropping pattern in two surveyed villages. In Thirumangalam the major food crop is Jowar\cholam and major commercial crops are groundnut, coconut, tapioca, sugarcane etc. The major crop cultivated in the area is Jowar which has a share of 29.31 per cent of the total cultivable land. Jowar mostly used for self-consumption. Jowar also used as a major fodder crop for feeding cows and buffaloes. The well-functioning Public distribution system supports the basic food requirement in the village. Other important major crops are coconut and Tapiaco with 27.67 and 19.94 per cent in total cultivable area respectively. Tapiaco is commercial crop used for the production of sago products. Tapiaco is sold to nearby starch and sago mills in Salem and Tirchengodu. Groundnut is also another important oil seed crop cultivated in the village. It has a share of 17 percent of the total cultivable area. Some crops such sugarcane, dal, mango, firewood tree also cultivated in the village. There has been an increase in food processing industries in Namakkal district from 68 units in 2009-10

to 113 units in 2012-13. The cultivation of commercial crops in villages is sold to food processing industries in Namakkal district.

Table 5.9: Cropping pattern in two villages (land in Acres)

	Thirumangalam		**Irruttanai**	
crops	**No HHs**	**Area**	**No HHs**	**Area**
cholam	24(35.29)	41.3(29.31)	77(56.20)	132.6(59.74)
groundnut	15(22.05	24.5(17.38	17(28.33)	22(9.91)
coconut	11(16.17)	39(27.67)	2(1.45)	6(2.70)
tapiaco	12(17.64)	28.1(19.94)	12(8.75)	26(11.71)
sugarcane	2(2.94)	4(2.83)	6(4.37)	11(4.95)
others	4(5.88)	4(2.81)	23(16.71)	24.35(10.95)
total	68(100)	140.9(100)	137(100)	221.95(100)

Source: field survey, Dec 2012

Note: In bracket percentage

In Irruttanai, the Jowar has a major share in cultivated area which is used as major fodder crops in the village. Jowar has 59 percent of the total cultivable land. Universal public distribution system supports the food requirement in the villages. The major commercial crop is Tapiaco which has the share of 11.71 per cent of the total cultivable area. The groundnut is cultivated as oilseed crop which has a share of 9.91 percent of the total cultivable area. Sugarcane is also cultivated in Irruttanai which has a share of 4.95 per cent of the total cultivable area. Another important commercial crop is cotton with 3.87 percent of gross cropped area. Coconut is long gestation crop which also has 2.70 percent of gross cropped area. There has also others commercial crops such turmeric, maize, brinjal, castor, and grass etc. cultivated in the village. The major commercial crops Tapiaco, oilseeds, sugarcane are sold to the food processing units in Namakkal district.

Among surveyed villages, in Irruttanai (wet) more commercial crops are cultivated compared to Thirumangalam (dry). The Commercial crops support the demand of the food processing units in

the Namakkal district. The efficient Public distribution system supports the food requirement in the both villages.

Table 5.10 :land under irrigation (area in acres)

Thirumangalam			**Owned**
Canal	**Well\Bore**	**Rainfed**	**Land**
0(0)	56(24.96)	168.35(75.03)	224.35(100)
Irruttanai			
Canal	**Well\Bore**	**Rainfed**	**Owned land**
46(10.72)	195.3(45.5)	187.45(43.72)	428.75(100)

source: field survey ,Dec 2012

Note: In bracket percentage

In Thirumanagalam village, open wells and borewell irrigate 25 per cent of the total area. The 75 per cent of the remaining area solely depends upon the rainfall. In the case of Irruttanai village, the major source irrigation is open wells and bore wells which are around 45 percent of the irrigated area. There also an extension of canal irrigation in the village which is 10.72 percent of the total owned land. Canal irrigation which extended from mettur dam. The 43 percent of the area depends upon the rain. Techniques like drip irrigation are practiced to use water efficiently. In both the surveyed villages various crops are cultivated. The food and food processing industries are the major buyers of this commercial crops.

PART II

5.7:Diversification of Household and Individuals in the two villages

Diversification is defined as a transformation of households from agricultural to non-agricultural activities. All the households have been classified into four groups i.e. farm households, mixed households, non-farm households and others. The two villages have different structures in terms of households in farm andnon-farm sector. Farm sector can be classified as agricultural labour and cultivator, while others are Mixed and Pure non-farm sector (NFS). The Mixed households which can define if at least one member in the household participating in non-farm sector activities. And, the pure households (NFS), by definition, do not depend upon the agricultural

activities for a major source of income. The farm sector may be organizing agriculture production and would potentially be demanding labour and households that are the suppliers of labour. Others are not a consideration as they depend upon pension and remittances for livelihood. This section draws some comparative analysis on variables like land, cropping pattern, tenancy and nature of diversification between these broad groups. The table 5.10 provides information about the diversified and non-diversified households in the two surveyed villages.

In Thirumangalam, around 69 per cent of households is mixed households owning around 74 per cent of the land. They also operate around 77 per cent of the operated land. Next major groups are non-farm households and others. Each group has around 7 per cent of the households whereas non-farm households own around 10 per cent of the land while other households own little less than 1.5 per cent of the land. The share of pure farm households those who do not participate in any non-farm activities is just 17 per cent. Further, the farm households have been sub-divided into cultivators and agriculture labour, in which the share of agriculture of labour is 13 per cent and 4 per cent of cultivators.

Table5. 11: Type of Household, land owned, land operated

Thirumangalam					**Irruttanai**		
HH		**HH no**	**Land owned**	**land operated**	**HH no**	**land owned**	**land operated**
Farm sector	**Cultivators**	4 (4)	32.1 (14.26)	32.1 (15.50)	13 (8)	65 (15.16)	66.5 (15.36)
	Agriculture Labour	13 (13)	0	0	23 (14)	0	0
Mixed		69 (69)	167 (74.22)	160 (77.29)	113 (68)	357.75 (84.63)	366.35 (84.63)
NFS		7 (7)	22 (9.77)	15 (7.24)	11 (6.66)	6 (1.38)	6 (1.38)
others		7 (7)	3 (1.33)	0	5 (3.03)	0	0
Total		100 (100)	225 (100)	207 (100)	165 (100)	428.75 (100)	432.85 (100)

Note: In bracket in percentage

Source: Field survey, Dec 2012

Similar is the case in Irruttanai village. Around 68 per cent of the total households are mixed households and they own around 84 per cent of the land and operate the same amount of land. In contrast to Thirumangalam village, the share of farm households is as high as 22 per cent and

they own and operate around 15 per cent of the land. The share of non-farm households is just more than 6 per cent i.e. 11 households. In both, the villages, around 70 per cent of the households are mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income. So there looks to be a tendency, independent of irrigation for expansion of mixed households in both the villages.

Table 5.12: distribution of classified households across social groups

Thirumangalam					**Irrutanai**		
HH		**SC**	**Dominant BC**	**Other BCs**	**SC**	**Dominant BC**	**Other BCs**
Farm sector	**Cultivators**	1 (2.22)	10 (20)	0	0	17 (37)	25 (27)
	Agriculture labourers	13 (28.88)	0	0	14 (53.84)	5 (10.86)	11 (12)
Mixed		27 (60)	34 (68)	1 (20)	11 (42.30)	21 (45.65)	45 (48.38)
NFS		2 (4.44)	3 (6)	2 (40)	1 (3.84)	1 (2.17)	9 (9.67)
others		2 (4.44)	3 (6)	2 (40)	0	2 (4.34)	3 (3.22)
Total		45 (100)	50 (100)	5 (100)	26 (100)	46 (100)	93 (100)

Note: In bracket in percentage

Source: Field survey, Dec 2012

The table 5.12 presents the distribution of classified households across social groups. In thirumangalam village, the schedule caste and backward caste households are the majority. Among schedule caste households, around 60 per cent they are mixed households whereas another major share of 13 per cent is agriculture labour households. Only two households are into pure non-farm activities. Similarly, around 68 per cent of backward caste households is mixed households in this village. There are no agriculture labour households from this social group but around 3 households are exclusively into non-farm activities. Interestingly, other backward caste households into the non-farm sector and others.

The scenario is slightly different in Irruttanai village. The major share of schedule caste households is agriculture labour households with 54 per cent. Another 42 per cent of them is mixed households. Interesting aspect this village is that the significant share of dominant backward caste households is cultivators, i.e. around 37 per cent. Further, there are also around

11 per cent of households are agriculture labour households. However, a major share of households i.e. around 46 per cent are mixed households. Relatively, Irruttanai village has more other backward households than thirumangalam. Among them, around 48 per cent are mixed households and another 27 per cent are cultivators. The Irruttanai case is quite interesting because the households are almost proportionally distributed across all household types than in thirumangalam village. This distribution could be because of nature of economy where the farm sector is important due to better irrigation facilities.

In comparison, the SC households in Thirumangalam village are more diversified than in irrigated Irruttanai village. The SC households are largely landless and labour supplying households. May be the lack of farm activities and minimum income pushing them into the non-farm sector in the dry village which could be vice versa in the case of irrigated village.

Table 5.13: distribution of classified households across land holding groups.

Thirumangalam							
		landless	**marginal**	**small**	**semi medium**	**Medium &Large**	**Total**
Farm sector	**cultivators**	0	2 (25)	3 (17.64)	5 (35.71)	1 (25)	11
	Agriculture labour	13 (22.80)	0	0	0	0	13
Mixed		33 (57.89)	5 (62.5)	14 (82.35)	8 (57.14)	2 (50)	62
NFS		4 (7.01)	1 (12.5)	0	1 (7.14)	1 (25)	7
others		7 (12.28)	0	0	0	0	7
Total		57 (100)	8 (100)	17 (100)	14 (100)	4 (100)	100
Irruttanai							
		landless	**marginal**	**small**	**semi medium**	**Medium &Large**	**Total**
Farm sector	**cultivators**	1 (1.66)	17 (43.58)	15 (34.88)	5 (35.71)	4 (44.44)	42
	Agriculture labour	27 (45)	1 (2.56)	2 (4.65)	0	0	30
Mixed		18 (30)	20 (51.28)	25 (58.13)	9 (64.28)	5 (55.55)	77
NFS		9 (15)	1 (2.56)	1 (2.32)	0	0	11
others		5 (8.33)	0	0	0	0	5
Total		60 (100)	39 (100)	43 (100)	14 (100)	9 (100)	165

Note: In bracket in percentage Source: Field survey, Dec 2012

In the table 5.13, we have presented data on land holding groups across classified households. This data provides some information on which land holding group are in farm, non-farm, and mixed households. In thirumangalam village, the significant share of landless, marginal and small land holding groups are mixed households. Around 58, 62 and 82 per cent of landless, marginal and small land holding groups are mixed households. However, the share of medium and semi-medium land holding groups in mixed households also significant but relatively less than other small groups. Another 23 per cent of landless households is agricultural labourers. They just supply labour in both farm and non-farm sectors. Among all the land holding groups, the share of the medium land holder is highest followed by marginal and medium/large land holders.

The structure seems to be a bit different in Irruttanai village. In contrast to thirumangalam, around 47 per cent of landless is in farm sector in which 45 per cent of them are agricultural labour. Around 30 and 15 per cent of landless are mixed and non-farm households respectively. The share of marginal and small land holders in mixed households is 51 and 58 per cent respectively which is lesser than in thirumangalam village. However, the share of marginal and small holders in the farm sector is 43 and 35 per cent respectively. The interesting feature of Irruttanai village is that the share of semi-medium land holders in mixed households are the highest, whereas in thirumangalam village the share of marginal and small landholders are highest.

The classification of mixed households along land size reveals an interesting feature in the surveyed villages. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households. It is very clear from the data that the bottom section of the land holders or labour supplying are ones who is moving out into non-farm activities than the top section. May be an inadequate land and jobs in farm sector pushing away this section of the households. However, they are still engaged in farm activities and also participate in non-farm activities. The non-farm sector may act as a survival mechanism and improve the standard of living for the landless and small & marginal landholders, whose income from farm sector is not enough for the survival. The semi-medium and medium landholders may be shifting to get higher opportunities and income in thenon-farm sector.

Table 5.14: distribution of details on land owned, leased-in, leased-out and purchase and sale across classified groups.

Thirumangalam	Land owned		Land lease in		land leased out		purchase of land		sales of land	
	No. HHs	Area	No HHs	Area	No HHs	Area	No HHs	Area	No HHs	Area
Agriculture labour	13 (13)	0 (0)	0	0	0	0	0	0	0	0
Cultivator	4 (4)	32.1 (14.26)	0	0	0	0	0	0	0	0
Mixed	69 (69)	167 (74.22)	5	8.5	5	15.5	0	0	5	7.8
NFS	7 (7)	22 (9.77)	0	0	2	7	1	4	0	0
Others	7 (7)	3 (1.33)	0	0	1	3	0	0	1	6
Total	100 (100)	225 (100)	5	8.5	8	25.5	1	4	6	13.8
Irruttanai	Land owned		Land lease in		land leased out		purchase of land		sales of land	
Household	No HHs	Area	No HHs	Area	No HHs	Area	No HHs	Area	No HHs	Area
Agriculture labour	23 (13.93)	0 (0)	1	1	0	0	0	0	0	0
Cultivator	13 (7.87)	65 (15.16)	1	1.5	0	0	0	0	3	7.3
Mixed	113 (68.48)	357.75 (83.44)	7	8.6	0	0	0	0	6	21
NFS	11 (6.66)	6 (1.39)	0	0	0	0	0	0	0	0
Others	5 (3.03)	0 (0)	0	0	0	0	0	0	0	0
Total	165 (100)	428.75 (100)	9	11.1	0	0	0	0	9	28.3

Note: In bracket in percentage

Source: Field survey, Dec 2012

The tenancy arrangements seem not that important in both the villages as the share of the leased-in area was very less. No cultivator has taken land for lease in Thirumangalam village and just one household in Irruttanai leased-in 1.5 acres of land. Among the mixed households, 5 households leased-in 8.5 acres of land for the purpose of cultivation in Thirumangalam. In Irruttanai, 7 mixed household has leased-in 8.6 acres of the land. One interesting aspect in Thirumangalam village is that the mixed households have also leased-out land. Around 5 households have leased-out 15.5 acres of land. The reason could be the lack of irrigation facilities. Whereas in Irruttanai, an irrigated village, there were no instances of leasing-out land. Generally, though there should be a high and significant amount of land under a tenancy in irrigated village than in the dry village, there is no striking difference between these two villages in this regard. In both the villages, the type of contract in tenancy is for fixed cash. There were no cases of contractual agreements for kind or sharecropping.

In Thirumangalam village cultivators have neither purchased nor sold any land, while in Irruttanai village 3 cultivator household have sold 7.3 acres of land but no purchases. In Thirumangalam village, the 5 of mixed households have sold 7.8 acres of land. In the same manner in Irruttanai village 6 mixed households have sold 21 acres their owned land. In Thirumangalam village 1 pure non-farm household has purchased 4 acres of the land. However, there is no sale and purchase of the land by pure non-farm household in Irruttanai village. Interestingly, only 1 other household has sold 6 acres of land. The unusual aspect of purchase and sale of land in these two villages is that the land has been purchased in the dry village but sold in irrigated village. The purchase of land in the dry village makes sense when the intention of purchase is to use it for non-agricultural activities where it has a scope with emerging non-farm sector activities.

The data on cropping pattern of classified households has been presented in table 5.14. This analysis gives an information on crops cultivated based on the nature of the households. Based on the degree of risk involved in the cultivation of crops the households would choose between less risk and high-risk crops like food and non-food crops respectively. As we see from the data below, there is the difference in crops cultivated between pure cultivators and mixed households. In Thirumangalam village, the pure cultivating households mostly cultivate fewer risk crops like

Jowar, groundnut, and coconut. Whereas, the mixed households, along with these crops they also cultivate high-risk high-profit crops like tapioca, sugarcane, and other commercial crops. The pure cultivators cultivate around 21 acres of coconut which is long gestation and less risk crop with Jowar. However, the mixed households cultivate 24 acres of tapioca, the highest among all households, which is supplied to nearby industries. Along with this, another major crop cultivated by mixed households is coconut with 18 acres of land.

Table5. 15: distribution of cropping pattern across classified households

Thirumangalam							
HH	**Jowar**	**groundnut**	**coconut**	**tapiaco**	**sugarcane**	**others**	**Total**
Agriculture labour	0	0	0	0	0	0	0
cultivators	8	2 (3.9)	2 (21)	2 (4)	0	0	12 (44.4)
Mixed	16	13	9 (18)	10 (24.1)	2 (4)	3 (4)	44 (94.5)
NFS	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0
Irruttanai							
HHs	**jowar**	**groundnut**	**coconut**	**tapiaco**	**sugarcane**	**others**	**Total**
Agriculture labour	3 (5)	1 (2)	0	0	0		4 (7)
cultivators	27 (56.7)	5 (9.5)	1 (5)	3 (7)	2 (8)	7 (4.3)	45 (87.5)
mixed	40 (70.9)	6 (10.5)	2 (1)	6 (20)	3 (8)	10 (17.55)	67 (127.95)
NFS	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0

Note: In bracket area

Source: Field survey, Dec 2012

In irruttanai village also it seems a similar cropping pattern. However, the pure cultivators also cultivate high-risk crops like tapiaca, sugarcane and other commercial crops in 7, 8, 4.3 acres of land. The food and fodder crop Jowar is the major crop cultivated by the pure cultivating households with around 57 acres of the area. The coconut has also been cultivated by them in 9.5 acres of land. The striking difference between pure cultivators and mixed households is that the mixed households cultivate around 38 acres of high-risk crops like tapiaco and other commercial crops. However, they also cultivate the major food and fodder crop, Jowar, in large scale.

The table 5.16 shows the information on Individuals who are diversified or non-diversified in the both surveyed villages. It would be interesting to see gender wise composition in diversified and non-diversified sectors. To capture the difference between exclusively diversified and non-diversified households and the share of each gender, the households are classified into two broad categories called Non-diversified (ND) and Diversified (D). In Thirumangalam village, the traditional\non-diversified households are 17 per cent of total households, while the corresponding figure in Irruttanai is 22 percent. The Diversified\modern households in Thirumangalam accounted for 76 percent of the total households, while the corresponding figure in Irruttanai village was 75 per cent of total households. Others households, which generally depend on the pension or remittances, are 7 per cent in Thirumangalam and 3 per cent in Irruttanai. Household wise there is no striking difference between diversified households in two villages. In both the villages the share of diversified households is very significant. However, the number of non-diversified households in irrigated village (Irruttanai) is marginal higher than a dry village (Thirumangalam). Another important feature between these villages is that the dependent households are more in the dry village than in the wet village, implying, may be, lack of farm jobs and inability to commute to participate in non-farm activities in nearby towns.

Around 26.73 per cent in Thirumangalam and 44 per cent in Irruttanai are males engaged in the non-diversified sector. Similarly, around 48 and 56 per cent are females in the non-diversified sector in dry and wet village respectively. In total, the non- diversified persons in Thirumangalam showed 38 percent of the total population while corresponding village Irruttanai accounted for 50 percent of the total population. One of the important features between dry and irrigated village is that the majority of the male population has been shifted to non-agricultural activities in dry villages leaving the responsibility of farm activities to the female population. The feminisation seems to be much higher in farm sector rather in thenon-farm sector (Abraham 2009).

Table 5.16: the nature of diversification of Household and Individuals in the two villages.

	Thirumangalam				Irruttanai			
Type HHs	HHs	Male	Female	Total (persons)	HHs	male	female	Total (person)
N.D	17 (17)	50 (26.73)	94 (48.45)	144 (37.79)	36 (22)	156 (44.44)	180 (56.25)	336 (50.07)
D	76 (76)	75 (40.10)	8 (4.12)	83 (21.78)	124 (75)	82 (23.36)	9 (2.81)	91 (13.56)
Others	7 (7)	62 (33.15)	92 (47.42)	154 (40.41)	5 (3)	113 (32.19)	131 (40.93)	244 (36.36)
Total	100 (100)	187 (100)	194 (100)	381 (100)	165 (100)	351 (100)	320 (100)	671 (100)

Sources: field survey 2012

Note: In bracket percentage

Note: N.D-Non diversified, D-Diversified

The high participation of the male population in diversified activities seems due to pushing factors than pull factors. In Thirumangalam, around 40 per cent of the male population is diversified whereas in Irruttanai village it accounted for 23 percent of total males. Likewise, the diversified females in Thirumangalam village are 4 percent of the total females, while the corresponding figure in Irruttanai village is 2.81 per cent. The share of female participation in diversified activities is very less compare to male participation, implying the female population largely stay back in villages and farm sector in both the villages. Interestingly, the share of male participation in diversified activities in a dry village in double the share of irrigated village. Though there is the emergence of various industries in nearby towns which links rural population to urban activities (Papola 1992), it seems the lack of irrigation facilities in farm sector pushing away the male population from farm sector while female population takes up farm activities. The income from just farm sector is not enough for survival in the dry village. Maybe, for the same reason, the dependents are also more in the dry village than in irrigated village.

The table 5.17 explains the non-farm occupation structure in the two surveyed villages. Non-farm occupation pattern is divided into two parts; the traditional rural non-farm employment and modern non-farm employment. We have classified the tables based on Prasada Rao classification 2006 in his book on ruralnon-farm growth in which he defines "Traditional" is taken to mean pre-industrial. There is no specific time point at which "modern" starts as some industrial innovations were introduced prior to independence and others afterward"(Prasada Rao 2006).

Table 5. 17: Type of Household and Traditional & Modern occupation in both villages

		Thirumangalam			Irrutanai		
		Traditional	**Modern**	**Total**	**Traditional**	**Modern**	**Total**
Farm sector	**cultivators**	0	0	0	0	0	0
	Agriculture labour	0	0	0	0	0	0
Mixed		4(5.47)	69(94.52)	73(100)	29(25.66)	84(74.33)	113(100)
NFS		3(25)	9(75)	12(100)	4(44.44)	5(55.55)	9(100)
others		0	0		0	0	0
Total		7(8.23)	78(91.76)	85(100)	33(27.04)	89(72.95)	122(100)

Note: In bracket percentages

Source: Field survey,Dec 2012

Traditional ruralnon-farm employment in the two villages are as follows: Thirumangalam (dry village) has 7 and Irruttanai (wet village) 33 individuals in the traditional rural non-farm sector. It has been noticed that in Irruttanai village individuals are mostly engaged in traditional rural non-farm sector work like taddy topping, goldsmith, traditional doctors, goldsmith and Priesthood etc. A higher number of workers are found in traditional occupations such as tailors, traditional construction workers which consist of boyar caste, taddy topping, and poultry farms etc. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. There is less number of traditional non-farm occupations in the Thirumangalam (dry village) compared to the Irruttanai (wet village). It shows that the economic pressure in the dry village is pushing the households in the traditional non-farm sector to diversify into the modern non-farm employment.

In the contrast to traditional ruralnon-farm employment, modern employment is more diversified in the Irruttanai village (wet village). The modern ruralnon-farm employment in the two villages are as follow: the Thirumangalam (dry village) has 78 individuals and Irruttanai (wet village) 89 individuals in the modern non-farm sector. It has been noticed that in Irruttanai village the individuals are mostly engaged in Modern Rural non-farm sector like drivers, bore wells works, construction works, engineer, teachers etc. Similarly, in Thirumangalam (dry village), the individuals are engaged mostly as sago factory workers, power loom workers, textile mills and transports services. In Thirumangalam village around 35 individuals work in sago factory, while In Irruttanai village around 18 individuals work as Drivers. In the both surveyed villages Individuals are mostly engaged in modernnon-farm activities in intra-village and nearby rural

towns like that of construction works, sago factory, bore well works etc. Some of the individuals in both the villages migrated to other big cities in the country. Namakkal districts which have predominate activities in bore well works, transport services, power looms etc. influences the employment pattern in both the surveyed villages.

5.13: Conclusion

Tamil Nadu is predominately an urban and industrial state. In Tamil Nadu, agriculture still continues to be a backbone of the state economy. Namakkal district is known for activities involving bore wells, sago production, power looms, textile and egg production etc. There is a decline in cultivators and agricultural labour in the farm sector in the district in the recent past. The decline in the farm sector is compensated by the increase in the non-farm sector activities. The two surveyed villages have different structures in terms of households in the farm and non-farm sector. The 75 percent of households depend upon the non-farm activities for their livelihood. Interestingly, at Individual level, female participation is larger than males in agriculture and allied sectors. Males in the dry village are more diversified implying some push factors in agriculture and a movement towards non-farm activities could be due to distress in the farm sector. Mixed type of household is dominant in the both villages. The wet village has a higher share of non-farm sector households as compared to the dry village. Both the villages have around 15-20 percent of the population depend on the modern non-farm sector this may due to the availability of jobs in the nearby towns. The share of the traditionalnon-farm sector is low in Thirumangalam (dry village) compared to the Irruttanai (wet village). In the entire analysis, it is very clear that the most of the households in both the villages are engaged in both farm and non-farm sector for livelihood. The male population has been engaged in non-farm sector whereas female population engaged in the farm sector. Another important finding in the analysis is that the share of landless, marginal and small land holders in mixed households, engaged in both farm and non-farm activities, is greater than other land groups. There is the preference for the males in favor of non-farm sector compared to females. The emergence of the industries in the nearby towns also is reason for the diversification of the males.There is less number of traditional occupations in dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irruttanai (wet) village, more

number of individuals are engaged in the modernnon-farm sector compared to Thirumangalam(dry) village. Individuals are mostly engaged in modernnon-farm activities in intra-village and nearby rural towns like that of construction works, sago factory, bore well works etc in both surveyed villages.However, both village shows the diversification of some individual in both villages in big cities for employment.Industries located nearby like sago factory,power looms, borewellsetc influence the employment in the both villages.In both villages landless,small and marginal landholders moving towardsnon-farm sector shows distress led diversification.Males in the large number are shifting from dry village in distress led transformation.The availability of employment opporunities in the rural towns has stron influence in the migration of labourers from villages .Overall distress component has a primary role in the growth of the rural non-farm sector.

CHAPTER VI

CONCLUSIONS

One of the dominant opinions was to see rural non-farm sector as a source of growth and poverty reduction in less developed countries. The interest in the rural non-farm sector has grown among the policy makers in the developing countries this study analysis changes in rural employment in the context of shrinking farm sector. Capital intensive urban development has not improved the employment and poverty. There is increasing importance for the growth of rural non-farm sector. In India the patterns of structural transformation has seen steadily changing from agriculture to services sector bypassing the manufacturing sector.The employment structure is changing not in favor of the urban modern sector, agriculture sector still holds half of workforce in agriculture.In Rural India there is increasing population pressure,small& fragmental landholding and high unemployment which reasons for growing importance for non-farmsector.There is increase in share of rural non-farm sector since 1970s(Himanshu et.al,2009).

This work tries to identify who have diversified among the rural non-farm sector and it is distressing or growth driven. The growth of agriculture sector led to increasing in income of farmers and labourers, which led to the growth of the rural non-farm sector. Another view is distress oriented, hypothesis which states that present, which stated that agriculture sector failed to absorb the surplus labour in agriculture, hence the labour have to settle in the low productive non-farm sector. There is little doubt in the early stages in development in the rural non-farm sector remained in intertwined with agriculture. Durning the later stage of development, new technologies, market access, income, and commercialization of agriculture pull forces in high agricultural zones. In the stagnant rural zones in falling agriculture productivity and income, high population growth and landlessness push the labour force into non-farm activity. Agriculture growth stimulates the growth of rural non-farm sector or agricultural stagnation (distress diversification) compares the growth of the non-farm sector? This thesis seeks to test distress diversification against growth linkages as the reason of rural non-farm employment. The agriculture growth linkages higher agriculture income or employment tends to cause faster growth in the rural non-farm sector. Then the distress diversification hypothesis are opposite hypothesis that lower agriculture performance causes faster growth in rural non-farm sector. There are the four objectives of the thesis.Firstly,canstates be classified in two groups/clusters

based on rural non-farm sector and the factors influencing the grouping?Secondly,who are the Households moving into the rural non-farm sector, Thirdly,landlesslabour or cultivators?Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?Fourthly,Is there a transition of households from agricultural household to the rural non-farm sector or to 'plural'households?

The second chapter seeks to assess trends and nature of employment in rural non-farm sector in India and states. To examine groups among the states and factors influences the formation of the groups. At all India level as well in most of the state's non-farm sector growth is significant.The rate of growth in rural non-farm sector is different. Within the rural non-agricultural sector, there is an increase in the share of services sector exceeds the manufacturing sector. The growth of non-farm jobs in India has primarily from an increase in services, transport, and construction. Rural males tend to have an advantage over females in non-farm employment in the country. Casual labourers for both males and females is increasing in the country. There is also declining in self-employed activities among the males and females. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities. Can states be grouped based on the share of rural non-farm sector was also attempted in the chapter. Two groups were formed i.e., states with high share of Rural non-farm sector and the rest are grouped as low rural non-farm sector. After then an attempt was made to see factor influencing differences. Here the discriminant analysis was used. Discriminant analysis is a statistical tool to assign objects to one group among a number of groups. The following were variables were used are the area under food crops, the area under non-food crops, unemployment rates, irrigation and per capita income. Unemployment rates are distress factors, while the area under food crops, the area under non-food crops, per capita income and irrigation is growth-related variables. In1983 the distress factors such as unemployment rate among males and females in rural areas where important in formation of group among low and high rural non-farmstates, while in 2009-10 commercialization of agriculture and unemployment among males were important for the growth low and high rural non-farm sector. There was distress led factors influencing the growth of non-farm sector among the states in the eighties, while the mix of growth and distress factors reason for the growth of the non-farm sector in 2009-10.

The third chapter studies the characteristics of households who are moving into the rural non-farm sector. sin specific the study would like to analysis what are the factors influencing an individual entering the rural non-farm sector.The analysis is done at all India and Tamil Nadu level. The relevant rounds of NSSO unit level data on employment and unemployment have been used.At all India, there is a decline in the share of farm households in the rural areas and secondly, there is a secular increase in the share of households in the rural non-farm sector. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agricultural at All India level as well as Tamil Nadu. All India level, as well as Tamil Nadu the share for Scheduled Castes (SCs), is also declining for the farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. Scheduled Tribes (STs) and Other Backward Castes (OBCs) share in the farm sector are increasing in both at All India and Tamil Nadu level. All India the casual labourers in urban fixed location is on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers. . Unit level data used for the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the farm or non-farm sector is studied through the application of the binary logistic model .The female participation in the non-farm sector is lower than males, both India and Tamil Nadu. Individuals from the age group of 30-59 showed higher participation in the non-farm sector. Interestingly, in Tamil Nadu young population has more chance of entering the non-farm sector. OBCs and general castes have a high probability of entering non-farm sector than marginalized social groups at All India level and Tamil Nadu. Members of large household size were entering non-farm sector at all India level. Interestingly, in Tamil Nadu small family preferred to enter the non-farm sector in both periods. Literate seems to participate more in the non-farm sector compared to the Illiterate. Landless is more likely to participate in the non-farm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector. We can conclude that largely distress oriented factors have a major role in individual to enter the non-farm sector. In Tamil Nadu distress factors plays a role in the growth of the non-

farm sector. There are various pull factors such as high manufacturing activities, etc. has a role for the shifting of individuals to non-farm sector.

The fourth chapter focus on the characteristics of Individuals who entering the manufacturing or non-manufacturing rural non-farm sector. The different factors which influence at the individual level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural non-farm sector in India and Tamil Nadu. Unit level data used for the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the rural manufacturing or non-manufacturing is studied through the application of the binary logistic model. Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. The share of manufacturing to GDP was highest for Gujarat followed by Tamil Nadu and Maharashtra. The manufacturing sector is the second largest employment provider after agriculture and allied activities. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. Females participation in the non-manufacturing oriented, non-farm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled Castes (SCs) have been entering non-manufacturing oriented, non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented, non-farm sector in the country. Interestingly Tamil Nadu large family (9-12) high probability of entering the non-manufacturing oriented non-farm sector. Individuals from the age group of 30-59 exhibited the higher participation in the non-manufacturing oriented, non-farm sector both in India and Tamil Nadu. Graduates and higher educated likely to non-manufacturing over manufacturing both in India and Tamil Nadu. Landholding household prefer non-manufacturing over manufacturing sector in the country. Interestingly the members of marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing non-farm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented, non-farm sector, both India and Tamil Nadu during 2009-10. Interestingly, during 1993-94 Technical education individuals have a high probability of joining non-manufacturing oriented, non-farm sector, both India and Tamil Nadu. The enter of the SCs and STs in non-farm sector shows the distress oriented growth of the non-manufacturing sector. They may be might be accommodated

in the low level activity in the service sector. The increase in landholding household in the non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.

The chapter five examines the nature of rural non-farm sector in two villages in Tamil Nadu. In specifically the study would analysis, whether households shifting to completely to non-farm sector or are one is plural households increasing in rural areas? The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. Namakkal district has the majority of the small scale industries are related to lorry building, weaving industry and food processing units. In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities. There has been a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in the non-farm sector, particularly others activities in the district.. Both villages have major share of backward castes. There is no Scheduled Tribe in both villages. In Thirumangalam the large land holders were absent, while correspondingly in Irruttanai the large farmer's group owned small percent of total land owned. There was no difference between the land owned and land operated. In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irruttanai (wet) village the marginal farmers were gainers. Commercial crops grown in the villages were supporting the demands of the food processing units in Salem and Namakkal Districts. In both surveyed villages, major share of households is in mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income. The SC households in Thirumangalam (dry) village, diversified more in favour of the non-farm sector than Irruttanai (wet) village. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households. landless& marginal landholders may prefer as the non-farm sector as a survival mechanism. Mixed household cultivated large share of high-risk profit crops like tapioca, sugarcane etc. compared to rest of household groups. The Interestingly mixed household also cultivated major food crops like Jowar etc. In both villages the major chunk of males is engaged in non-farm sector. There is the preference for the males in favour of non-farm sector compared to females. Females were more engaged in the farm sector shows the feminisation of the agriculture. The emergence of the industries in the nearby towns also is the reason for the diversification of the males. There is less number of traditional occupations in a dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed

villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irruttanai (wet) village, a number of individuals are engaged in the modern non-farm sector compared to Thirumangalam (dry) village. Individuals are mostly engaged in modern non-farm activities in the intra-village and nearby rural towns like that of construction works, sago factory, bore well works etc. In both surveyed villages. However, both villages show the diversification of some individual in both villages in big cities for employment. Industries located nearby like sago factory, power looms, borewells its influence the employment in the both villages. In both villages landless, small and marginal landholders moving towards non-farm sector shows distress led diversification. Males in large numbers are shifting from a dry village in distress led transformation. The availability of employment opportunities in the rural towns has strong influence in the migration of labourers from villages. The Overall distress component has a primary role in the growth of the rural non-farm sector.

There is an emergence of the rural non-farm sector as the importance of rural employment last few decades. At all India level as well in most of the states there is the growth of the non-farm sector is significant. Within the rural non-agricultural sector, there is an increase in the share services sector exceeds the manufacturing sector. The study shows the decline in the agricultural households is compensated by the increase in non-agricultural labour and other households. It is generally rural non-farm sector as a temporary phase of transformation. In India context, rural non-farm sector is not a temporary phase of the transformation. The share of rural employment in terms of employment and income has continuously increased even it considered as a temporary phase of development.

There is a rise in the casual labourers among the males and females in rural India. The nature and structure of employment show that casual labourer was rising both in rural and urban fixed location in at All India level and Tamil Nadu. This shows that much of the work is done by rural workers. In non-farm sector services has increased in comparison to manufacturing. There is rise of employment in construction activities is show form distress in agriculture sector. There was distress led factors such as unemployment rate among males and females influencing the growth of non-farm sector among the states in the eighties, while the mix of growth and distress factors such as commercialisation of agriculture and unemployment rate among males etc reason for the growth of the non-farm sector in 2009-10.female participation in the farm has increase in the

non-farm sector.Males are moving out of agriculture in search of non-farm opporunities.Landless are shifting to non-farm sector shows that the agriculture surplus might not the cause of joining non-farmsector.However, growth of non-farm sector is purely distress factors.OBCs and general castes are moving to the non-farmsector.Highereducation,large family have positive impact on the growth of the non-farm sector.There is not enough opportunities in farm sector which is pushing labour to move out of the farm sector.InTamil Nadu though distress factors plays a significant role in the growth of non-farmsector.There are positive factors such young population participation and small family size have role for the shifting of individuals to non-farm sector in Tamil Nadu.The enter of the SCs and STs in non-farm sector shows the distress oriented growth of non-manufacturing sector. They may be might be accommodated in the low level activity in the service sector. The increase in landholding household in non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.The micro level studies shows that landless,small& marginal landholders moving towards to non-farm sector shows distress led diversification.Males in the large numbers moving from the dry village.The availability of employment opportunities in the rural towns has role in migration of labourers from villages.Overall at India level the distress factors has role in the growth of the non-farmsector.In Tamil Nadu both growth and distress factors plays a significant role in the growth of the non-farm sector.

The rural non-farm sector has increased importance in the recent past.There is an decrease in farm sector and specifically the share of agriculture labour households in the rural sector.It looks that a combination of distress factors in the farm sector and simultaneous pull factors of rural non-farmsector.Construction sector has been responsible for the expansion. In the primary survey one is seeing the higher share of ‘mixed’ households i.e,Households who are not completely diversified as non-farmhousehold.The sustenance of this form of growth dependence on the pull factors of non-farm sector and there is a need for public policy to sustain the growth of non-farm sector.

Appendix 1: detailed sub-caste wise proportion of households and the population in the two surveyed villages

		Thirumangalam			Irruttanai			
caste	**male**	**female**	**total**	**% Popn**	**male**	**female**	**total**	**% Popn**
Arunthathiyar	81	87	168	44.1	58	52	110	16.36
Total SCs	81	87	168	44.1	58	52	110	16.36
vellalar\Nattugounder	98	95	193	50.7	96	90	186	27.67
pandaram\pulavar\barber\achari	9	11	20	5.24	3	7	10	1.48
vettuvagounder\vanniyar\thotinaicker	0	0	0	0	153	144	297	44.19
Nadar\kuyavar\velanchettiar\boyar	0	0	0	0	40	29	69	10.26
Total BCs	107	106	213	55.9	292	270	562	83.63
Total	188	193	381	100	350	322	672	100

Sources: Field survey, Dec 2012

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Synopsis of the Doctoral Research

Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu

By

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SYNOPSIS

Nature and characteristics of households in rural non-farm sector: a study on Tamil Nadu

A synopsis submitted to the University of Hyderabad Prior to the submission of Doctoral Thesis

The development process as the context of many of the developing countries doesn't show to the stylized pattern of structural transformation or dual economy models. India the patterns of structural transformation has been steadily changing from agriculture to services sector bypassing the manufacturing sector. The employment structure is changing not in favor of the urban modern sector, agriculture sector still holds half of workforce in agriculture. Rural nonfarm sector generates employment in rural areas. The employment in the farm sector is shrinking in the country. The rural nonfarm sector is being seen as an important as a source of rural employment in last few decades. There are two sets of literature in Indian context explaining the process of growth in rural nonfarm sector .One set of literature identify that the growth of rural nonfarm sector in Indian context is depend upon agriculture led growth. The second set of literature analyses the rural nonfarm sector as case of distress led growth.Agriculture led growth led diversification statesthat growth of agriculture sector led to increasing in income of farmers and labourers which led to the growth of the rural nonfarm sector. Another view is distress oriented hypothesis which states that present which stated that agriculture sector failed to absorb the surplus labour in agriculture, hence the labour have to settle in the low productive nonfarm sector. There is little doubt in early stages in development in the rural nonfarm sector remained in intertwined with agriculture.Durning the later stage of development new technological, market access, income, and commercialization of agriculture pull forces in high agricultural zones. In the stagnant rural zones in falling agriculture productivity and income, high population growth and landlessness push the labour force into nonfarm activity.Though agriculture continues to be a large employer in the country with decline employment elasticities.agriculture growth stimulate the growth of rural nonfarm sector or agricultural stagnation(distress diversification) compels the growth of nonfarm sector?This thesis seeks to test distress diversification against growth linkages as the reason of rural nonfarm employment. The agriculture growth linkages higher agriculture income or employment tend to cause faster growth the rural nonfarm sector.Then distress diversification hypothesis is opposite hypothesis that lower agriculture performance causes faster growth rural nonfarm sector.

The rural nonfarm sector is a complex phenomenon. There is a wide variation in terms of extent rural nonfarm sector in terms of agro-climate and socio-economic structure in the rural India. The present study is an attempt to understand whether of growth of the rural nonfarm sector is a new reservoir in the economy. In the Introductory chapter discuss the problem and importance of rural nonfarm sector.The rural nonfarm sector can be defined as all activities in rural areas except agriculture. There also discussion of theories &empirical trends related to the rural nonfarm sector. The objective of the study is discussed and along with a plan of the study.

Objective of the thesis

The thesis has four objectives in the context of growth of rural non-farm sector and regional differences in rural non-farm sector.

1) Can states be classified in two groups/clusters based on rural non-farm sector and the factors influencing the grouping?
2) Who are the Households moving into the rural non-farm sector, Landless labourers or cultivators?
3) Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?
4) Is there a transition of households from agricultural household in the rural non-farm sector or to 'plural' households?

The present study focus on the aggregate picture on the rural nonfarm sector and the Tamil Nadu based on the NSSO unit level data. In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector in India and Tamil Nadu. There yet study based on the NSSO unit level data in the literature are few.

The data have been collected from primary and secondary sources. Secondary sources consist of NSSO reports on employment and unemployment in India (1983, 1993-94, 1999-00, 2004-05, 2007-08 and 2009-10), Sarveskhana April 1989, Statistical abstract 1989, EPW Foundation and District census handbook of Namakkal. The statistics on employment and unemployment can be obtained from census and sample survey conducted by NSSO.Our inquiry is based on NSSO Employment and unemployment unit level data from rounds 38^{th} round(1983) to 66^{th}

round(2009-10) to assess the distribution of the rural workers usually employed in the non-farm sector across employment status. Unit level data used from the five quinquennial rounds, Employment, and unemployment rounds.Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) for the Logistic regression for All India and Tamilnadu.A primary survey conducted in two villages in Namakkal district in the state of Tamilnadu.It addition Sarveskhana journal data and land statistics also been used.Reports and Unit level data used from the five quinquennial rounds,Employment and unemployment rounds 38^{th}(1983),50^{th}(1993-94),55^{th} (1999-2000),61^{st} (2004-05) and 66^{th} (2009-10) have used for analysis of the distribution of the rural workers usually employed in the non-farm sector across employment status.The micro level cross-sectional data were collected to assess the nature of nonfarm employment and its broad determinants for the study.A field study was conducted in Nov-Dec 2012 through a structured questionnaire to do a complete census-type survey in Two villages in the district.

In India, there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan 1986, dev 1993, Jatav& Sen 2013). At all India level as well in most of the state's nonfarm sector grow significantly (Bhaumik 2002). The growth of the rural nonfarm sector is highest in Kerala, West Bengal and Tamilnadu& lowest in Chattisgarh, MadhyaPradesh, followed by Uttarakhand, Karnataka, Gujarat, and Maharastra(World Bank 2010). Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the secondary sector.(Vaidyanathan 1986, Hans Binswanger 2013). There is a low share of manufacturing in economy and growth of employment. The rural nonfarm sector displays a wide range of heterogeneity both in terms of sectors and employment.

In second chapter seeks to assess trends and nature of employment in rural nonfarm sector in India and states.Toidentify these are groups in terms of states performance of rural non-farm sector. At all India level as well in most of the state's nonfarm sector growth is significant.The rate of growth rural nonfarm sector is different. Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the manufacturing sector. The growth of nonfarm jobs in India has primarily from an increase in services, transport, and construction. Rural males tend to have an advantage over females in nonfarm employment in the country.

Casual labourers for both males and females is increased in the country. There is also decline in self-employed activities among the males and females. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities.There a large number of factors such as agriculture growth, literacy, urbanization, government policies reason for variation among the different states. There variables selected for the discriminant functions for estimating the determinants of the rural nonfarm sector are the area under food crops, the area under non-food crops, unemployment rates, irrigation and percapita income. Unemployment rates is distress factors, while the area under food crops, the area under non-food crops, per capita income and irrigation is growth-related variables.There is variation is formation of groups among states between 1983 and 2009-10.During 1983 the distress factors such as unemployment rate among males and females in rural areas were important in formation of group among low and high nonfarm states , while In 2009-10 commercialisation of agriculture and unemployment among males were important for the growth low and high nonfarm sector. There was distress led factors influencing the growth of nonfarm sector among the states in the eighties, while the mix of growth and distress factors reason for the growth of the nonfarm sector in 2009-10.

There are two important trends on employment seen on Indian economy in the recent period. One is the steady decline in the share of farm households in the rural area and the second is the secular increase in the share of households in the rural non-farm sector. The occupational or employment pattern remained constant in India till the 1950s and 1960s but there was a change after 1970 with the increase in employment in the nonfarm sector in the country (Himanshu et.al, 2009). At all India, there is a decline in the share of farm households in the rural areas and secondly, there is a secular increase in the share of households in the rural non-farm sector. There may distress and development factors influencing the transformation of the rural nonfarm sector. In India, various scholars have founded two major drives for the growth of the rural nonfarm sector agricultural-led diversification and distress led diversification. There might distress growth led factors or a mix of both factors impacts of the nonfarm sector. It is very difficult to articulate the growth of the nonfarm sector. Income, Landownership, education, infrastructure etc. impacts of the growth of the nonfarm sector. For the policy perspective, it is important to understand individuals entering the rural nonfarm sector. The various studies have

shown variables such as agricultural growth, commercialization, education, and land size etc which related to growth or distress factors.

In the Third chapter, attempts to analyze two features. One has there been a steady increase in the share of households in the rural non-farm sector. Two, what are the characteristics of households who are moving into the rural non-farm sector. Are the poor – distress driven households moving into the non-farm sector or are the resource-rich households moving out of the farm sector. Tamil Nadu is a state with a relatively more important role for Industry in terms of employment as well as a share of income originating from the non-primary sector. An implication of this is that share of households dependent on the farm sector has declined more when compared to the all-India trend. This could be either due to demand-pull by industry, or supply push from agriculture as water from Kaveri River dried up (Janakarajan 2016).Given the context, one would expect a difference in the nature of households entering the rural non-farm sector in the state of Tamil Nadu. So the second set of issues being studied in the chapter is the nature and composition of the rural non-farm sector in Tamil Nadu. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agriculture at All India level as well as Tamil Nadu. All India level, as well as Tamil Nadu the share for Scheduled Castes (SCs), is also declining for the farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. Scheduled Tribes (STs) and Other Backward Castes (OBCs) share in the farm sector are increasing in both at All India and Tamil Nadu level. All India the casual labourers in urban fixed location is on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the farm or non-farm sector is studied through the application of the binary logistic model .The females participation in the nonfarm sector is lower than males both India and Tamil Nadu. Individuals from the age group of 30-59 showed higher participation in the nonfarm sector. Interestingly in Tamil Nadu young population has more chance of entering the nonfarm sector. OBCs and general castes have a high probability of entering nonfarm sector

than marginalized social groups at All India level and Tamil Nadu. Members of large household size were entering nonfarm sector at all India level. Interestingly in Tamil Nadu small family have preferred to enter the nonfarm sector in both periods. Literate seems to participate more in the nonfarm sector compared to the Illiterate. Landless are more likely to participate in the nonfarm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector. We can conclude that largely distress oriented factors has major role in individual to enter the non-fam sector. In Tamil Nadu though distress factors plays a significant role in the growth of nonfarm sector. There are various pull factors such as high manufacturing activities etc. has role for the shifting of individuals to nonfarm sector.

The economic development of an economy should follow a pattern of structural change from primary to secondary to tertiary. The structure of Indian economy in terms of the composition of output has been steadily changing over the last few decades. If one analysis share of income, the economy moved from primary sector dominated to service sector dominated economy. In this process of transformation the secondary sector, especially the manufacturing sector has been bypassed. Agriculture continues to provide employment to a large section of the peoples. The share of households depended on farm sector is decreasing overtime but not in comparison to decreasing in the share of income from agriculture. Though the service sector contribution to output has risen at a faster rate, in terms of employment its share is meager. The manufacturing sector share both in terms of output and employment remains stagnant since decades. This has led the researcher to claim that, the structural transformation in India to be stunted one (Hans Binswanger, 2013). This has been the all-India trend, but regional specificities exist. States like Tamilnadu, Gujarat, and Maharashtra are states where manufacturing are relatively more important both in terms of share in income originating from the sector as well as in the share of individuals employed in the sector. The post-reform period saw a growth of the rural nonfarm sector. The recent period has seen a rise in the construction boom and slowdown in the manufacturing sector. Hence here an attempt is made to identify constraining factors to the entry of individuals into the manufacturing sector. Tamil Nadu has a large share of the industrial and urban base in the country. In Tamil Nadu, rural agriculture sector and rural labor market tend to

be integrated with commercial, industrial economic center. The manufacturing sector in Tamil Nadu has wide base than average India while rural services have been growing faster in the state (Ramaswamy 2007). The present chapter is a continuation of earlier chapter observed that inadequate opportunities in the farm sector forced labor to move to the nonfarm sector. The study focused on whether there are significant entry barriers to entering the manufacturing sector.

Chapter fourth, focus on the characteristics of Individuals who entering the manufacturing or non-manufacturing rural nonfarm sector. The different factors which influence at individuals level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural nonfarm sector at India and Tamil Nadu. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the rural manufacturing or non-manufacturing is studied through the application of the binary logistic model. Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. The share of manufacturing to GDP was highest for Gujarat followed by Tamil Nadu and Maharashtra. The manufacturing sector is the second largest employment provider after agriculture and allied activities. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. Females participation in the non-manufacturing oriented nonfarm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled Castes (SCs) have been entering non-manufacturing oriented non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented nonfarm sector in the country. Interestingly Tamil Nadu large family (9-12) high probability of entering the non-manufacturing oriented nonfarm sector. Individuals from the age group of 30-59 exhibited the higher participation in the non-manufacturing oriented nonfarm sector both in India and Tamil Nadu. Graduates and higher educated likely to non-manufacturing over manufacturing both in India and Tamil Nadu.Landholding household more likely to participate in the non-manufacturing nonfarm sector in comparison to landless households in the country. Interestingly members from marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing nonfarm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu during 2009-10. Interestingly during 1993-

94 Technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu.Theenter of the SCs and STs in nonfarm sector shows the distress oriented growth of non-manufacturing sector. They may be might be accommodated in the low level activity in service sector. The increase in landholding household in non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.

The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. There has been a steady transformation of state economy towards the non-farm sector, resulting in declining share of the agriculture sector to NSDP. The proportion of the rural population to total population is declining.However, the agriculture sector still continues to play an important role as it provides livelihood and food security for a large section of the population. The principal food crops in the state are paddy, millets, and pulses. The commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chilies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom, and rubber. Major forest produces are timber, sandalwood, pulpwood, and fuelwood.The earlier chapters based on secondary data showed a steady expansion in the non-farm sector both at all India and Tamil Nadu. Hitherto, the focus was on characteristics of the rural non-farm sector in both all India and Tamil Nadu. The present chapter is an investigation into the broad characteristics of non-farm sector in two villages of Namakkal district, Tamil Nadu. Tamil Nadu has been divided into seven agro-ecological zones. The first village, Thirumangalam of Tirchengodu taluk is present in the western zone of agro-ecological zones and the Second village Irrunatai of ParamathiVelur taluk is present in North Eastern zone. These two villages selected based on the nature of the irrigation facility and the distance from the nearest town. Thirumangalam is dry village which has no perennial source of Irrigation and the major source of irrigation are wells\bore wells and rain-fed. The Irrunatai is a wet village which has canal irrigation facility along with wells and bore wells.In a general context of an increase in the non-farm sector and urbanization in Tamil Nadu, this chapter would like to analysis the nature of rural non-farm sector in two villages in Tamil Nadu. One of the villages in an irrigated village and the second village is a non-irrigated village.

The chapter five examines the nature of rural nonfarm sector in two villages in Tamil Nadu.In specific the study would analysis whether households shifting to completely to non-farm sector

or are one is plural households increasing in rural areas?.The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. Namakkal district has the majority of the small scale industries are related to lorry building, weaving industry and food processing units. In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities.There has been a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in the nonfarm sector particularly others activities in the district..Both villages has major share of backward castes.There is no Scheduled Tribe in both villages. In Thirumangalam the large land holders were absent, while correspondingly in Irrunatai the large farmer's group owned small percent of total land owned. There was no difference between the land owned and land operated. In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irrunatai(wet) village the marginal farmers were gainers.Commerical crops grown in the villages were supporting the demands of the food processing units in Salem and Namakkal districts. In both surveyed villages, major share of households is in mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income.The SC households in Thirumangalam(dry) village diversified more in favour of the nonfarm sector than Irrunatai(wet) village. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households.landless& marginal landholders may prefer as the nonfarm sector as a survival mechanism.Mixed household cultivated large share of high-risk profit crops like tapioca, sugarcane etc compared to rest of household groups.Interestingly mixed household also cultivated major food crops like Jowar etc. In both villages the major chunk of males are engaged in non-farm sector.There is the preference for the males in favour of non-farm sector compared to females.females were more engaged in the farm sector shows the feminisation of the agriculture.The emergence of the industries in the nearby towns also is the reason for the diversification of the males.There is less number of traditional occupations in dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irrunatai(wet) village, a number of individuals are engaged in the modern nonfarm sector compared to Thirumangalam(dry) village. Individuals are mostly engaged in modern nonfarm activities in intra-village and nearby rural towns like that of

construction works, sago factory, bore well works etc in both surveyed villages.However, both village shows the diversification of some individual in both villages in big cities for employment.Industries located nearby like sago factory, power looms, borewellsetc influence the employment in the both villages.In both villages landless,small and marginal landholders moving towards nonfarm sector shows distress led diversification.Males in the large number are shifting from dry village in distress led transformation.The availability of employment opporunities in the rural towns has strong influence in the migration of labourers from villages .Overall distress component has a primary role in the growth of the rural non-farm sector.

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Synopsis of the Doctoral Research

Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu

By

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SYNOPSIS

Nature and characteristics of households in rural non-farm sector: a study on Tamil Nadu

A synopsis submitted to the University of Hyderabad Prior to the submission of Doctoral Thesis

The development process as the context of many of the developing countries doesn't show to the stylized pattern of structural transformation or dual economy models. India the patterns of structural transformation has been steadily changing from agriculture to services sector bypassing the manufacturing sector. The employment structure is changing not in favor of the urban modern sector, agriculture sector still holds half of workforce in agriculture. Rural nonfarm sector generates employment in rural areas. The employment in the farm sector is shrinking in the country. The rural nonfarm sector is being seen as an important as a source of rural employment in last few decades. There are two sets of literature in Indian context explaining the process of growth in rural nonfarm sector .One set of literature identify that the growth of rural nonfarm sector in Indian context is depend upon agriculture led growth. The second set of literature analyses the rural nonfarm sector as case of distress led growth.Agriculture led growth led diversification statesthat growth of agriculture sector led to increasing in income of farmers and labourers which led to the growth of the rural nonfarm sector. Another view is distress oriented hypothesis which states that present which stated that agriculture sector failed to absorb the surplus labour in agriculture, hence the labour have to settle in the low productive nonfarm sector. There is little doubt in early stages in development in the rural nonfarm sector remained in intertwined with agriculture.Durning the later stage of development new technological, market access, income, and commercialization of agriculture pull forces in high agricultural zones. In the stagnant rural zones in falling agriculture productivity and income, high population growth and landlessness push the labour force into nonfarm activity.Though agriculture continues to be a large employer in the country with decline employment elasticities.agriculture growth stimulate the growth of rural nonfarm sector or agricultural stagnation(distress diversification) compels the growth of nonfarm sector?This thesis seeks to test distress diversification against growth linkages as the reason of rural nonfarm employment. The agriculture growth linkages higher agriculture income or employment tend to cause faster growth the rural nonfarm sector.Then distress diversification hypothesis is opposite hypothesis that lower agriculture performance causes faster growth rural nonfarm sector.

The rural nonfarm sector is a complex phenomenon. There is a wide variation in terms of extent rural nonfarm sector in terms of agro-climate and socio-economic structure in the rural India. The present study is an attempt to understand whether of growth of the rural nonfarm sector is a new reservoir in the economy. In the Introductory chapter discuss the problem and importance of rural nonfarm sector.The rural nonfarm sector can be defined as all activities in rural areas except agriculture. There also discussion of theories &empirical trends related to the rural nonfarm sector. The objective of the study is discussed and along with a plan of the study.

Objective of the thesis

The thesis has four objectives in the context of growth of rural non-farm sector and regional differences in rural non-farm sector.

1) Can states be classified in two groups/clusters based on rural non-farm sector and the factors influencing the grouping?
2) Who are the Households moving into the rural non-farm sector, Landless labourers or cultivators?
3) Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?
4) Is there a transition of households from agricultural household in the rural non-farm sector or to 'plural' households?

The present study focus on the aggregate picture on the rural nonfarm sector and the Tamil Nadu based on the NSSO unit level data. In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector in India and Tamil Nadu. There yet study based on the NSSO unit level data in the literature are few.

The data have been collected from primary and secondary sources. Secondary sources consist of NSSO reports on employment and unemployment in India (1983, 1993-94, 1999-00, 2004-05, 2007-08 and 2009-10), Sarveskhana April 1989, Statistical abstract 1989, EPW Foundation and District census handbook of Namakkal. The statistics on employment and unemployment can be obtained from census and sample survey conducted by NSSO.Our inquiry is based on NSSO Employment and unemployment unit level data from rounds 38^{th} round(1983) to 66^{th}

round(2009-10) to assess the distribution of the rural workers usually employed in the non-farm sector across employment status. Unit level data used from the five quinquennial rounds, Employment, and unemployment rounds.Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) for the Logistic regression for All India and Tamilnadu.A primary survey conducted in two villages in Namakkal district in the state of Tamilnadu.It addition Sarveskhana journal data and land statistics also been used.Reports and Unit level data used from the five quinquennial rounds,Employment and unemployment rounds 38^{th}(1983),50^{th}(1993-94),55^{th} (1999-2000),61^{st} (2004-05) and 66^{th} (2009-10) have used for analysis of the distribution of the rural workers usually employed in the non-farm sector across employment status.The micro level cross-sectional data were collected to assess the nature of nonfarm employment and its broad determinants for the study.A field study was conducted in Nov-Dec 2012 through a structured questionnaire to do a complete census-type survey in Two villages in the district.

In India, there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan 1986, dev 1993, Jatav& Sen 2013). At all India level as well in most of the state's nonfarm sector grow significantly (Bhaumik 2002). The growth of the rural nonfarm sector is highest in Kerala, West Bengal and Tamilnadu& lowest in Chattisgarh, MadhyaPradesh, followed by Uttarakhand, Karnataka, Gujarat, and Maharastra(World Bank 2010). Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the secondary sector.(Vaidyanathan 1986, Hans Binswanger 2013). There is a low share of manufacturing in economy and growth of employment. The rural nonfarm sector displays a wide range of heterogeneity both in terms of sectors and employment.

In second chapter seeks to assess trends and nature of employment in rural nonfarm sector in India and states.Toidentify these are groups in terms of states performance of rural non-farm sector. At all India level as well in most of the state's nonfarm sector growth is significant.The rate of growth rural nonfarm sector is different. Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the manufacturing sector. The growth of nonfarm jobs in India has primarily from an increase in services, transport, and construction. Rural males tend to have an advantage over females in nonfarm employment in the country.

Casual labourers for both males and females is increased in the country. There is also decline in self-employed activities among the males and females. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities.There a large number of factors such as agriculture growth, literacy, urbanization, government policies reason for variation among the different states. There variables selected for the discriminant functions for estimating the determinants of the rural nonfarm sector are the area under food crops, the area under non-food crops, unemployment rates, irrigation and percapita income. Unemployment rates is distress factors, while the area under food crops, the area under non-food crops, per capita income and irrigation is growth-related variables.There is variation is formation of groups among states between 1983 and 2009-10.During 1983 the distress factors such as unemployment rate among males and females in rural areas were important in formation of group among low and high nonfarm states , while In 2009-10 commercialisation of agriculture and unemployment among males were important for the growth low and high nonfarm sector. There was distress led factors influencing the growth of nonfarm sector among the states in the eighties, while the mix of growth and distress factors reason for the growth of the nonfarm sector in 2009-10.

There are two important trends on employment seen on Indian economy in the recent period. One is the steady decline in the share of farm households in the rural area and the second is the secular increase in the share of households in the rural non-farm sector. The occupational or employment pattern remained constant in India till the 1950s and 1960s but there was a change after 1970 with the increase in employment in the nonfarm sector in the country (Himanshu et.al, 2009). At all India, there is a decline in the share of farm households in the rural areas and secondly, there is a secular increase in the share of households in the rural non-farm sector. There may distress and development factors influencing the transformation of the rural nonfarm sector. In India, various scholars have founded two major drives for the growth of the rural nonfarm sector agricultural-led diversification and distress led diversification. There might distress growth led factors or a mix of both factors impacts of the nonfarm sector. It is very difficult to articulate the growth of the nonfarm sector. Income, Landownership, education, infrastructure etc. impacts of the growth of the nonfarm sector. For the policy perspective, it is important to understand individuals entering the rural nonfarm sector. The various studies have

shown variables such as agricultural growth, commercialization, education, and land size etc which related to growth or distress factors.

In the Third chapter, attempts to analyze two features. One has there been a steady increase in the share of households in the rural non-farm sector. Two, what are the characteristics of households who are moving into the rural non-farm sector. Are the poor – distress driven households moving into the non-farm sector or are the resource-rich households moving out of the farm sector. Tamil Nadu is a state with a relatively more important role for Industry in terms of employment as well as a share of income originating from the non-primary sector. An implication of this is that share of households dependent on the farm sector has declined more when compared to the all-India trend. This could be either due to demand-pull by industry, or supply push from agriculture as water from Kaveri River dried up (Janakarajan 2016).Given the context, one would expect a difference in the nature of households entering the rural non-farm sector in the state of Tamil Nadu. So the second set of issues being studied in the chapter is the nature and composition of the rural non-farm sector in Tamil Nadu. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agriculture at All India level as well as Tamil Nadu. All India level, as well as Tamil Nadu the share for Scheduled Castes (SCs), is also declining for the farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. Scheduled Tribes (STs) and Other Backward Castes (OBCs) share in the farm sector are increasing in both at All India and Tamil Nadu level. All India the casual labourers in urban fixed location is on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the farm or non-farm sector is studied through the application of the binary logistic model .The females participation in the nonfarm sector is lower than males both India and Tamil Nadu. Individuals from the age group of 30-59 showed higher participation in the nonfarm sector. Interestingly in Tamil Nadu young population has more chance of entering the nonfarm sector. OBCs and general castes have a high probability of entering nonfarm sector

than marginalized social groups at All India level and Tamil Nadu. Members of large household size were entering nonfarm sector at all India level. Interestingly in Tamil Nadu small family have preferred to enter the nonfarm sector in both periods. Literate seems to participate more in the nonfarm sector compared to the Illiterate. Landless are more likely to participate in the nonfarm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector. We can conclude that largely distress oriented factors has major role in individual to enter the non-fam sector. In Tamil Nadu though distress factors plays a significant role in the growth of nonfarm sector. There are various pull factors such as high manufacturing activities etc. has role for the shifting of individuals to nonfarm sector.

The economic development of an economy should follow a pattern of structural change from primary to secondary to tertiary. The structure of Indian economy in terms of the composition of output has been steadily changing over the last few decades. If one analysis share of income, the economy moved from primary sector dominated to service sector dominated economy. In this process of transformation the secondary sector, especially the manufacturing sector has been bypassed. Agriculture continues to provide employment to a large section of the peoples. The share of households depended on farm sector is decreasing overtime but not in comparison to decreasing in the share of income from agriculture. Though the service sector contribution to output has risen at a faster rate, in terms of employment its share is meager. The manufacturing sector share both in terms of output and employment remains stagnant since decades. This has led the researcher to claim that, the structural transformation in India to be stunted one (Hans Binswanger, 2013). This has been the all-India trend, but regional specificities exist. States like Tamilnadu, Gujarat, and Maharashtra are states where manufacturing are relatively more important both in terms of share in income originating from the sector as well as in the share of individuals employed in the sector. The post-reform period saw a growth of the rural nonfarm sector. The recent period has seen a rise in the construction boom and slowdown in the manufacturing sector. Hence here an attempt is made to identify constraining factors to the entry of individuals into the manufacturing sector. Tamil Nadu has a large share of the industrial and urban base in the country. In Tamil Nadu, rural agriculture sector and rural labor market tend to

be integrated with commercial, industrial economic center. The manufacturing sector in Tamil Nadu has wide base than average India while rural services have been growing faster in the state (Ramaswamy 2007). The present chapter is a continuation of earlier chapter observed that inadequate opportunities in the farm sector forced labor to move to the nonfarm sector. The study focused on whether there are significant entry barriers to entering the manufacturing sector.

Chapter fourth, focus on the characteristics of Individuals who entering the manufacturing or non-manufacturing rural nonfarm sector. The different factors which influence at individuals level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural nonfarm sector at India and Tamil Nadu. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the rural manufacturing or non-manufacturing is studied through the application of the binary logistic model. Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. The share of manufacturing to GDP was highest for Gujarat followed by Tamil Nadu and Maharashtra. The manufacturing sector is the second largest employment provider after agriculture and allied activities. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. Females participation in the non-manufacturing oriented nonfarm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled Castes (SCs) have been entering non-manufacturing oriented non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented nonfarm sector in the country. Interestingly Tamil Nadu large family (9-12) high probability of entering the non-manufacturing oriented nonfarm sector. Individuals from the age group of 30-59 exhibited the higher participation in the non-manufacturing oriented nonfarm sector both in India and Tamil Nadu. Graduates and higher educated likely to non-manufacturing over manufacturing both in India and Tamil Nadu.Landholding household more likely to participate in the non-manufacturing nonfarm sector in comparison to landless households in the country. Interestingly members from marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing nonfarm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu during 2009-10. Interestingly during 1993-

94 Technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu.Theenter of the SCs and STs in nonfarm sector shows the distress oriented growth of non-manufacturing sector. They may be might be accommodated in the low level activity in service sector. The increase in landholding household in non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.

The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. There has been a steady transformation of state economy towards the non-farm sector, resulting in declining share of the agriculture sector to NSDP. The proportion of the rural population to total population is declining.However, the agriculture sector still continues to play an important role as it provides livelihood and food security for a large section of the population. The principal food crops in the state are paddy, millets, and pulses. The commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chilies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom, and rubber. Major forest produces are timber, sandalwood, pulpwood, and fuelwood.The earlier chapters based on secondary data showed a steady expansion in the non-farm sector both at all India and Tamil Nadu. Hitherto, the focus was on characteristics of the rural non-farm sector in both all India and Tamil Nadu. The present chapter is an investigation into the broad characteristics of non-farm sector in two villages of Namakkal district, Tamil Nadu. Tamil Nadu has been divided into seven agro-ecological zones. The first village, Thirumangalam of Tirchengodu taluk is present in the western zone of agro-ecological zones and the Second village Irrunatai of ParamathiVelur taluk is present in North Eastern zone. These two villages selected based on the nature of the irrigation facility and the distance from the nearest town. Thirumangalam is dry village which has no perennial source of Irrigation and the major source of irrigation are wells\bore wells and rain-fed. The Irrunatai is a wet village which has canal irrigation facility along with wells and bore wells.In a general context of an increase in the non-farm sector and urbanization in Tamil Nadu, this chapter would like to analysis the nature of rural non-farm sector in two villages in Tamil Nadu. One of the villages in an irrigated village and the second village is a non-irrigated village.

The chapter five examines the nature of rural nonfarm sector in two villages in Tamil Nadu.In specific the study would analysis whether households shifting to completely to non-farm sector

or are one is plural households increasing in rural areas?.The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. Namakkal district has the majority of the small scale industries are related to lorry building, weaving industry and food processing units. In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities.There has been a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in the nonfarm sector particularly others activities in the district..Both villages has major share of backward castes.There is no Scheduled Tribe in both villages. In Thirumangalam the large land holders were absent, while correspondingly in Irrunatai the large farmer's group owned small percent of total land owned. There was no difference between the land owned and land operated. In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irrunatai(wet) village the marginal farmers were gainers.Commerical crops grown in the villages were supporting the demands of the food processing units in Salem and Namakkal districts. In both surveyed villages, major share of households is in mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income.The SC households in Thirumangalam(dry) village diversified more in favour of the nonfarm sector than Irrunatai(wet) village. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households.landless& marginal landholders may prefer as the nonfarm sector as a survival mechanism.Mixed household cultivated large share of high-risk profit crops like tapioca, sugarcane etc compared to rest of household groups.Interestingly mixed household also cultivated major food crops like Jowar etc. In both villages the major chunk of males are engaged in non-farm sector.There is the preference for the males in favour of non-farm sector compared to females.females were more engaged in the farm sector shows the feminisation of the agriculture.The emergence of the industries in the nearby towns also is the reason for the diversification of the males.There is less number of traditional occupations in dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irrunatai(wet) village, a number of individuals are engaged in the modern nonfarm sector compared to Thirumangalam(dry) village. Individuals are mostly engaged in modern nonfarm activities in intra-village and nearby rural towns like that of

construction works, sago factory, bore well works etc in both surveyed villages.However, both village shows the diversification of some individual in both villages in big cities for employment.Industries located nearby like sago factory, power looms, borewellsetc influence the employment in the both villages.In both villages landless,small and marginal landholders moving towards nonfarm sector shows distress led diversification.Males in the large number are shifting from dry village in distress led transformation.The availability of employment opporunities in the rural towns has strong influence in the migration of labourers from villages .Overall distress component has a primary role in the growth of the rural non-farm sector.

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Synopsis of the Doctoral Research

Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu

By

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SYNOPSIS

Nature and characteristics of households in rural non-farm sector: a study on Tamil Nadu

A synopsis submitted to the University of Hyderabad Prior to the submission of Doctoral Thesis

The development process as the context of many of the developing countries doesn't show to the stylized pattern of structural transformation or dual economy models. India the patterns of structural transformation has been steadily changing from agriculture to services sector bypassing the manufacturing sector. The employment structure is changing not in favor of the urban modern sector, agriculture sector still holds half of workforce in agriculture. Rural nonfarm sector generates employment in rural areas. The employment in the farm sector is shrinking in the country. The rural nonfarm sector is being seen as an important as a source of rural employment in last few decades. There are two sets of literature in Indian context explaining the process of growth in rural nonfarm sector .One set of literature identify that the growth of rural nonfarm sector in Indian context is depend upon agriculture led growth. The second set of literature analyses the rural nonfarm sector as case of distress led growth.Agriculture led growth led diversification statesthat growth of agriculture sector led to increasing in income of farmers and labourers which led to the growth of the rural nonfarm sector. Another view is distress oriented hypothesis which states that present which stated that agriculture sector failed to absorb the surplus labour in agriculture, hence the labour have to settle in the low productive nonfarm sector. There is little doubt in early stages in development in the rural nonfarm sector remained in intertwined with agriculture.Durning the later stage of development new technological, market access, income, and commercialization of agriculture pull forces in high agricultural zones. In the stagnant rural zones in falling agriculture productivity and income, high population growth and landlessness push the labour force into nonfarm activity.Though agriculture continues to be a large employer in the country with decline employment elasticities.agriculture growth stimulate the growth of rural nonfarm sector or agricultural stagnation(distress diversification) compels the growth of nonfarm sector?This thesis seeks to test distress diversification against growth linkages as the reason of rural nonfarm employment. The agriculture growth linkages higher agriculture income or employment tend to cause faster growth the rural nonfarm sector.Then distress diversification hypothesis is opposite hypothesis that lower agriculture performance causes faster growth rural nonfarm sector.

The rural nonfarm sector is a complex phenomenon. There is a wide variation in terms of extent rural nonfarm sector in terms of agro-climate and socio-economic structure in the rural India. The present study is an attempt to understand whether of growth of the rural nonfarm sector is a new reservoir in the economy. In the Introductory chapter discuss the problem and importance of rural nonfarm sector.The rural nonfarm sector can be defined as all activities in rural areas except agriculture. There also discussion of theories &empirical trends related to the rural nonfarm sector. The objective of the study is discussed and along with a plan of the study.

Objective of the thesis

The thesis has four objectives in the context of growth of rural non-farm sector and regional differences in rural non-farm sector.

1) Can states be classified in two groups/clusters based on rural non-farm sector and the factors influencing the grouping?
2) Who are the Households moving into the rural non-farm sector, Landless labourers or cultivators?
3) Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?
4) Is there a transition of households from agricultural household in the rural non-farm sector or to 'plural' households?

The present study focus on the aggregate picture on the rural nonfarm sector and the Tamil Nadu based on the NSSO unit level data. In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector in India and Tamil Nadu. There yet study based on the NSSO unit level data in the literature are few.

The data have been collected from primary and secondary sources. Secondary sources consist of NSSO reports on employment and unemployment in India (1983, 1993-94, 1999-00, 2004-05, 2007-08 and 2009-10), Sarveskhana April 1989, Statistical abstract 1989, EPW Foundation and District census handbook of Namakkal. The statistics on employment and unemployment can be obtained from census and sample survey conducted by NSSO.Our inquiry is based on NSSO Employment and unemployment unit level data from rounds 38^{th} round(1983) to 66^{th}

round(2009-10) to assess the distribution of the rural workers usually employed in the non-farm sector across employment status. Unit level data used from the five quinquennial rounds, Employment, and unemployment rounds.Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) for the Logistic regression for All India and Tamilnadu.A primary survey conducted in two villages in Namakkal district in the state of Tamilnadu.It addition Sarveskhana journal data and land statistics also been used.Reports and Unit level data used from the five quinquennial rounds,Employment and unemployment rounds 38^{th}(1983),50^{th}(1993-94),55^{th} (1999-2000),61^{st} (2004-05) and 66^{th} (2009-10) have used for analysis of the distribution of the rural workers usually employed in the non-farm sector across employment status.The micro level cross-sectional data were collected to assess the nature of nonfarm employment and its broad determinants for the study.A field study was conducted in Nov-Dec 2012 through a structured questionnaire to do a complete census-type survey in Two villages in the district.

In India, there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan 1986, dev 1993, Jatav& Sen 2013). At all India level as well in most of the state's nonfarm sector grow significantly (Bhaumik 2002). The growth of the rural nonfarm sector is highest in Kerala, West Bengal and Tamilnadu& lowest in Chattisgarh, MadhyaPradesh, followed by Uttarakhand, Karnataka, Gujarat, and Maharastra(World Bank 2010). Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the secondary sector.(Vaidyanathan 1986, Hans Binswanger 2013). There is a low share of manufacturing in economy and growth of employment. The rural nonfarm sector displays a wide range of heterogeneity both in terms of sectors and employment.

In second chapter seeks to assess trends and nature of employment in rural nonfarm sector in India and states.Toidentify these are groups in terms of states performance of rural non-farm sector. At all India level as well in most of the state's nonfarm sector growth is significant.The rate of growth rural nonfarm sector is different. Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the manufacturing sector. The growth of nonfarm jobs in India has primarily from an increase in services, transport, and construction. Rural males tend to have an advantage over females in nonfarm employment in the country.

Casual labourers for both males and females is increased in the country. There is also decline in self-employed activities among the males and females. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities.There a large number of factors such as agriculture growth, literacy, urbanization, government policies reason for variation among the different states. There variables selected for the discriminant functions for estimating the determinants of the rural nonfarm sector are the area under food crops, the area under non-food crops, unemployment rates, irrigation and percapita income. Unemployment rates is distress factors, while the area under food crops, the area under non-food crops, per capita income and irrigation is growth-related variables.There is variation is formation of groups among states between 1983 and 2009-10.During 1983 the distress factors such as unemployment rate among males and females in rural areas were important in formation of group among low and high nonfarm states , while In 2009-10 commercialisation of agriculture and unemployment among males were important for the growth low and high nonfarm sector. There was distress led factors influencing the growth of nonfarm sector among the states in the eighties, while the mix of growth and distress factors reason for the growth of the nonfarm sector in 2009-10.

There are two important trends on employment seen on Indian economy in the recent period. One is the steady decline in the share of farm households in the rural area and the second is the secular increase in the share of households in the rural non-farm sector. The occupational or employment pattern remained constant in India till the 1950s and 1960s but there was a change after 1970 with the increase in employment in the nonfarm sector in the country (Himanshu et.al, 2009). At all India, there is a decline in the share of farm households in the rural areas and secondly, there is a secular increase in the share of households in the rural non-farm sector. There may distress and development factors influencing the transformation of the rural nonfarm sector. In India, various scholars have founded two major drives for the growth of the rural nonfarm sector agricultural-led diversification and distress led diversification. There might distress growth led factors or a mix of both factors impacts of the nonfarm sector. It is very difficult to articulate the growth of the nonfarm sector. Income, Landownership, education, infrastructure etc. impacts of the growth of the nonfarm sector. For the policy perspective, it is important to understand individuals entering the rural nonfarm sector. The various studies have

shown variables such as agricultural growth, commercialization, education, and land size etc which related to growth or distress factors.

In the Third chapter, attempts to analyze two features. One has there been a steady increase in the share of households in the rural non-farm sector. Two, what are the characteristics of households who are moving into the rural non-farm sector. Are the poor – distress driven households moving into the non-farm sector or are the resource-rich households moving out of the farm sector. Tamil Nadu is a state with a relatively more important role for Industry in terms of employment as well as a share of income originating from the non-primary sector. An implication of this is that share of households dependent on the farm sector has declined more when compared to the all-India trend. This could be either due to demand-pull by industry, or supply push from agriculture as water from Kaveri River dried up (Janakarajan 2016).Given the context, one would expect a difference in the nature of households entering the rural non-farm sector in the state of Tamil Nadu. So the second set of issues being studied in the chapter is the nature and composition of the rural non-farm sector in Tamil Nadu. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agriculture at All India level as well as Tamil Nadu. All India level, as well as Tamil Nadu the share for Scheduled Castes (SCs), is also declining for the farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. Scheduled Tribes (STs) and Other Backward Castes (OBCs) share in the farm sector are increasing in both at All India and Tamil Nadu level. All India the casual labourers in urban fixed location is on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the farm or non-farm sector is studied through the application of the binary logistic model .The females participation in the nonfarm sector is lower than males both India and Tamil Nadu. Individuals from the age group of 30-59 showed higher participation in the nonfarm sector. Interestingly in Tamil Nadu young population has more chance of entering the nonfarm sector. OBCs and general castes have a high probability of entering nonfarm sector

than marginalized social groups at All India level and Tamil Nadu. Members of large household size were entering nonfarm sector at all India level. Interestingly in Tamil Nadu small family have preferred to enter the nonfarm sector in both periods. Literate seems to participate more in the nonfarm sector compared to the Illiterate. Landless are more likely to participate in the nonfarm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector. We can conclude that largely distress oriented factors has major role in individual to enter the non-fam sector. In Tamil Nadu though distress factors plays a significant role in the growth of nonfarm sector. There are various pull factors such as high manufacturing activities etc. has role for the shifting of individuals to nonfarm sector.

The economic development of an economy should follow a pattern of structural change from primary to secondary to tertiary. The structure of Indian economy in terms of the composition of output has been steadily changing over the last few decades. If one analysis share of income, the economy moved from primary sector dominated to service sector dominated economy. In this process of transformation the secondary sector, especially the manufacturing sector has been bypassed. Agriculture continues to provide employment to a large section of the peoples. The share of households depended on farm sector is decreasing overtime but not in comparison to decreasing in the share of income from agriculture. Though the service sector contribution to output has risen at a faster rate, in terms of employment its share is meager. The manufacturing sector share both in terms of output and employment remains stagnant since decades. This has led the researcher to claim that, the structural transformation in India to be stunted one (Hans Binswanger, 2013). This has been the all-India trend, but regional specificities exist. States like Tamilnadu, Gujarat, and Maharashtra are states where manufacturing are relatively more important both in terms of share in income originating from the sector as well as in the share of individuals employed in the sector. The post-reform period saw a growth of the rural nonfarm sector. The recent period has seen a rise in the construction boom and slowdown in the manufacturing sector. Hence here an attempt is made to identify constraining factors to the entry of individuals into the manufacturing sector. Tamil Nadu has a large share of the industrial and urban base in the country. In Tamil Nadu, rural agriculture sector and rural labor market tend to

be integrated with commercial, industrial economic center. The manufacturing sector in Tamil Nadu has wide base than average India while rural services have been growing faster in the state (Ramaswamy 2007). The present chapter is a continuation of earlier chapter observed that inadequate opportunities in the farm sector forced labor to move to the nonfarm sector. The study focused on whether there are significant entry barriers to entering the manufacturing sector.

Chapter fourth, focus on the characteristics of Individuals who entering the manufacturing or non-manufacturing rural nonfarm sector. The different factors which influence at individuals level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural nonfarm sector at India and Tamil Nadu. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the rural manufacturing or non-manufacturing is studied through the application of the binary logistic model. Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. The share of manufacturing to GDP was highest for Gujarat followed by Tamil Nadu and Maharashtra. The manufacturing sector is the second largest employment provider after agriculture and allied activities. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. Females participation in the non-manufacturing oriented nonfarm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled Castes (SCs) have been entering non-manufacturing oriented non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented nonfarm sector in the country. Interestingly Tamil Nadu large family (9-12) high probability of entering the non-manufacturing oriented nonfarm sector. Individuals from the age group of 30-59 exhibited the higher participation in the non-manufacturing oriented nonfarm sector both in India and Tamil Nadu. Graduates and higher educated likely to non-manufacturing over manufacturing both in India and Tamil Nadu.Landholding household more likely to participate in the non-manufacturing nonfarm sector in comparison to landless households in the country. Interestingly members from marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing nonfarm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu during 2009-10. Interestingly during 1993-

94 Technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu.Theenter of the SCs and STs in nonfarm sector shows the distress oriented growth of non-manufacturing sector. They may be might be accommodated in the low level activity in service sector. The increase in landholding household in non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.

The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. There has been a steady transformation of state economy towards the non-farm sector, resulting in declining share of the agriculture sector to NSDP. The proportion of the rural population to total population is declining.However, the agriculture sector still continues to play an important role as it provides livelihood and food security for a large section of the population. The principal food crops in the state are paddy, millets, and pulses. The commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chilies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom, and rubber. Major forest produces are timber, sandalwood, pulpwood, and fuelwood.The earlier chapters based on secondary data showed a steady expansion in the non-farm sector both at all India and Tamil Nadu. Hitherto, the focus was on characteristics of the rural non-farm sector in both all India and Tamil Nadu. The present chapter is an investigation into the broad characteristics of non-farm sector in two villages of Namakkal district, Tamil Nadu. Tamil Nadu has been divided into seven agro-ecological zones. The first village, Thirumangalam of Tirchengodu taluk is present in the western zone of agro-ecological zones and the Second village Irrunatai of ParamathiVelur taluk is present in North Eastern zone. These two villages selected based on the nature of the irrigation facility and the distance from the nearest town. Thirumangalam is dry village which has no perennial source of Irrigation and the major source of irrigation are wells\bore wells and rain-fed. The Irrunatai is a wet village which has canal irrigation facility along with wells and bore wells.In a general context of an increase in the non-farm sector and urbanization in Tamil Nadu, this chapter would like to analysis the nature of rural non-farm sector in two villages in Tamil Nadu. One of the villages in an irrigated village and the second village is a non-irrigated village.

The chapter five examines the nature of rural nonfarm sector in two villages in Tamil Nadu.In specific the study would analysis whether households shifting to completely to non-farm sector

or are one is plural households increasing in rural areas?.The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. Namakkal district has the majority of the small scale industries are related to lorry building, weaving industry and food processing units. In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities.There has been a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in the nonfarm sector particularly others activities in the district..Both villages has major share of backward castes.There is no Scheduled Tribe in both villages. In Thirumangalam the large land holders were absent, while correspondingly in Irrunatai the large farmer's group owned small percent of total land owned. There was no difference between the land owned and land operated. In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irrunatai(wet) village the marginal farmers were gainers.Commerical crops grown in the villages were supporting the demands of the food processing units in Salem and Namakkal districts. In both surveyed villages, major share of households is in mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income.The SC households in Thirumangalam(dry) village diversified more in favour of the nonfarm sector than Irrunatai(wet) village. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households.landless& marginal landholders may prefer as the nonfarm sector as a survival mechanism.Mixed household cultivated large share of high-risk profit crops like tapioca, sugarcane etc compared to rest of household groups.Interestingly mixed household also cultivated major food crops like Jowar etc. In both villages the major chunk of males are engaged in non-farm sector.There is the preference for the males in favour of non-farm sector compared to females.females were more engaged in the farm sector shows the feminisation of the agriculture.The emergence of the industries in the nearby towns also is the reason for the diversification of the males.There is less number of traditional occupations in dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irrunatai(wet) village, a number of individuals are engaged in the modern nonfarm sector compared to Thirumangalam(dry) village. Individuals are mostly engaged in modern nonfarm activities in intra-village and nearby rural towns like that of

construction works, sago factory, bore well works etc in both surveyed villages.However, both village shows the diversification of some individual in both villages in big cities for employment.Industries located nearby like sago factory, power looms, borewellsetc influence the employment in the both villages.In both villages landless,small and marginal landholders moving towards nonfarm sector shows distress led diversification.Males in the large number are shifting from dry village in distress led transformation.The availability of employment opporunities in the rural towns has strong influence in the migration of labourers from villages .Overall distress component has a primary role in the growth of the rural non-farm sector.

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Synopsis of the Doctoral Research

Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu

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SYNOPSIS

Nature and characteristics of households in rural non-farm sector: a study on Tamil Nadu

A synopsis submitted to the University of Hyderabad Prior to the submission of Doctoral Thesis

The development process as the context of many of the developing countries doesn't show to the stylized pattern of structural transformation or dual economy models. India the patterns of structural transformation has been steadily changing from agriculture to services sector bypassing the manufacturing sector. The employment structure is changing not in favor of the urban modern sector, agriculture sector still holds half of workforce in agriculture. Rural nonfarm sector generates employment in rural areas. The employment in the farm sector is shrinking in the country. The rural nonfarm sector is being seen as an important as a source of rural employment in last few decades. There are two sets of literature in Indian context explaining the process of growth in rural nonfarm sector .One set of literature identify that the growth of rural nonfarm sector in Indian context is depend upon agriculture led growth. The second set of literature analyses the rural nonfarm sector as case of distress led growth.Agriculture led growth led diversification statesthat growth of agriculture sector led to increasing in income of farmers and labourers which led to the growth of the rural nonfarm sector. Another view is distress oriented hypothesis which states that present which stated that agriculture sector failed to absorb the surplus labour in agriculture, hence the labour have to settle in the low productive nonfarm sector. There is little doubt in early stages in development in the rural nonfarm sector remained in intertwined with agriculture.Durning the later stage of development new technological, market access, income, and commercialization of agriculture pull forces in high agricultural zones. In the stagnant rural zones in falling agriculture productivity and income, high population growth and landlessness push the labour force into nonfarm activity.Though agriculture continues to be a large employer in the country with decline employment elasticities.agriculture growth stimulate the growth of rural nonfarm sector or agricultural stagnation(distress diversification) compels the growth of nonfarm sector?This thesis seeks to test distress diversification against growth linkages as the reason of rural nonfarm employment. The agriculture growth linkages higher agriculture income or employment tend to cause faster growth the rural nonfarm sector.Then distress diversification hypothesis is opposite hypothesis that lower agriculture performance causes faster growth rural nonfarm sector.

The rural nonfarm sector is a complex phenomenon. There is a wide variation in terms of extent rural nonfarm sector in terms of agro-climate and socio-economic structure in the rural India. The present study is an attempt to understand whether of growth of the rural nonfarm sector is a new reservoir in the economy. In the Introductory chapter discuss the problem and importance of rural nonfarm sector.The rural nonfarm sector can be defined as all activities in rural areas except agriculture. There also discussion of theories &empirical trends related to the rural nonfarm sector. The objective of the study is discussed and along with a plan of the study.

Objective of the thesis

The thesis has four objectives in the context of growth of rural non-farm sector and regional differences in rural non-farm sector.

1) Can states be classified in two groups/clusters based on rural non-farm sector and the factors influencing the grouping?
2) Who are the Households moving into the rural non-farm sector, Landless labourers or cultivators?
3) Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?
4) Is there a transition of households from agricultural household in the rural non-farm sector or to 'plural' households?

The present study focus on the aggregate picture on the rural nonfarm sector and the Tamil Nadu based on the NSSO unit level data. In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector in India and Tamil Nadu. There yet study based on the NSSO unit level data in the literature are few.

The data have been collected from primary and secondary sources. Secondary sources consist of NSSO reports on employment and unemployment in India (1983, 1993-94, 1999-00, 2004-05, 2007-08 and 2009-10), Sarveskhana April 1989, Statistical abstract 1989, EPW Foundation and District census handbook of Namakkal. The statistics on employment and unemployment can be obtained from census and sample survey conducted by NSSO.Our inquiry is based on NSSO Employment and unemployment unit level data from rounds 38^{th} round(1983) to 66^{th}

round(2009-10) to assess the distribution of the rural workers usually employed in the non-farm sector across employment status. Unit level data used from the five quinquennial rounds, Employment, and unemployment rounds.Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) for the Logistic regression for All India and Tamilnadu.A primary survey conducted in two villages in Namakkal district in the state of Tamilnadu.It addition Sarveskhana journal data and land statistics also been used.Reports and Unit level data used from the five quinquennial rounds,Employment and unemployment rounds 38^{th}(1983),50^{th}(1993-94),55^{th} (1999-2000),61^{st} (2004-05) and 66^{th} (2009-10) have used for analysis of the distribution of the rural workers usually employed in the non-farm sector across employment status.The micro level cross-sectional data were collected to assess the nature of nonfarm employment and its broad determinants for the study.A field study was conducted in Nov-Dec 2012 through a structured questionnaire to do a complete census-type survey in Two villages in the district.

In India, there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan 1986, dev 1993, Jatav& Sen 2013). At all India level as well in most of the state's nonfarm sector grow significantly (Bhaumik 2002). The growth of the rural nonfarm sector is highest in Kerala, West Bengal and Tamilnadu& lowest in Chattisgarh, MadhyaPradesh, followed by Uttarakhand, Karnataka, Gujarat, and Maharastra(World Bank 2010). Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the secondary sector.(Vaidyanathan 1986, Hans Binswanger 2013). There is a low share of manufacturing in economy and growth of employment. The rural nonfarm sector displays a wide range of heterogeneity both in terms of sectors and employment.

In second chapter seeks to assess trends and nature of employment in rural nonfarm sector in India and states.Toidentify these are groups in terms of states performance of rural non-farm sector. At all India level as well in most of the state's nonfarm sector growth is significant.The rate of growth rural nonfarm sector is different. Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the manufacturing sector. The growth of nonfarm jobs in India has primarily from an increase in services, transport, and construction. Rural males tend to have an advantage over females in nonfarm employment in the country.

Casual labourers for both males and females is increased in the country. There is also decline in self-employed activities among the males and females. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities.There a large number of factors such as agriculture growth, literacy, urbanization, government policies reason for variation among the different states. There variables selected for the discriminant functions for estimating the determinants of the rural nonfarm sector are the area under food crops, the area under non-food crops, unemployment rates, irrigation and percapita income. Unemployment rates is distress factors, while the area under food crops, the area under non-food crops, per capita income and irrigation is growth-related variables.There is variation is formation of groups among states between 1983 and 2009-10.During 1983 the distress factors such as unemployment rate among males and females in rural areas were important in formation of group among low and high nonfarm states , while In 2009-10 commercialisation of agriculture and unemployment among males were important for the growth low and high nonfarm sector. There was distress led factors influencing the growth of nonfarm sector among the states in the eighties, while the mix of growth and distress factors reason for the growth of the nonfarm sector in 2009-10.

There are two important trends on employment seen on Indian economy in the recent period. One is the steady decline in the share of farm households in the rural area and the second is the secular increase in the share of households in the rural non-farm sector. The occupational or employment pattern remained constant in India till the 1950s and 1960s but there was a change after 1970 with the increase in employment in the nonfarm sector in the country (Himanshu et.al, 2009). At all India, there is a decline in the share of farm households in the rural areas and secondly, there is a secular increase in the share of households in the rural non-farm sector. There may distress and development factors influencing the transformation of the rural nonfarm sector. In India, various scholars have founded two major drives for the growth of the rural nonfarm sector agricultural-led diversification and distress led diversification. There might distress growth led factors or a mix of both factors impacts of the nonfarm sector. It is very difficult to articulate the growth of the nonfarm sector. Income, Landownership, education, infrastructure etc. impacts of the growth of the nonfarm sector. For the policy perspective, it is important to understand individuals entering the rural nonfarm sector. The various studies have

shown variables such as agricultural growth, commercialization, education, and land size etc which related to growth or distress factors.

In the Third chapter, attempts to analyze two features. One has there been a steady increase in the share of households in the rural non-farm sector. Two, what are the characteristics of households who are moving into the rural non-farm sector. Are the poor – distress driven households moving into the non-farm sector or are the resource-rich households moving out of the farm sector. Tamil Nadu is a state with a relatively more important role for Industry in terms of employment as well as a share of income originating from the non-primary sector. An implication of this is that share of households dependent on the farm sector has declined more when compared to the all-India trend. This could be either due to demand-pull by industry, or supply push from agriculture as water from Kaveri River dried up (Janakarajan 2016).Given the context, one would expect a difference in the nature of households entering the rural non-farm sector in the state of Tamil Nadu. So the second set of issues being studied in the chapter is the nature and composition of the rural non-farm sector in Tamil Nadu. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agriculture at All India level as well as Tamil Nadu. All India level, as well as Tamil Nadu the share for Scheduled Castes (SCs), is also declining for the farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. Scheduled Tribes (STs) and Other Backward Castes (OBCs) share in the farm sector are increasing in both at All India and Tamil Nadu level. All India the casual labourers in urban fixed location is on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the farm or non-farm sector is studied through the application of the binary logistic model .The females participation in the nonfarm sector is lower than males both India and Tamil Nadu. Individuals from the age group of 30-59 showed higher participation in the nonfarm sector. Interestingly in Tamil Nadu young population has more chance of entering the nonfarm sector. OBCs and general castes have a high probability of entering nonfarm sector

than marginalized social groups at All India level and Tamil Nadu. Members of large household size were entering nonfarm sector at all India level. Interestingly in Tamil Nadu small family have preferred to enter the nonfarm sector in both periods. Literate seems to participate more in the nonfarm sector compared to the Illiterate. Landless are more likely to participate in the nonfarm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector. We can conclude that largely distress oriented factors has major role in individual to enter the non-fam sector. In Tamil Nadu though distress factors plays a significant role in the growth of nonfarm sector. There are various pull factors such as high manufacturing activities etc. has role for the shifting of individuals to nonfarm sector.

The economic development of an economy should follow a pattern of structural change from primary to secondary to tertiary. The structure of Indian economy in terms of the composition of output has been steadily changing over the last few decades. If one analysis share of income, the economy moved from primary sector dominated to service sector dominated economy. In this process of transformation the secondary sector, especially the manufacturing sector has been bypassed. Agriculture continues to provide employment to a large section of the peoples. The share of households depended on farm sector is decreasing overtime but not in comparison to decreasing in the share of income from agriculture. Though the service sector contribution to output has risen at a faster rate, in terms of employment its share is meager. The manufacturing sector share both in terms of output and employment remains stagnant since decades. This has led the researcher to claim that, the structural transformation in India to be stunted one (Hans Binswanger, 2013). This has been the all-India trend, but regional specificities exist. States like Tamilnadu, Gujarat, and Maharashtra are states where manufacturing are relatively more important both in terms of share in income originating from the sector as well as in the share of individuals employed in the sector. The post-reform period saw a growth of the rural nonfarm sector. The recent period has seen a rise in the construction boom and slowdown in the manufacturing sector. Hence here an attempt is made to identify constraining factors to the entry of individuals into the manufacturing sector. Tamil Nadu has a large share of the industrial and urban base in the country. In Tamil Nadu, rural agriculture sector and rural labor market tend to

be integrated with commercial, industrial economic center. The manufacturing sector in Tamil Nadu has wide base than average India while rural services have been growing faster in the state (Ramaswamy 2007). The present chapter is a continuation of earlier chapter observed that inadequate opportunities in the farm sector forced labor to move to the nonfarm sector. The study focused on whether there are significant entry barriers to entering the manufacturing sector.

Chapter fourth, focus on the characteristics of Individuals who entering the manufacturing or non-manufacturing rural nonfarm sector. The different factors which influence at individuals level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural nonfarm sector at India and Tamil Nadu. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the rural manufacturing or non-manufacturing is studied through the application of the binary logistic model. Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. The share of manufacturing to GDP was highest for Gujarat followed by Tamil Nadu and Maharashtra. The manufacturing sector is the second largest employment provider after agriculture and allied activities. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. Females participation in the non-manufacturing oriented nonfarm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled Castes (SCs) have been entering non-manufacturing oriented non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented nonfarm sector in the country. Interestingly Tamil Nadu large family (9-12) high probability of entering the non-manufacturing oriented nonfarm sector. Individuals from the age group of 30-59 exhibited the higher participation in the non-manufacturing oriented nonfarm sector both in India and Tamil Nadu. Graduates and higher educated likely to non-manufacturing over manufacturing both in India and Tamil Nadu.Landholding household more likely to participate in the non-manufacturing nonfarm sector in comparison to landless households in the country. Interestingly members from marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing nonfarm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu during 2009-10. Interestingly during 1993-

94 Technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu.Theenter of the SCs and STs in nonfarm sector shows the distress oriented growth of non-manufacturing sector. They may be might be accommodated in the low level activity in service sector. The increase in landholding household in non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.

The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. There has been a steady transformation of state economy towards the non-farm sector, resulting in declining share of the agriculture sector to NSDP. The proportion of the rural population to total population is declining.However, the agriculture sector still continues to play an important role as it provides livelihood and food security for a large section of the population. The principal food crops in the state are paddy, millets, and pulses. The commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chilies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom, and rubber. Major forest produces are timber, sandalwood, pulpwood, and fuelwood.The earlier chapters based on secondary data showed a steady expansion in the non-farm sector both at all India and Tamil Nadu. Hitherto, the focus was on characteristics of the rural non-farm sector in both all India and Tamil Nadu. The present chapter is an investigation into the broad characteristics of non-farm sector in two villages of Namakkal district, Tamil Nadu. Tamil Nadu has been divided into seven agro-ecological zones. The first village, Thirumangalam of Tirchengodu taluk is present in the western zone of agro-ecological zones and the Second village Irrunatai of ParamathiVelur taluk is present in North Eastern zone. These two villages selected based on the nature of the irrigation facility and the distance from the nearest town. Thirumangalam is dry village which has no perennial source of Irrigation and the major source of irrigation are wells\bore wells and rain-fed. The Irrunatai is a wet village which has canal irrigation facility along with wells and bore wells.In a general context of an increase in the non-farm sector and urbanization in Tamil Nadu, this chapter would like to analysis the nature of rural non-farm sector in two villages in Tamil Nadu. One of the villages in an irrigated village and the second village is a non-irrigated village.

The chapter five examines the nature of rural nonfarm sector in two villages in Tamil Nadu.In specific the study would analysis whether households shifting to completely to non-farm sector

or are one is plural households increasing in rural areas?.The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. Namakkal district has the majority of the small scale industries are related to lorry building, weaving industry and food processing units. In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities.There has been a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in the nonfarm sector particularly others activities in the district..Both villages has major share of backward castes.There is no Scheduled Tribe in both villages. In Thirumangalam the large land holders were absent, while correspondingly in Irrunatai the large farmer's group owned small percent of total land owned. There was no difference between the land owned and land operated. In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irrunatai(wet) village the marginal farmers were gainers.Commerical crops grown in the villages were supporting the demands of the food processing units in Salem and Namakkal districts. In both surveyed villages, major share of households is in mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income.The SC households in Thirumangalam(dry) village diversified more in favour of the nonfarm sector than Irrunatai(wet) village. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households.landless& marginal landholders may prefer as the nonfarm sector as a survival mechanism.Mixed household cultivated large share of high-risk profit crops like tapioca, sugarcane etc compared to rest of household groups.Interestingly mixed household also cultivated major food crops like Jowar etc. In both villages the major chunk of males are engaged in non-farm sector.There is the preference for the males in favour of non-farm sector compared to females.females were more engaged in the farm sector shows the feminisation of the agriculture.The emergence of the industries in the nearby towns also is the reason for the diversification of the males.There is less number of traditional occupations in dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irrunatai(wet) village, a number of individuals are engaged in the modern nonfarm sector compared to Thirumangalam(dry) village. Individuals are mostly engaged in modern nonfarm activities in intra-village and nearby rural towns like that of

construction works, sago factory, bore well works etc in both surveyed villages.However, both village shows the diversification of some individual in both villages in big cities for employment.Industries located nearby like sago factory, power looms, borewellsetc influence the employment in the both villages.In both villages landless,small and marginal landholders moving towards nonfarm sector shows distress led diversification.Males in the large number are shifting from dry village in distress led transformation.The availability of employment opporunities in the rural towns has strong influence in the migration of labourers from villages .Overall distress component has a primary role in the growth of the rural non-farm sector.

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Synopsis of the Doctoral Research

Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu

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SYNOPSIS

Nature and characteristics of households in rural non-farm sector: a study on Tamil Nadu

A synopsis submitted to the University of Hyderabad Prior to the submission of Doctoral Thesis

The development process as the context of many of the developing countries doesn't show to the stylized pattern of structural transformation or dual economy models. India the patterns of structural transformation has been steadily changing from agriculture to services sector bypassing the manufacturing sector. The employment structure is changing not in favor of the urban modern sector, agriculture sector still holds half of workforce in agriculture. Rural nonfarm sector generates employment in rural areas. The employment in the farm sector is shrinking in the country. The rural nonfarm sector is being seen as an important as a source of rural employment in last few decades. There are two sets of literature in Indian context explaining the process of growth in rural nonfarm sector .One set of literature identify that the growth of rural nonfarm sector in Indian context is depend upon agriculture led growth. The second set of literature analyses the rural nonfarm sector as case of distress led growth.Agriculture led growth led diversification statesthat growth of agriculture sector led to increasing in income of farmers and labourers which led to the growth of the rural nonfarm sector. Another view is distress oriented hypothesis which states that present which stated that agriculture sector failed to absorb the surplus labour in agriculture, hence the labour have to settle in the low productive nonfarm sector. There is little doubt in early stages in development in the rural nonfarm sector remained in intertwined with agriculture.Durning the later stage of development new technological, market access, income, and commercialization of agriculture pull forces in high agricultural zones. In the stagnant rural zones in falling agriculture productivity and income, high population growth and landlessness push the labour force into nonfarm activity.Though agriculture continues to be a large employer in the country with decline employment elasticities.agriculture growth stimulate the growth of rural nonfarm sector or agricultural stagnation(distress diversification) compels the growth of nonfarm sector?This thesis seeks to test distress diversification against growth linkages as the reason of rural nonfarm employment. The agriculture growth linkages higher agriculture income or employment tend to cause faster growth the rural nonfarm sector.Then distress diversification hypothesis is opposite hypothesis that lower agriculture performance causes faster growth rural nonfarm sector.

The rural nonfarm sector is a complex phenomenon. There is a wide variation in terms of extent rural nonfarm sector in terms of agro-climate and socio-economic structure in the rural India. The present study is an attempt to understand whether of growth of the rural nonfarm sector is a new reservoir in the economy. In the Introductory chapter discuss the problem and importance of rural nonfarm sector.The rural nonfarm sector can be defined as all activities in rural areas except agriculture. There also discussion of theories &empirical trends related to the rural nonfarm sector. The objective of the study is discussed and along with a plan of the study.

Objective of the thesis

The thesis has four objectives in the context of growth of rural non-farm sector and regional differences in rural non-farm sector.

1) Can states be classified in two groups/clusters based on rural non-farm sector and the factors influencing the grouping?
2) Who are the Households moving into the rural non-farm sector, Landless labourers or cultivators?
3) Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?
4) Is there a transition of households from agricultural household in the rural non-farm sector or to 'plural' households?

The present study focus on the aggregate picture on the rural nonfarm sector and the Tamil Nadu based on the NSSO unit level data. In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector in India and Tamil Nadu. There yet study based on the NSSO unit level data in the literature are few.

The data have been collected from primary and secondary sources. Secondary sources consist of NSSO reports on employment and unemployment in India (1983, 1993-94, 1999-00, 2004-05, 2007-08 and 2009-10), Sarveskhana April 1989, Statistical abstract 1989, EPW Foundation and District census handbook of Namakkal. The statistics on employment and unemployment can be obtained from census and sample survey conducted by NSSO.Our inquiry is based on NSSO Employment and unemployment unit level data from rounds 38^{th} round(1983) to 66^{th}

round(2009-10) to assess the distribution of the rural workers usually employed in the non-farm sector across employment status. Unit level data used from the five quinquennial rounds, Employment, and unemployment rounds.Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) for the Logistic regression for All India and Tamilnadu.A primary survey conducted in two villages in Namakkal district in the state of Tamilnadu.It addition Sarveskhana journal data and land statistics also been used.Reports and Unit level data used from the five quinquennial rounds,Employment and unemployment rounds 38^{th}(1983),50^{th}(1993-94),55^{th} (1999-2000),61^{st} (2004-05) and 66^{th} (2009-10) have used for analysis of the distribution of the rural workers usually employed in the non-farm sector across employment status.The micro level cross-sectional data were collected to assess the nature of nonfarm employment and its broad determinants for the study.A field study was conducted in Nov-Dec 2012 through a structured questionnaire to do a complete census-type survey in Two villages in the district.

In India, there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan 1986, dev 1993, Jatav& Sen 2013). At all India level as well in most of the state's nonfarm sector grow significantly (Bhaumik 2002). The growth of the rural nonfarm sector is highest in Kerala, West Bengal and Tamilnadu& lowest in Chattisgarh, MadhyaPradesh, followed by Uttarakhand, Karnataka, Gujarat, and Maharastra(World Bank 2010). Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the secondary sector.(Vaidyanathan 1986, Hans Binswanger 2013). There is a low share of manufacturing in economy and growth of employment. The rural nonfarm sector displays a wide range of heterogeneity both in terms of sectors and employment.

In second chapter seeks to assess trends and nature of employment in rural nonfarm sector in India and states.Toidentify these are groups in terms of states performance of rural non-farm sector. At all India level as well in most of the state's nonfarm sector growth is significant.The rate of growth rural nonfarm sector is different. Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the manufacturing sector. The growth of nonfarm jobs in India has primarily from an increase in services, transport, and construction. Rural males tend to have an advantage over females in nonfarm employment in the country.

Casual labourers for both males and females is increased in the country. There is also decline in self-employed activities among the males and females. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities.There a large number of factors such as agriculture growth, literacy, urbanization, government policies reason for variation among the different states. There variables selected for the discriminant functions for estimating the determinants of the rural nonfarm sector are the area under food crops, the area under non-food crops, unemployment rates, irrigation and percapita income. Unemployment rates is distress factors, while the area under food crops, the area under non-food crops, per capita income and irrigation is growth-related variables.There is variation is formation of groups among states between 1983 and 2009-10.During 1983 the distress factors such as unemployment rate among males and females in rural areas were important in formation of group among low and high nonfarm states , while In 2009-10 commercialisation of agriculture and unemployment among males were important for the growth low and high nonfarm sector. There was distress led factors influencing the growth of nonfarm sector among the states in the eighties, while the mix of growth and distress factors reason for the growth of the nonfarm sector in 2009-10.

There are two important trends on employment seen on Indian economy in the recent period. One is the steady decline in the share of farm households in the rural area and the second is the secular increase in the share of households in the rural non-farm sector. The occupational or employment pattern remained constant in India till the 1950s and 1960s but there was a change after 1970 with the increase in employment in the nonfarm sector in the country (Himanshu et.al, 2009). At all India, there is a decline in the share of farm households in the rural areas and secondly, there is a secular increase in the share of households in the rural non-farm sector. There may distress and development factors influencing the transformation of the rural nonfarm sector. In India, various scholars have founded two major drives for the growth of the rural nonfarm sector agricultural-led diversification and distress led diversification. There might distress growth led factors or a mix of both factors impacts of the nonfarm sector. It is very difficult to articulate the growth of the nonfarm sector. Income, Landownership, education, infrastructure etc. impacts of the growth of the nonfarm sector. For the policy perspective, it is important to understand individuals entering the rural nonfarm sector. The various studies have

shown variables such as agricultural growth, commercialization, education, and land size etc which related to growth or distress factors.

In the Third chapter, attempts to analyze two features. One has there been a steady increase in the share of households in the rural non-farm sector. Two, what are the characteristics of households who are moving into the rural non-farm sector. Are the poor – distress driven households moving into the non-farm sector or are the resource-rich households moving out of the farm sector. Tamil Nadu is a state with a relatively more important role for Industry in terms of employment as well as a share of income originating from the non-primary sector. An implication of this is that share of households dependent on the farm sector has declined more when compared to the all-India trend. This could be either due to demand-pull by industry, or supply push from agriculture as water from Kaveri River dried up (Janakarajan 2016).Given the context, one would expect a difference in the nature of households entering the rural non-farm sector in the state of Tamil Nadu. So the second set of issues being studied in the chapter is the nature and composition of the rural non-farm sector in Tamil Nadu. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agriculture at All India level as well as Tamil Nadu. All India level, as well as Tamil Nadu the share for Scheduled Castes (SCs), is also declining for the farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. Scheduled Tribes (STs) and Other Backward Castes (OBCs) share in the farm sector are increasing in both at All India and Tamil Nadu level. All India the casual labourers in urban fixed location is on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the farm or non-farm sector is studied through the application of the binary logistic model .The females participation in the nonfarm sector is lower than males both India and Tamil Nadu. Individuals from the age group of 30-59 showed higher participation in the nonfarm sector. Interestingly in Tamil Nadu young population has more chance of entering the nonfarm sector. OBCs and general castes have a high probability of entering nonfarm sector

than marginalized social groups at All India level and Tamil Nadu. Members of large household size were entering nonfarm sector at all India level. Interestingly in Tamil Nadu small family have preferred to enter the nonfarm sector in both periods. Literate seems to participate more in the nonfarm sector compared to the Illiterate. Landless are more likely to participate in the nonfarm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector. We can conclude that largely distress oriented factors has major role in individual to enter the non-fam sector. In Tamil Nadu though distress factors plays a significant role in the growth of nonfarm sector. There are various pull factors such as high manufacturing activities etc. has role for the shifting of individuals to nonfarm sector.

The economic development of an economy should follow a pattern of structural change from primary to secondary to tertiary. The structure of Indian economy in terms of the composition of output has been steadily changing over the last few decades. If one analysis share of income, the economy moved from primary sector dominated to service sector dominated economy. In this process of transformation the secondary sector, especially the manufacturing sector has been bypassed. Agriculture continues to provide employment to a large section of the peoples. The share of households depended on farm sector is decreasing overtime but not in comparison to decreasing in the share of income from agriculture. Though the service sector contribution to output has risen at a faster rate, in terms of employment its share is meager. The manufacturing sector share both in terms of output and employment remains stagnant since decades. This has led the researcher to claim that, the structural transformation in India to be stunted one (Hans Binswanger, 2013). This has been the all-India trend, but regional specificities exist. States like Tamilnadu, Gujarat, and Maharashtra are states where manufacturing are relatively more important both in terms of share in income originating from the sector as well as in the share of individuals employed in the sector. The post-reform period saw a growth of the rural nonfarm sector. The recent period has seen a rise in the construction boom and slowdown in the manufacturing sector. Hence here an attempt is made to identify constraining factors to the entry of individuals into the manufacturing sector. Tamil Nadu has a large share of the industrial and urban base in the country. In Tamil Nadu, rural agriculture sector and rural labor market tend to

be integrated with commercial, industrial economic center. The manufacturing sector in Tamil Nadu has wide base than average India while rural services have been growing faster in the state (Ramaswamy 2007). The present chapter is a continuation of earlier chapter observed that inadequate opportunities in the farm sector forced labor to move to the nonfarm sector. The study focused on whether there are significant entry barriers to entering the manufacturing sector.

Chapter fourth, focus on the characteristics of Individuals who entering the manufacturing or non-manufacturing rural nonfarm sector. The different factors which influence at individuals level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural nonfarm sector at India and Tamil Nadu. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the rural manufacturing or non-manufacturing is studied through the application of the binary logistic model. Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. The share of manufacturing to GDP was highest for Gujarat followed by Tamil Nadu and Maharashtra. The manufacturing sector is the second largest employment provider after agriculture and allied activities. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. Females participation in the non-manufacturing oriented nonfarm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled Castes (SCs) have been entering non-manufacturing oriented non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented nonfarm sector in the country. Interestingly Tamil Nadu large family (9-12) high probability of entering the non-manufacturing oriented nonfarm sector. Individuals from the age group of 30-59 exhibited the higher participation in the non-manufacturing oriented nonfarm sector both in India and Tamil Nadu. Graduates and higher educated likely to non-manufacturing over manufacturing both in India and Tamil Nadu.Landholding household more likely to participate in the non-manufacturing nonfarm sector in comparison to landless households in the country. Interestingly members from marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing nonfarm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu during 2009-10. Interestingly during 1993-

94 Technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu.Theenter of the SCs and STs in nonfarm sector shows the distress oriented growth of non-manufacturing sector. They may be might be accommodated in the low level activity in service sector. The increase in landholding household in non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.

The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. There has been a steady transformation of state economy towards the non-farm sector, resulting in declining share of the agriculture sector to NSDP. The proportion of the rural population to total population is declining.However, the agriculture sector still continues to play an important role as it provides livelihood and food security for a large section of the population. The principal food crops in the state are paddy, millets, and pulses. The commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chilies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom, and rubber. Major forest produces are timber, sandalwood, pulpwood, and fuelwood.The earlier chapters based on secondary data showed a steady expansion in the non-farm sector both at all India and Tamil Nadu. Hitherto, the focus was on characteristics of the rural non-farm sector in both all India and Tamil Nadu. The present chapter is an investigation into the broad characteristics of non-farm sector in two villages of Namakkal district, Tamil Nadu. Tamil Nadu has been divided into seven agro-ecological zones. The first village, Thirumangalam of Tirchengodu taluk is present in the western zone of agro-ecological zones and the Second village Irrunatai of ParamathiVelur taluk is present in North Eastern zone. These two villages selected based on the nature of the irrigation facility and the distance from the nearest town. Thirumangalam is dry village which has no perennial source of Irrigation and the major source of irrigation are wells\bore wells and rain-fed. The Irrunatai is a wet village which has canal irrigation facility along with wells and bore wells.In a general context of an increase in the non-farm sector and urbanization in Tamil Nadu, this chapter would like to analysis the nature of rural non-farm sector in two villages in Tamil Nadu. One of the villages in an irrigated village and the second village is a non-irrigated village.

The chapter five examines the nature of rural nonfarm sector in two villages in Tamil Nadu.In specific the study would analysis whether households shifting to completely to non-farm sector

or are one is plural households increasing in rural areas?.The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. Namakkal district has the majority of the small scale industries are related to lorry building, weaving industry and food processing units. In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities.There has been a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in the nonfarm sector particularly others activities in the district..Both villages has major share of backward castes.There is no Scheduled Tribe in both villages. In Thirumangalam the large land holders were absent, while correspondingly in Irrunatai the large farmer's group owned small percent of total land owned. There was no difference between the land owned and land operated. In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irrunatai(wet) village the marginal farmers were gainers.Commerical crops grown in the villages were supporting the demands of the food processing units in Salem and Namakkal districts. In both surveyed villages, major share of households is in mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income.The SC households in Thirumangalam(dry) village diversified more in favour of the nonfarm sector than Irrunatai(wet) village. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households.landless& marginal landholders may prefer as the nonfarm sector as a survival mechanism.Mixed household cultivated large share of high-risk profit crops like tapioca, sugarcane etc compared to rest of household groups.Interestingly mixed household also cultivated major food crops like Jowar etc. In both villages the major chunk of males are engaged in non-farm sector.There is the preference for the males in favour of non-farm sector compared to females.females were more engaged in the farm sector shows the feminisation of the agriculture.The emergence of the industries in the nearby towns also is the reason for the diversification of the males.There is less number of traditional occupations in dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irrunatai(wet) village, a number of individuals are engaged in the modern nonfarm sector compared to Thirumangalam(dry) village. Individuals are mostly engaged in modern nonfarm activities in intra-village and nearby rural towns like that of

construction works, sago factory, bore well works etc in both surveyed villages.However, both village shows the diversification of some individual in both villages in big cities for employment.Industries located nearby like sago factory, power looms, borewellsetc influence the employment in the both villages.In both villages landless,small and marginal landholders moving towards nonfarm sector shows distress led diversification.Males in the large number are shifting from dry village in distress led transformation.The availability of employment opporunities in the rural towns has strong influence in the migration of labourers from villages .Overall distress component has a primary role in the growth of the rural non-farm sector.

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Synopsis of the Doctoral Research

Nature and Characteristics of Households in the Rural Non-Farm Sector: A Study on Tamil Nadu

By

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SYNOPSIS

Nature and characteristics of households in rural non-farm sector: a study on Tamil Nadu

A synopsis submitted to the University of Hyderabad Prior to the submission of Doctoral Thesis

The development process as the context of many of the developing countries doesn't show to the stylized pattern of structural transformation or dual economy models. India the patterns of structural transformation has been steadily changing from agriculture to services sector bypassing the manufacturing sector. The employment structure is changing not in favor of the urban modern sector, agriculture sector still holds half of workforce in agriculture. Rural nonfarm sector generates employment in rural areas. The employment in the farm sector is shrinking in the country. The rural nonfarm sector is being seen as an important as a source of rural employment in last few decades. There are two sets of literature in Indian context explaining the process of growth in rural nonfarm sector .One set of literature identify that the growth of rural nonfarm sector in Indian context is depend upon agriculture led growth. The second set of literature analyses the rural nonfarm sector as case of distress led growth.Agriculture led growth led diversification statesthat growth of agriculture sector led to increasing in income of farmers and labourers which led to the growth of the rural nonfarm sector. Another view is distress oriented hypothesis which states that present which stated that agriculture sector failed to absorb the surplus labour in agriculture, hence the labour have to settle in the low productive nonfarm sector. There is little doubt in early stages in development in the rural nonfarm sector remained in intertwined with agriculture.Durning the later stage of development new technological, market access, income, and commercialization of agriculture pull forces in high agricultural zones. In the stagnant rural zones in falling agriculture productivity and income, high population growth and landlessness push the labour force into nonfarm activity.Though agriculture continues to be a large employer in the country with decline employment elasticities.agriculture growth stimulate the growth of rural nonfarm sector or agricultural stagnation(distress diversification) compels the growth of nonfarm sector?This thesis seeks to test distress diversification against growth linkages as the reason of rural nonfarm employment. The agriculture growth linkages higher agriculture income or employment tend to cause faster growth the rural nonfarm sector.Then distress diversification hypothesis is opposite hypothesis that lower agriculture performance causes faster growth rural nonfarm sector.

The rural nonfarm sector is a complex phenomenon. There is a wide variation in terms of extent rural nonfarm sector in terms of agro-climate and socio-economic structure in the rural India. The present study is an attempt to understand whether of growth of the rural nonfarm sector is a new reservoir in the economy. In the Introductory chapter discuss the problem and importance of rural nonfarm sector.The rural nonfarm sector can be defined as all activities in rural areas except agriculture. There also discussion of theories &empirical trends related to the rural nonfarm sector. The objective of the study is discussed and along with a plan of the study.

Objective of the thesis

The thesis has four objectives in the context of growth of rural non-farm sector and regional differences in rural non-farm sector.

1) Can states be classified in two groups/clusters based on rural non-farm sector and the factors influencing the grouping?
2) Who are the Households moving into the rural non-farm sector, Landless labourers or cultivators?
3) Is the nature of rural non-farm sector different in Tamil Nadu, a state with higher share of industrialization?
4) Is there a transition of households from agricultural household in the rural non-farm sector or to 'plural' households?

The present study focus on the aggregate picture on the rural nonfarm sector and the Tamil Nadu based on the NSSO unit level data. In the existing literature, the choice between farm and the non-farm sector has been studied but not the choice between manufacturing and non-manufacturing employment pattern in the rural non-farm sector in India and Tamil Nadu. There yet study based on the NSSO unit level data in the literature are few.

The data have been collected from primary and secondary sources. Secondary sources consist of NSSO reports on employment and unemployment in India (1983, 1993-94, 1999-00, 2004-05, 2007-08 and 2009-10), Sarveskhana April 1989, Statistical abstract 1989, EPW Foundation and District census handbook of Namakkal. The statistics on employment and unemployment can be obtained from census and sample survey conducted by NSSO.Our inquiry is based on NSSO Employment and unemployment unit level data from rounds 38^{th} round(1983) to 66^{th}

round(2009-10) to assess the distribution of the rural workers usually employed in the non-farm sector across employment status. Unit level data used from the five quinquennial rounds, Employment, and unemployment rounds.Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) for the Logistic regression for All India and Tamilnadu.A primary survey conducted in two villages in Namakkal district in the state of Tamilnadu.It addition Sarveskhana journal data and land statistics also been used.Reports and Unit level data used from the five quinquennial rounds,Employment and unemployment rounds 38^{th}(1983),50^{th}(1993-94),55^{th} (1999-2000),61^{st} (2004-05) and 66^{th} (2009-10) have used for analysis of the distribution of the rural workers usually employed in the non-farm sector across employment status.The micro level cross-sectional data were collected to assess the nature of nonfarm employment and its broad determinants for the study.A field study was conducted in Nov-Dec 2012 through a structured questionnaire to do a complete census-type survey in Two villages in the district.

In India, there has been increasing share of income and employment of rural nonfarm activities (Vaidyanathan 1986, dev 1993, Jatav& Sen 2013). At all India level as well in most of the state's nonfarm sector grow significantly (Bhaumik 2002). The growth of the rural nonfarm sector is highest in Kerala, West Bengal and Tamilnadu& lowest in Chattisgarh, MadhyaPradesh, followed by Uttarakhand, Karnataka, Gujarat, and Maharastra(World Bank 2010). Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the secondary sector.(Vaidyanathan 1986, Hans Binswanger 2013). There is a low share of manufacturing in economy and growth of employment. The rural nonfarm sector displays a wide range of heterogeneity both in terms of sectors and employment.

In second chapter seeks to assess trends and nature of employment in rural nonfarm sector in India and states.Toidentify these are groups in terms of states performance of rural non-farm sector. At all India level as well in most of the state's nonfarm sector growth is significant.The rate of growth rural nonfarm sector is different. Within the rural non-agricultural sector there is an increase in the share of services sector exceeds the manufacturing sector. The growth of nonfarm jobs in India has primarily from an increase in services, transport, and construction. Rural males tend to have an advantage over females in nonfarm employment in the country.

Casual labourers for both males and females is increased in the country. There is also decline in self-employed activities among the males and females. There is a shift from the self-employed in agriculture (cultivators) and agricultural labour households to the non-agricultural activities.There a large number of factors such as agriculture growth, literacy, urbanization, government policies reason for variation among the different states. There variables selected for the discriminant functions for estimating the determinants of the rural nonfarm sector are the area under food crops, the area under non-food crops, unemployment rates, irrigation and percapita income. Unemployment rates is distress factors, while the area under food crops, the area under non-food crops, per capita income and irrigation is growth-related variables.There is variation is formation of groups among states between 1983 and 2009-10.During 1983 the distress factors such as unemployment rate among males and females in rural areas were important in formation of group among low and high nonfarm states , while In 2009-10 commercialisation of agriculture and unemployment among males were important for the growth low and high nonfarm sector. There was distress led factors influencing the growth of nonfarm sector among the states in the eighties, while the mix of growth and distress factors reason for the growth of the nonfarm sector in 2009-10.

There are two important trends on employment seen on Indian economy in the recent period. One is the steady decline in the share of farm households in the rural area and the second is the secular increase in the share of households in the rural non-farm sector. The occupational or employment pattern remained constant in India till the 1950s and 1960s but there was a change after 1970 with the increase in employment in the nonfarm sector in the country (Himanshu et.al, 2009). At all India, there is a decline in the share of farm households in the rural areas and secondly, there is a secular increase in the share of households in the rural non-farm sector. There may distress and development factors influencing the transformation of the rural nonfarm sector. In India, various scholars have founded two major drives for the growth of the rural nonfarm sector agricultural-led diversification and distress led diversification. There might distress growth led factors or a mix of both factors impacts of the nonfarm sector. It is very difficult to articulate the growth of the nonfarm sector. Income, Landownership, education, infrastructure etc. impacts of the growth of the nonfarm sector. For the policy perspective, it is important to understand individuals entering the rural nonfarm sector. The various studies have

shown variables such as agricultural growth, commercialization, education, and land size etc which related to growth or distress factors.

In the Third chapter, attempts to analyze two features. One has there been a steady increase in the share of households in the rural non-farm sector. Two, what are the characteristics of households who are moving into the rural non-farm sector. Are the poor – distress driven households moving into the non-farm sector or are the resource-rich households moving out of the farm sector. Tamil Nadu is a state with a relatively more important role for Industry in terms of employment as well as a share of income originating from the non-primary sector. An implication of this is that share of households dependent on the farm sector has declined more when compared to the all-India trend. This could be either due to demand-pull by industry, or supply push from agriculture as water from Kaveri River dried up (Janakarajan 2016).Given the context, one would expect a difference in the nature of households entering the rural non-farm sector in the state of Tamil Nadu. So the second set of issues being studied in the chapter is the nature and composition of the rural non-farm sector in Tamil Nadu. In the non-farm sector, the major increase is in the growth of 'other labour' and not an increase in self-employment in non-agriculture at All India level as well as Tamil Nadu. All India level, as well as Tamil Nadu the share for Scheduled Castes (SCs), is also declining for the farm sector. SCs are entering into non-agricultural labour both at India level and Tamil Nadu. Scheduled Tribes (STs) and Other Backward Castes (OBCs) share in the farm sector are increasing in both at All India and Tamil Nadu level. All India the casual labourers in urban fixed location is on the decline for males and females, while In Tamil Nadu casual labourers in urban fixed location for males is declining and increasing for females. Interestingly self-employed in rural non-fixed location registered a decline for both males and females at All India as well as in Tamil Nadu. The increase in casual labourers in both rural and urban non-fixed location shows that the total non-farm work is done by rural workers. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the farm or non-farm sector is studied through the application of the binary logistic model .The females participation in the nonfarm sector is lower than males both India and Tamil Nadu. Individuals from the age group of 30-59 showed higher participation in the nonfarm sector. Interestingly in Tamil Nadu young population has more chance of entering the nonfarm sector. OBCs and general castes have a high probability of entering nonfarm sector

than marginalized social groups at All India level and Tamil Nadu. Members of large household size were entering nonfarm sector at all India level. Interestingly in Tamil Nadu small family have preferred to enter the nonfarm sector in both periods. Literate seems to participate more in the nonfarm sector compared to the Illiterate. Landless are more likely to participate in the nonfarm sector in comparison to other landowning groups in the country. This implies that investment from agricultural surplus is not the major causes of joining the non-farm sector. We can conclude that largely distress oriented factors has major role in individual to enter the non-fam sector. In Tamil Nadu though distress factors plays a significant role in the growth of nonfarm sector. There are various pull factors such as high manufacturing activities etc. has role for the shifting of individuals to nonfarm sector.

The economic development of an economy should follow a pattern of structural change from primary to secondary to tertiary. The structure of Indian economy in terms of the composition of output has been steadily changing over the last few decades. If one analysis share of income, the economy moved from primary sector dominated to service sector dominated economy. In this process of transformation the secondary sector, especially the manufacturing sector has been bypassed. Agriculture continues to provide employment to a large section of the peoples. The share of households depended on farm sector is decreasing overtime but not in comparison to decreasing in the share of income from agriculture. Though the service sector contribution to output has risen at a faster rate, in terms of employment its share is meager. The manufacturing sector share both in terms of output and employment remains stagnant since decades. This has led the researcher to claim that, the structural transformation in India to be stunted one (Hans Binswanger, 2013). This has been the all-India trend, but regional specificities exist. States like Tamilnadu, Gujarat, and Maharashtra are states where manufacturing are relatively more important both in terms of share in income originating from the sector as well as in the share of individuals employed in the sector. The post-reform period saw a growth of the rural nonfarm sector. The recent period has seen a rise in the construction boom and slowdown in the manufacturing sector. Hence here an attempt is made to identify constraining factors to the entry of individuals into the manufacturing sector. Tamil Nadu has a large share of the industrial and urban base in the country. In Tamil Nadu, rural agriculture sector and rural labor market tend to

be integrated with commercial, industrial economic center. The manufacturing sector in Tamil Nadu has wide base than average India while rural services have been growing faster in the state (Ramaswamy 2007). The present chapter is a continuation of earlier chapter observed that inadequate opportunities in the farm sector forced labor to move to the nonfarm sector. The study focused on whether there are significant entry barriers to entering the manufacturing sector.

Chapter fourth, focus on the characteristics of Individuals who entering the manufacturing or non-manufacturing rural nonfarm sector. The different factors which influence at individuals level that enhances the probability of an individual entering the manufacturing or non-manufacturing sector in the rural nonfarm sector at India and Tamil Nadu. Unit level data used from the two quinquennial rounds, Employment and unemployment rounds 50^{th}(1993-94) and 66^{th} (2009-10) to explain the factors influencing the participation of the individuals in the rural manufacturing or non-manufacturing is studied through the application of the binary logistic model. Tamil Nadu, manufacturing sector plays an important role both in providing employment and contributing to the income. The share of manufacturing to GDP was highest for Gujarat followed by Tamil Nadu and Maharashtra. The manufacturing sector is the second largest employment provider after agriculture and allied activities. Between 2004-05 and 2009-10 the share of secondary sector employment increased due to the increased employment in the construction sector. Females participation in the non-manufacturing oriented nonfarm sector increased from 1993-94 to 2009-10 in both India and Tamil Nadu. Scheduled Tribes (STs) and Scheduled Castes (SCs) have been entering non-manufacturing oriented non- farm sector in the country compared to the manufacturing sector in India and Tamil Nadu. The small family prefers non-manufacturing oriented nonfarm sector in the country. Interestingly Tamil Nadu large family (9-12) high probability of entering the non-manufacturing oriented nonfarm sector. Individuals from the age group of 30-59 exhibited the higher participation in the non-manufacturing oriented nonfarm sector both in India and Tamil Nadu. Graduates and higher educated likely to non-manufacturing over manufacturing both in India and Tamil Nadu.Landholding household more likely to participate in the non-manufacturing nonfarm sector in comparison to landless households in the country. Interestingly members from marginal and semi-medium landholding groups have a higher probability of entering the non-manufacturing nonfarm sector in Tamil Nadu. No technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu during 2009-10. Interestingly during 1993-

94 Technical education individuals have a high probability of joining non-manufacturing oriented nonfarm sector both India and Tamil Nadu.Theenter of the SCs and STs in nonfarm sector shows the distress oriented growth of non-manufacturing sector. They may be might be accommodated in the low level activity in service sector. The increase in landholding household in non-manufacturing sector may settle down in high level jobs in non-manufacturing sector.

The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. There has been a steady transformation of state economy towards the non-farm sector, resulting in declining share of the agriculture sector to NSDP. The proportion of the rural population to total population is declining.However, the agriculture sector still continues to play an important role as it provides livelihood and food security for a large section of the population. The principal food crops in the state are paddy, millets, and pulses. The commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chilies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom, and rubber. Major forest produces are timber, sandalwood, pulpwood, and fuelwood.The earlier chapters based on secondary data showed a steady expansion in the non-farm sector both at all India and Tamil Nadu. Hitherto, the focus was on characteristics of the rural non-farm sector in both all India and Tamil Nadu. The present chapter is an investigation into the broad characteristics of non-farm sector in two villages of Namakkal district, Tamil Nadu. Tamil Nadu has been divided into seven agro-ecological zones. The first village, Thirumangalam of Tirchengodu taluk is present in the western zone of agro-ecological zones and the Second village Irrunatai of ParamathiVelur taluk is present in North Eastern zone. These two villages selected based on the nature of the irrigation facility and the distance from the nearest town. Thirumangalam is dry village which has no perennial source of Irrigation and the major source of irrigation are wells\bore wells and rain-fed. The Irrunatai is a wet village which has canal irrigation facility along with wells and bore wells.In a general context of an increase in the non-farm sector and urbanization in Tamil Nadu, this chapter would like to analysis the nature of rural non-farm sector in two villages in Tamil Nadu. One of the villages in an irrigated village and the second village is a non-irrigated village.

The chapter five examines the nature of rural nonfarm sector in two villages in Tamil Nadu.In specific the study would analysis whether households shifting to completely to non-farm sector

or are one is plural households increasing in rural areas?.The structure of the rural economy in Tamil Nadu has been changing along with the overall economy. Namakkal district has the majority of the small scale industries are related to lorry building, weaving industry and food processing units. In Namakkal district, there is an increase in the food processing industry, hosiery and garments, electrical and electronic goods and other service activities.There has been a decline in cultivators and agricultural labour in the farm sector is compensated by the increase in the nonfarm sector particularly others activities in the district..Both villages has major share of backward castes.There is no Scheduled Tribe in both villages. In Thirumangalam the large land holders were absent, while correspondingly in Irrunatai the large farmer's group owned small percent of total land owned. There was no difference between the land owned and land operated. In both the villages, the small landholding groups were a major gainer of land than other landowning groups. However, in Irrunatai(wet) village the marginal farmers were gainers.Commerical crops grown in the villages were supporting the demands of the food processing units in Salem and Namakkal districts. In both surveyed villages, major share of households is in mixed households, who depend on both farm and non-farm activities showing the importance of diversification for better livelihood and income.The SC households in Thirumangalam(dry) village diversified more in favour of the nonfarm sector than Irrunatai(wet) village. Both the villages show a significant proportion of landless, marginal and small land holders in mixed households.landless& marginal landholders may prefer as the nonfarm sector as a survival mechanism.Mixed household cultivated large share of high-risk profit crops like tapioca, sugarcane etc compared to rest of household groups.Interestingly mixed household also cultivated major food crops like Jowar etc. In both villages the major chunk of males are engaged in non-farm sector.There is the preference for the males in favour of non-farm sector compared to females.females were more engaged in the farm sector shows the feminisation of the agriculture.The emergence of the industries in the nearby towns also is the reason for the diversification of the males.There is less number of traditional occupations in dry village compared to the wet village. There is a decline of caste-based occupations in both the surveyed villages. But there is a diversification in occupations, due to changing consumer demand for tailoring and poultry farms. In Irrunatai(wet) village, a number of individuals are engaged in the modern nonfarm sector compared to Thirumangalam(dry) village. Individuals are mostly engaged in modern nonfarm activities in intra-village and nearby rural towns like that of

construction works, sago factory, bore well works etc in both surveyed villages.However, both village shows the diversification of some individual in both villages in big cities for employment.Industries located nearby like sago factory, power looms, borewellsetc influence the employment in the both villages.In both villages landless,small and marginal landholders moving towards nonfarm sector shows distress led diversification.Males in the large number are shifting from dry village in distress led transformation.The availability of employment opporunities in the rural towns has strong influence in the migration of labourers from villages .Overall distress component has a primary role in the growth of the rural non-farm sector.

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