

Inequality and Rural Change: A Study of Tamil Nadu Economy in the Post-reform Period

A thesis submitted to the University of Hyderabad in partial fulfillment of the
requirements for the award of

DOCTOR OF PHILOSOPHY

IN

ECONOMICS

BY

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January 2023

Dedication

In memory of my grandparents Perumal and Valliammai who were agricultural labourers in
the Cauvery Delta region.



CERTIFICATE

This is to certify that the thesis entitled **“Inequality and Rural Change: A Study of Tamil Nadu Economy in the Post-reform Period”** submitted by **Nelson Mandela S** bearing registration number 12SEPH03 in partial fulfillment of the requirements for award of **Doctor of Philosophy** in the School of Economics is a bonafide 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 award of any degree or diploma.

Parts of this thesis have been published in the following publications:

- A. Mandela S, Nelson. (2018). Inequality Trends in Rural Tamil Nadu between 1993–1994 and 2011–2012: A Class Analysis. *Indian Journal of Human Development*, 12(1), 109-117.
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DECLARATION

I, **Nelson Mandela S**, hereby declare that this thesis entitled **“Inequality and Rural Change: A Study of Tamil Nadu Economy in the Post-reform Period”**, submitted by me under the guidance and supervision of **Prof. R. Vijay**, School of Economics, University of Hyderabad, is a bonafide research work, which is also free from plagiarism. I also declare that it has not been submitted previously in part or in full to this university or any other university or institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodganga/INFLIBNET.

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Abbreviations

AAGR	Annual Average Growth Rate
AIADMK	All India Anna Dravida Munnetra Kazhagam
ARIS	Additional Rural Incomes Survey
CAGR	Compound Annual Growth Rate
CES	Consumer Expenditure Survey
CPI-AL	Consumer Price Index for Agricultural Labourers
CSO	Central Statistics Office
DMK	<i>Dravida Munnetra Kazhagam</i>
EPWRF	Economic and Political Weekly Research Foundation
EUS	Employment Unemployment Survey
FYP	Five Year Plans
GDP	Gross Domestic Product
GOI	Government of India
GOT	Government of Tamil Nadu
GSDP	Gross State Domestic Product
HH	Household
HoH	Head of the Household
HYV	High Yielding Varieties
IADP	Intensive Agriculture Development program
ICDS	Integrated Child Development Scheme
LUS	Land Utilisation Statistics
MBC	Most Backward Classes

MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MPCE	Monthly Per Capita Consumer Expenditure
NCAER	National Council of Applied Economic Research
NSDP	Net State Domestic Product
NSO	National Statistical Office
NSSO	National Sample Survey Office
OBC	Other Backward Classes
PDS	Public Distribution System
PLFS	Periodic Labour Force Survey
PPP	Purchasing Power Parities
RBI	Reserve Bank of India
REDS	Rural Economic and Demographic Survey
SC	Scheduled Caste
ST	Scheduled Tribe
TN	Tamil Nadu
USD	United States Dollar

Chapter 1: Introduction

1.1 Motivation

One of the defining features of the political economy of Tamil Nadu in the neoliberal era is the tension between the inequality produced by the market forces and the political pressure for equality in a democracy. There is a contradiction between the economic outcomes and the political compulsions under which a government ought to function within a democratic setup. This tension offers an interesting vantage point to analyse the political economy of Tamil Nadu since the 1990s during the period of economic liberalisation.

1.2 The Problem

The economic transformation is driven by global factors while simultaneously mediated by local institutions and social structures (Berdegue et al., 2014). This interplay of global and local factors results in different outcomes within a country like India in terms of economic growth, sectoral allocation of labour and levels of inequality. Thus, the regional political economy is crucial in determining developmental outcomes. Moreover, there is a paucity of literature on understanding the transformation of the economy at the State/regional level in India. This dissertation analyses the regional dynamics of economic transformation in Tamil Nadu, a southern State of India. It identifies some key aspects of rural transformation and explains the attendant distributional implications for various classes of rural society.

1.3 The Context

The problem of inequality and economic transformation in India has recently attracted numerous scholarly interests. A vast majority of these studies discuss inequality at an all-India level and find that inequality has increased in the post-reform period (Himanshu 2007; Vakulabharanam 2010; Basole 2014; Himanshu 2018).¹ National narratives though important, flatten regional variations. There is a paucity of literature on understanding inequality and the dynamics of rural change at the State/regional level.² The development process in India is mainly unfolding at the State level. The privatisation by dispossession of people, implementation of labour laws or provision of public services are determined by the regional political economy of the various States, and the effective developmental outcome depends on the balance of power achieved at the regional level.

This argument is recognised in the literature by a few scholars. Harriss (1999) identified different political regimes across the Indian States based on the nature of party organisation and the balance of class/caste forces. He showed that each of these regimes had a distinct impact on the poverty alleviation and performance of the States. Sinha (2005) argued that subnational institutions mediate the development process in India by circumventing, improving, and modifying the regulations of the national government. She added that the larger national and global contexts also shape the subnational institutions.

Heller (2011) argued that Indian States are characterised by different developmental trajectories ranging from “the social democracy of Kerala, to the

¹ Chapter 5 of this dissertation presents a review of literature on inequality in India.

² A note on the Terminology - I use the word “State” with a capital S to refer to the subnational/provincial States in India. And I use “state” with a small s to refer the general concept of state.

agrarian capitalism of Punjab and the state-assisted industrialization of Gujarat.”³ Therefore, a State-level comparative analysis to understand the great transformation in India is necessary. Mishra (2015) argues that the role of regional diversity in generating different regional capitalist development trajectories in India remains under-studied. He showed how the agrarian transition in Arunachal is contingent upon the social, political, and economic specificity of the region. Kohli (2012) argued that there is a substantial difference in the redistributive capacities of the governments across the Indian States. The regional political economy and its role in shaping the policies of the state play a crucial role in the distributional outcome.

One of the pioneering works on analysing the dynamics of rural transformation at the State level was by Kurien (1981). Kurien analysed the rural transformation of Tamil Nadu’s economy between 1950 and 1975, the first quarter century after independence. During this period, Tamil Nadu witnessed an increase in agricultural productivity and output because of improvements in irrigation, increased availability of modern inputs like fertilisers, high-yielding varieties, tractors, and better production techniques.⁴ In this period, agricultural employment increased in the State, with more workers drawn into paddy production. On the distributional front, he observed a highly unequal distribution of land ownership. The top 1 per cent of the rural households in Tamil Nadu owned 15 per cent of the land, and the top 10 per cent owned nearly 60 per cent. In contrast, around 17 per cent of rural households were landless. The study found

³ Heller et al. (2007) note that decentralisation efforts in Kerala with its history of land reforms and social movement have deepened democratic governance.

⁴ Kurien (1981) noted that the annual growth rate of paddy production and productivity during the green revolution period (the 1970s) is lesser than in the early 1950s (if we account for the base effect of the stagnation in the early 1960s).

high inequality in asset ownership, as the top 1 per cent of rural households owned more assets than the bottom 90 per cent.

Kurien (1981) argued that state policies played a critical role in transforming the rural economy by stimulating productivity and bringing about structural transformation. The government made significant investments in irrigation projects, offered subsidies for several agricultural inputs, and provided credit. Another important method of state intervention was enacting various legislations, like the “Thanjavur Tenants and Pannaiyal Protection Act 1952, The Madras Cultivating Tenants Protection Act 1955, The Land Ceiling Act 1961” and minimum wage laws (Kurien, 1981, p.124). The state policies successfully improved agricultural production but could not change the skewed distribution of land or prevent the fall in real wages of the agricultural workers.

Tamil Nadu has a rich tradition of village studies that capture the changes in the countryside. Some studies date back to the early 1900s (Harriss, 2016). The changes in the agrarian economy over a century are succinctly documented for two villages – Palakurichi (Nagapattinam district) and Iruvelpattu (Villupuram district).⁵

Guhan (1983) noted that the village economy of Palakurichi changed significantly following the introduction of the Intensive Agriculture Development Programme (IADP) in the 1960s. Between 1940 and 1980, yields increased by 40 per cent and crop yields by 30 per cent.⁶ The mechanisation and modern input use increased the cropping intensity and the cost of production.

⁵ Palakurichi and Iruvelpattu were first studied by Gilbert Slater and his students in 1916-17. Since then, a few rounds of resurveys were conducted in Palakurichi by Thomas and Ramakrishnan in 1938, Haswell in 1964, Guhan in 1983, Surjit in 2004 and the Foundation for Agrarian studies in 2019. Similarly, Iruvelpattu was resurveyed by Thomas and Ramakrishnan in 1936-37, Guhan in 1980s, and Harriss, Jeyaranjan, and Nagaraj in 2008.

⁶ Despite improvements in yield, Guhan (1983) noted that the paddy yield of 1.5 tons per acre is very low.

The distribution of land reminded highly unequal, with a few Naidu families owning most of the land and the scheduled caste households nearly landless. Guhan (1983) observed that the agricultural labourers had achieved an increase in wages through sustained agitations under the leadership of the communist parties.⁷ Guhan concluded despite improvements in the agrarian economy (in production, yield, and wages), inequality remained intact.

Based on a resurvey of Palakurichi in 2019, Surjit (forthcoming) noted a decline in rice yields and farm incomes due to a reduction in Cauvery water reaching the village. In an earlier survey, Surjit (2008) found the agriculture sector to be main source of employment (78 per cent) in Palakurichi. About 85 per cent of scheduled caste workers were agricultural labourers. By 2019 the situation changed; Satheesha and Thomas (forthcoming) estimated the agriculture sector's share of employment for men and women to be about 34 and 54 per cent, respectively. For scheduled caste workers, it was around 54 per cent. Surjit (forthcoming) further noted that over the years, the upper caste had left the village seeking higher non-farm incomes. The older form of landlordism and control of labour had disappeared. The living conditions of scheduled caste households improved due to increased access to land, education, improved housing, and other benefits received from the state welfare measures.

Hariss et al. (2010) documented the change and continuity in Iruvelpattu over a century from 1916 to 2008. They observed that the built environment of the village did not transform much from the time of the original survey in 1916. Caste identities dominated the social and political life of the village. The practice of untouchability

⁷ Guhan (1983) noted that wages had grown from 4 to 8 measures for men and 2 to 8 measures for women between 1940 and 1968.

persisted even today. The village was still dominated by the same Reddiar family owning a major share of the village land (the landownership share decreased over time).

Nonetheless, a lot has changed. State investments in education, health, and other basic infrastructure (like drinking water and electricity) have transformed the village. While the size of the rural proletariat had increased, small farmers continued to persist. There is a diversification of employment towards the non-farm sector. Classic landlordism disappeared before the end of the 20th century (Harriss et al., 2010). As observed by the scholars, a remarkable aspect of the rural change in Tamil Nadu that sets it apart from the villages in the rest of India is the extent of state welfare provisioning (Harriss et al., 2010; Surjit, forthcoming).

Existing studies on the Tamil Nadu economy highlight four aspects associated with rural change – the disappearance of old forms of landlordism, relative improvements in living conditions of rural households, diversification of employment, and effective delivery of public services (Harriss et al., 2010; Heyer, 2012; Harriss and Jeyaranjan, 2016; Surjit et al., forthcoming).

Though village studies offer key insights into the nature of rural transformation process, the findings cannot be generalised at the State-level. In this context, this thesis investigates the question of inequality and rural change in post-reform Tamil Nadu using secondary data sources that are representative at the State-level.⁸

⁸ There are few studies that discuss the economic transformation in Tamil Nadu using the State-level representative datasets (Kurien, 1981; Kalaiyarasan and Vijayabaskar, 2021).

1.4 Objectives of the Thesis

The thesis addresses the following objectives:

1. to examine the changes in the structure of Tamil Nadu's economy since the 1990s.
2. to investigate the nature of the rural transformation by analysing the patterns of occupational diversification among rural households.
3. to analyse the inequality trends associated with Tamil Nadu's rural transformation story. And to examine the relative prosperity/pauperisation experienced by the rural classes during the post-reform period.

1.5 The Methodology

The dissertation analyses the changes in the structure of the Tamil Nadu economy in the post-reform period using the concepts of structural change (Kuznets, 1974; Timmer, 2009), Lewisian process of structural transformation (Lewis, 1954), Polanyian double movement (Polanyi, 2001) and agrarian question in Marx. Kuznets and Lewis offer a mainstream economics approach to understanding the transformation process, focusing primarily on the transfer of labour from the traditional/agriculture sector to the modern/ (industrial or service) sector. Nevertheless, the Kuznets and Lewisian concepts of structural change are analytically different, and one can occur without the other (Basole, 2022). Polanyi and Marx discuss the transformation from a political economy approach considering the contradictions between various (class) forces that shape the transformation process.

The occupational diversification of rural households is integral to the process of rural transformation. The nature of the occupational diversification process among rural households is analysed by categorising the households into three occupational

categories. Namely, pure agricultural households, pure non-agricultural households and diversified households based on the National Industrialisation Classification (NIC) codes available in the National Sample Survey Office (NSSO) data on employment and unemployment. Moreover, multinomial logistic regression is carried out using the maximum likelihood estimation to understand the influence of different household characteristics on occupational diversification.

Furthermore, I investigate the distributional implication of the transformation process by analysing the NSSO data on monthly per capita consumer expenditure (MPCE) using a Marxian class framework. I examine the relative prosperity/pauperisation experienced by various classes of rural society. I use the Gini coefficient to measure inequality in Tamil Nadu between 1993-94 and 2011-12. Further, the Gini coefficient is decomposed into between-class and within-class components using the decomposition method suggested by Yitzhaki (1994).

1.6 Limitations of the Study

The analysis of the trends in inequality has been conducted only till 2011-12, the recent year for which the data on consumer expenditure is available. Also, while using secondary data, one is constrained to use lesser information available in the data set to derive classes, and this method is not free of limitations.⁹ However, by supplementing the aggregate analysis with micro-level studies, I hope that, to some extent, the limitations are addressed.

⁹ Refer to Rawal and Swaminathan (2011).

1.7 Organisation of the Thesis

The rest of the dissertation is organised as follows.

Chapter 2 discusses the key features of the ongoing economic transformation in contemporary Tamil Nadu, using various sources of secondary data (NSSO, Central Statistical Office, and the Census of India). It employs the concepts of structural change (Kuznets, 1974; Timmer, 2009), the Lewisian process of structural transformation (Lewis 1954), the Polanyian double movement (Polanyi, 2001) and the agrarian question in Marx. The chapter analyses the trends in growth, employment, and urbanisation in Tamil Nadu. The chapter finds that the structural gap in the Tamil Nadu economy is narrowing. With the dwindling share of the agriculture and allied activities sector in NSDP and employment, Kuznets's process of structural transformation is visible. However, a Lewisian structural transformation process is not evident. Most of the labour exiting agriculture move into insecure informal employment.

In the last three decades, Tamil Nadu (TN) is undergoing many changes; among them, the most striking is the drastic decline in agricultural employment. Chapter 3 analyses the NSSO Employment and Unemployment Survey (EUS) data and categorises the rural households (HHs) into the following three categories, namely, pure-agricultural HHs (all the employed members of the HH are working only in agriculture), pure non-agricultural HHs (all employed members of the HH are working only in the non-agriculture sector), and diversified HHs (some of the employed members of the HH are working in agriculture, and the rest are working in the non-agriculture sector). The chapter argues that the rural non-farm sector has replaced the agriculture sector as the primary provider of employment in TN. This is a significant break from the past and marks the emergence of new rurality in Tamil Nadu.

Chapter 4 discusses the concept of class and how it is helpful to make sense of rural inequality in India. The chapter primarily draws from the mode of production debate in India and explains how various scholars have invoked theoretical and empirical criteria to identify classes in rural India. The chapter defines 11 rural classes in a broad Marxian sense following Vakulabharanam (2010) to analyse in class terms the National Sample Survey Office (NSSO) data on consumer expenditure. The chapter further reviews various inequality measures and chooses the Gini coefficient. A major limitation of the Gini coefficient is that it is not subgroup decomposable. That is overcome using the method Yitzhaki (1994) developed to decompose the Gini coefficient.

In the context of changing structures of rural employment, Chapter 5 further examines the inequality trends in Tamil Nadu using a Marxist class framework. The overall Gini coefficient is decomposed into within-class and between-class inequality following the method suggested by Yitzhaki (1994). Tamil Nadu witnessed a rise in rural inequality between 1993-94 and 2004-05 due to an increase in between-class inequality; thereafter, the inequality reduced following a decline in between-class inequality. The chapter discusses the possible factors driving these trends in light of other empirical studies.

The last chapter presents the concluding arguments of the thesis.

Chapter 2: How has Tamil Nadu's Economy Changed Over Time?

2.1 Introduction

The chapter presents the debate on structural transformation and analyses the structural changes in the Tamil Nadu economy since the 1990s. The chapter draws on the insights from Kuznets's idea of structural change (1955), the Lewisian process of structural transformation (1954), the Polanyian 'double movement' (2001), and the agrarian question in Marx. The chapter analyses the dynamics of the ongoing social and economic transformation in Tamil Nadu in the post-reform period using these concepts. The key features and the attendant consequences of the contemporary rural transformation are discussed. The chapter analyses the changing relative importance of agriculture, industry, and service sectors in employment and output. The process of structural change is unfolding in Tamil Nadu during a phase of high economic growth and a rapid urbanisation process. The main features of the urbanisation process are discussed in the chapter.¹⁰

The chapter uses the relevant secondary data from the NSSO, the Periodic Labour Force Survey (PLFS), net state domestic product (NSDP) data from the Economic and Political Weekly Research Foundation (EPWRF), and the Census of India.

Section 2.2 discusses the concept of structural transformation based on the four perspectives mentioned above. Section 2.3 analyses the changes in growth and sectoral composition of the NSDP, and section 2.4 discusses the nature of the urbanisation process. Section 2.5 examines the changes in the employment structure in Tamil Nadu.

¹⁰ Some of the findings of this chapter are published in Mandela S, N., & Niyati, S. (2020). Structural transformation and the new rurality in Tamil Nadu. *IASSI Quarterly*, 39(3), 361-381.

Section 2.6 presents the Kuznets idea of structural gap and identifies the level and trend of structural gap since the 1990s. Section 2.7 presents the conclusion of the chapter.

2.2 Four Perspectives on Economic Transformation

Economists have been looking for patterns that link “successful development to structure and policy” (Syrquin and Chenery, 1989, p. 145). Kuznets (1955) and Lewis (1954) have made seminal contributions and enriched our understanding of the process of structural change and modern economic development. Historically, modern economic growth and development have not been harmonious. The expansion of the market economy causes various social dislocations on the one hand, and on the other, it produces various countervailing tendencies to offset those dislocations. Polanyi’s (2001) work offers critical insight into these tendencies. The process of capitalist development is contingent on the contradictions between various classes in society. The debate on agrarian transition illuminates our understanding of the contradictions that emerge when a predominantly agrarian society transforms into an industrialised one. Section 2.2 offers a brief overview of the deeper insights offered by these scholars on the question of economic development and societal progress. These insights are relevant to understand the ongoing economic transformation of the Tamil Nadu economy.

2.2.1 Kuznets’s Process of Structural Transformation

In the initial stages of modern economic development, Kuznets (1955) suggested that the transition from an agriculture-dominated economy to an industry-based economy would result in increasing inequality, and as agricultural employment substantially declines, the inequality would reduce. Kuznets thus identified an “inverted U-shaped relationship between income and inequality”, which is associated with the

process of structural change in the developed countries like Japan, the UK, the USA and many European countries (Baymul & Sen, 2020, p.1643). Many other countries experienced a similar story of economic development and inequality, and some countries exhibited a different relationship. The important argument of Kuznets is not that the same inverted 'U' sort of curve would be applicable to all, rather his fundamental point is that the essence of inequality is primarily determined by the nature of the structural transformation that leads to economic development (Galbraith, 2010).

The Kuznets' (1974) view of structural change, where the share of income and employment shifts away from the agriculture sector to the industry sector and later to the service sector, cannot be applied only to the analysis of the rural sector. Because, by definition, Kuznets' idea of structural change is based on the association between economic growth and the shift of labour into a relatively high productive (non-agricultural) sector. And this inevitably means the concentration of production in the urban sector, where the scale advantage of modern technology can be thoroughly utilised. Thus, it will be a fallacy to apply the Kuznets' concept of structural transformation only to the rural sector (Chandrasekhar, 1993).

Timmer (2009) offers a simple and useful method to capture the structural change. He identifies the following four characteristic features of structural transformation.

“a declining share of agriculture in GDP and employment; a rural-to-urban migration that stimulates the process of urbanization; the rise of a modern industrial and service economy; and a demographic transition from high rates of births and deaths to low rates of births and deaths” Timmer (2009, p. 5).

Timmer (2009) further ascertains that the process of structural transformation would ultimately lead to an economy where the capital and labour productivity in agricultural sector is no different from non-agricultural sectors.

Analysis of the Kuznets process of structural change in the Tamil Nadu Economy is presented in section 2.6 of this chapter, following a discussion on changes in growth, employment, and urbanisation, which are relevant to understand the process of structural transformation.

2.2.2 Lewisian Transformation is not Visible in India

Lewis (1954) offers a framework to analyse economic development under conditions of the unlimited supply of labour. The key aspect of structural transformation, as discussed in the dual sector model, is the transfer of “surplus labour” from the subsistence sector to the capitalist sector with higher productivity levels. Lewis (1954) definition of surplus labour is based on the marginal productivity of labour in the subsistence sector. He writes that unlimited supply of labour

“exist in those countries where population is so large relatively to capital and natural resources, that there are large sectors of the economy where the marginal productivity of labour is negligible, zero, or even negative... The phenomenon is not, however, by any means confined to the countryside. Another large sector to which it applies is the whole range of casual jobs - the workers on the docks, the young men who rush forward asking to carry your bag as you appear, the jobbing gardener, and the like.” Lewis (1954, p. 141)

Basole (2022) makes an analytical distinction between the Kuznets process of structural change and the Lewisian process. Kuznets process, he argues, is the transfer of labour from the agriculture sector to the non-agriculture sector, that is, to

manufacturing and services. In contrast, the Lewisian process involves the transfer of labour from subsistence-oriented activity to profit-oriented activity, in other words, low productive activity to high productive activity. Basole (2022) contends that the Kuznets process of structural transformation is analytically distinct from the Lewisian process, and one can occur without the other. He notes that in the Indian case, the Kuznets process is visible, and the Lewisian process of transformation is not.

Historically, the manufacturing sector was the driving force behind structural transformation and poverty eradication. However, there is increasing evidence that this route may not be possible for many developing countries today. There are suggestions that the service sector might offer a new way forward. The Economic Survey 2014-15 of the Government of India (2015) deals with this question and compares the Indian registered manufacturing sector with a few service subsectors to identify the potential path to structural transformation. Following Rodrik (2013), the economic survey identifies five features that a sector must have to be the engine of structural transformation. 1. Higher productivity level, 2. unconditional convergence both domestic (low productive areas within the country experience faster productivity growth) and international (low productive countries catch up with high productive countries), 3. Expansion - It is essential that resources are utilised by the sector that is undergoing convergence because resources unabsorbed by the growing sector will not experience productivity growth and, therefore, will fail to deliver inclusive growth, 4. Comparative advantage - the sector's resource requirements must align with the country's resource endowments, and finally, 5. Tradability – trade and exports offer the capability to overcome domestic demand constraints for the expanding sector. The economic survey 2014-15 relies on the paper by Amirapu and Subramanian (2015) and finds many common attributes between manufacturing and some service subsectors

(real estate, finance, insurance) in India like high productivity levels, domestic and international convergence etc. However, both sectors require higher skills and are therefore not aligned with the comparative advantage of India. The authors note that the construction sector stands out of all the sectors, it exhibits both domestic and international convergence, involves low-skilled labour, and its resource use has grown significantly over the last three decades. But it is not tradable and is also low productive. Therefore, the authors conclude that the construction sector may not have the potential to improve welfare.

The economic survey 2014-15 discusses premature deindustrialisation taking place in India and the survey further discusses the regional disparities at the state level. South Korea is considered a poster child for manufacturing-led growth. The share of manufacturing employment increased to about 30 per cent in South Korea before starting to decline after its economy reached a high level of gross domestic product (GDP). The same figure for India is about 10 per cent, that to at a much lower level of GDP (Government of India 2015).

The peak share of registered manufacturing in gross state domestic product (GSDP) for Gujarat peaked in 2011 at 22 per cent and is the highest amongst all the States in India. The peak share for Maharashtra was 19 per cent in 1986, and Tamil Nadu was 18 per cent in 1990.

However, the share of registered manufacturing in employment for Tamil Nadu peaked much later in 2010 at 6.2 per cent and is the highest among all States in India. The GSDP per capita at its peak for Tamil Nadu was 4633 (2005 USD PPP).¹¹ The peak employment share of registered manufacturing was 5.4 per cent for Gujarat in 1984 and

¹¹ USD refers to the United States Dollar. PPP is an abbreviation of purchasing power parity.

4.8 per cent for Maharashtra in 1984. In 1984 the GSDP per capita (2005 USD PPP) for Gujarat was 1343, and Maharashtra was 1347, much lower than Tamil Nadu levels. For an international context, the peak manufacturing employment share for Indonesia was 29 per cent at a GDP per capita of \$5800. For Brazil, the peak share was 31 per cent at a GDP per capita of \$7100. Even the most industrialised States in India, like Gujarat, Tamil Nadu, and Maharashtra, experienced premature deindustrialisation compared to the international experience (Government of India, 2015).

As discussed, the registered manufacturing sector employment share (6.2 per cent in 2010) is the highest in Tamil Nadu among all States, and this level is lower compared to the international experience. Therefore, the labour that exits the agriculture sector moves predominantly into informal work in the construction, trade, hotel, and transport sectors (see table 2.2), indicating the absence of a Lewisian structural transformation process.

Despite the absence of growth in high-productive employment, Tamil Nadu has managed to achieve better developmental outcomes in health, education, and poverty reduction (Kalaiyarasan & Vijayabaskar, 2021). The following section attempts to make sense of this puzzle using the concept of Polanyian double movement.

2.2.3 Neoliberal Economy with a Social Welfare State: A Polanyian ‘Double Movement’

Karl Polanyi (2001), in his book titled “The Great Transformation”, argues that the idea of a fully self-regulating market is based on fiction.¹² A fully self-regulating market can come into existence only if land, labour, and money are converted into commodities. He defines commodities as those that are produced for sale in the market.

¹² The Great Transformation was first published in 1944 by the publishers Farrar & Rinehart, New York.

Labour, which is just an alternative term for human effort, is produced for reasons other than for sale in the market. Land/nature are not produced by man at all. Money is “merely a token of purchasing power which, as a rule, is not produced at all, but comes into being through the mechanism of banking or state finance” (Polanyi, 2001, p. 75). Therefore, Polanyi (2001, p.76) argues that describing land, labour and money as commodities is “entirely fictitious”. In other words, land, labour, and money are fictitious commodities.

The markets for land, labour, and money are organised based on this fiction. Any measures to inhibit the formation of land, labour and money market would inevitably imperil the self-regulating market. A vital organising principle of the self-regulating market is based on this commodity fiction. No policy or behaviour that would threaten the functioning of the market mechanism is allowed. Polanyi argues that such a postulate cannot be upheld regarding land, labour, and money for the reasons mentioned below.

Labour power is an unusual commodity. If labour is used indiscriminately or left idle, it inevitably affects the human being who is a bearer of this commodity. If left to the market mechanisms, nature would be eroded, rivers ruined, and food production hampered. An unregulated money market would often liquidate business enterprises. Polanyi (2001, p. 76) states, “for shortages and surfeits of money would prove as disastrous to business as floods and droughts in primitive society.” It is proven beyond doubt that land, labour, and money market are essential to self-regulating markets. But no society can withstand the disastrous effects of the market mechanisms unless its land, labour, and business organisations are protected. Polanyi (2001, p. 79) further emphasises that “human society would have been annihilated but for protective counter-moves which blunted the action of this self-destructive mechanism”. He terms the

expansion of markets and the countermovement to rein in the markets as “double movement”. He observes that this dialectic played out throughout the 19th century, propelling the collapse of classical liberal capitalism, and paving the way for different ideologies, principles, and policies (Goodwin, 2018).

Many scholars have used the concept of double movement to interpret the ongoing transformations in contemporary India. Levien (2007) argues that the struggles of the National Alliance of People’s Movements (NAPM) in India against neoliberal policies can be described as a contemporary countermovement in Polanyian terms. The communities that are part of NAPM are those who suffered variegated experiences of social dislocation under the neoliberal regime. He highlights that the Polanyian concept of double movement helps us understand how people with different classes and caste locations can come together to counter market-induced social dislocations.

Balakrishnan (2019) observes that the attempt to make new fictitious commodity in land in the corridor regions of India are met with contests on the streets and in the parliament over the enactment of “Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act” Balakrishnan (2019, p. 25).

As India shifts toward self-regulating markets, Harriss (2010) finds it helpful to analyse the experiences of the past two decades or so using the Polanyian framework with a specific focus on the double movement. After reviewing various studies, he argues that there is evidence of a Polanyian double movement in India. He further states that it is a ‘countermovement from above’, and that is not at all inconsistent with Polanyi’s narrative.

Lindberg (2012) attempts to look at the ongoing rural transformation in India and Tamil Nadu using Polanyi's perspectives on the 'great transformation' as a theoretical background. He suggests that there are two contrasting perspectives on ongoing transformation; one is an agrarian crisis view, and another is a slow but stable progressive transformation view. He proceeds to empirically verify these perspectives based on 40 years of fieldwork research in Tamil Nadu, some comparative studies across India and by analysing the Additional Rural Incomes Survey (ARIS) and Rural Economic & Demographic Survey (REDS) data. Based on the study of six villages in the Cauvery delta region, Lindberg identifies five key drivers of transformation. 1) Land redistribution on account of the struggles led by Communist and Dravidian parties. 2) Transformation of agricultural production through state-driven green revolution programme. 3) Increasing industrialisation and non-farm work opportunities. 4) State investments to develop road, water, and electricity infrastructure. And finally, 5) State policy interventions to provide basic education, public distribution system, and strengthening preventive health care programmes. He suggests that effective state intervention is a result of strong Dravidian and Left political movements in Tamil Nadu. Lindberg (2012) observes a mixed picture, and a regionally diverse story as far as all-India situation is concerned. He contends that an all-India picture is one in which progressive transformation somehow co-exists with agrarian crises.

In comparison to most States in India, Tamil Nadu provides better basic public services like schooling, mid-day meal, water, public distribution system, public transport, and other basic infrastructure. Vivek (2015) argues that the effective provisioning of public services is due to the "sustained collective action" cutting across caste, class, and gender. He draws attention to the fact that such collective protests were relatively recent, dating back to the 1970s. He argues further that the new decentralised

collective action is different from the great social movements like the Dravidian and Communist movements, which followed a top-down approach.

In the last three decades of neoliberal market-led growth, Tamil Nadu witnessed the informalisation of labour, the weakening of the organised labour movements, and the social dislocation of various communities (petty producers, peasants, tribal people etc.).¹³ A simultaneous process of counter movements emerged with demands for state provisioning of various welfare measures to mitigate the effects of the market displacement, a Polanyian double movement.

This dialectic played out between the deepening of neoliberal policies and the countermovement of state welfare provisioning provides the conditions for capital accumulation. The countermovement in the form of welfare provisioning does not transform the system of capital accumulation. Instead, it makes the process barrable by mitigating some of the perils of market-led social dislocations. Vijayabaskar (2011), in his study of coping strategies of labour in the Tirupur garment industry, succinctly makes the following argument.

“Though the emerging social regime in TN appears to go against the tenets of neo-liberal reforms that mandate cut-backs in public provisioning of social services, the state has been able to shift the question of labour welfare away from the workplace to the lived spaces, from the domain of capital to the domain of government of dispossessed populations. This shift partly ensures that capital accumulation can now proceed unencumbered by the burden of protecting workers’ livelihoods. It is therefore a hybrid regime that simultaneously subverts strictures against the expansion of spaces of public welfare and pursues

¹³ Please refer to Chatterjee (2008); Reddy and Mishra (2009); Mishra (2020) on how various classes were affected in the post-reform period.

an accumulation strategy entirely premised on flexibility of labour markets.”
Vijayabaskar (2011, p. 44-45).

2.2.4 Structural Change in Marxist Political Economy

The problem of structural change in development economics is similar to the question of agrarian change in Marxist political economy.

The agrarian question in Marx comprises three critical components. The first concerns the “nature, extent, and degree” of capitalist development in agriculture. The second is concerned with the nature of and relationship between various classes based on the development of capitalism in agriculture. The third component is concerned with the class struggle that is necessary for the resolution of the agrarian question. It is primarily concerned with the “conditions of capitalist development, class formation and class alliances and struggle” (Ramachandran, 2011, p.52).

In other words, the agrarian question deals with the fate of the peasantry under capitalist development, the role of agriculture in the industrialisation process, and the political role of the various classes of the peasantry in the fight against capitalism. The debate on agrarian transition deals with the issue of the transformation of a predominantly agrarian society into an industrialised society (Basole 2016).

Byres (1995) argue that the economic backwardness of a country is a consequence of the failure of the accumulation process to take hold in the rural areas and the related failure of class formation. Economic backwardness also reflects the failure of the state to mediate agrarian transitions successfully. The central argument of Byres (1995) is that the nature of the agrarian transition has implications not only for the rural areas but also for the capitalist industrialisation process.

The second component of the agrarian question also deals with the role played by the agrarian accumulation process and its relevance for industrialisation and structural transformation. The agriculture sector provides food for the workers and raw materials for the industry. The labour needs of the industrialisation process are met by the unlimited supply of labour present in the agriculture sector. The surplus accumulated in the agriculture sector can be used to fuel the industrialisation process. Further, the agriculture sector can provide a market for industrial goods (Basole 2016). Along similar lines, Lewis's (1954) dual-sector model discusses the reallocation of surplus labour from low-productive agriculture to the high-productive industrial sector as part of the structural transformation process.

Many scholars raised questions about the relevance of the 'agrarian question' in the contemporary period of neoliberal globalisation (Bernstein 2006; Lerche 2013). Bernstein (2006, p. 449) argued that the agrarian question in Marx is effectively an "agrarian question of capital". He pointed to the industrialisation experience of the Soviet Union, where the agrarian question was turned into a "doctrine of development" (Bernstein 2006, p. 449). He further contends that under the conditions of globalisation, the "agrarian question of capital" lost its relevance.

"An effect of the profound changes since the 1970s that we term "globalization" is that there is no longer an agrarian question of capital on a world scale, nor a "peasant question" in any helpful sense, even though the agrarian question has not been resolved in much of the "South"." Bernstein (2006, p. 450)

Following Bernstein's formulation Lerche (2013) argued that the capitalist class in India is not interested in pressing for the resolution of the agrarian question in the classical sense. The agrarian sector is no more a primary provider of capital for industrialisation nor a provider of a market for industrial goods. He contended that the

role of the agrarian sector is taken over by foreign finance and non-agricultural markets. Therefore, he argued that “the agrarian question for capital is bypassed.” Lerche (2013, p.391)

Ramachandran (2011, p.79) differed from Bernstein and argued that the resolution of the agrarian question is vital for the “fundamental transformation of conditions of poverty and oppression in Indian society”. Similarly, Reddy (2016) drew attention to the irony in Bernstein’s argument (about the losing relevance of the agrarian question after the 1970s) and pointed out that an earnest initiation towards redistributive land reforms began in India only in the 1970s. Reddy (2016, p.109) further stated that in the context of the emergence of speculative land markets, an increase in exploitative tenancy in some regions of the country and a lack of compliance to the land reform laws “would make it untenable to propose that agrarian question has been bypassed in India.”

The process of agrarian change and inequality are inextricably linked and is discussed in the context of Tamil Nadu in chapter 5.

2.3 Growth and Sectoral Composition of NSDP

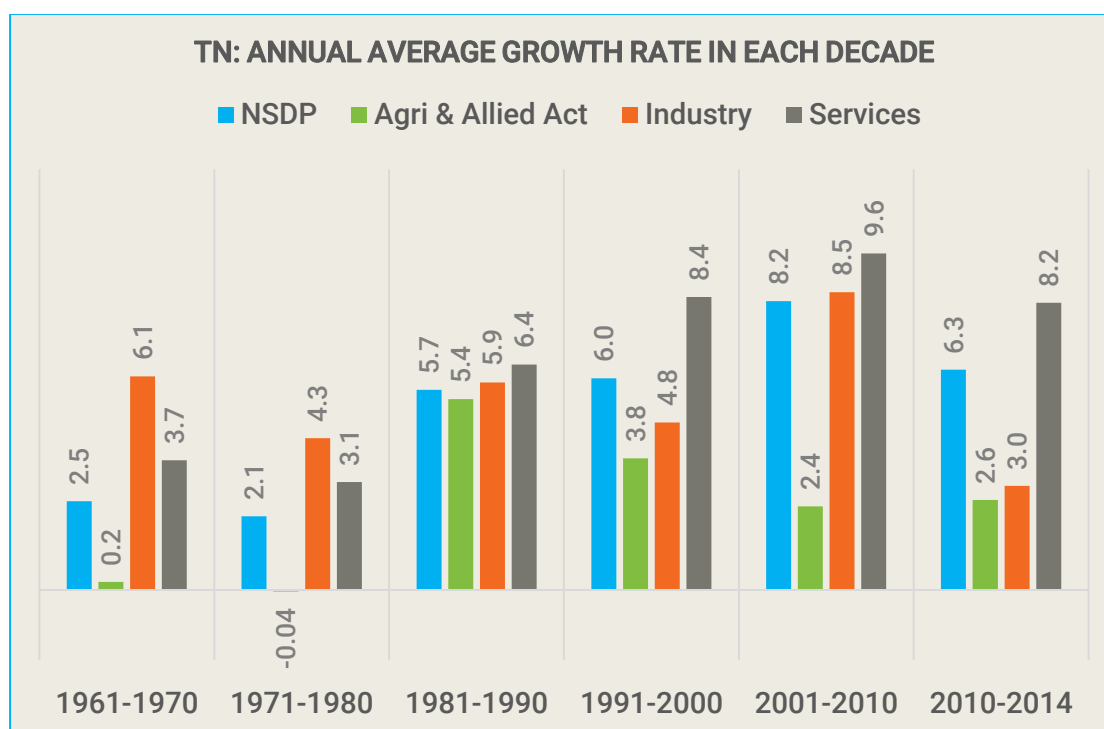
An important aspect of the structural transformation process is the changes in the relative importance of the sectoral composition of NSDP. Historical patterns suggest the declining significance of the agriculture sector in gross domestic product (GDP). This section evaluates the long-term growth of Tamil Nadu’s economy by analysing the net state domestic product (NSDP). Further, it examines the changing sectoral composition of growth through three broad sectors agriculture and allied activities, industry, and services. The NSDP data from the Economic and Political Weekly Research Foundation (EPWRF) is used for the analysis. The NSDP data comes

with different base years. Therefore, the data is converted into the 2004-05 base year using the splicing technique.

2.3.1 Growth of the Economy since 1960

Figure 2.1 presents the overall and sectoral growth rate of the Tamil Nadu NSDP for each decade starting from the 1960s in constant prices (2004-05). In the decade between 1960 and 1970, the Tamil Nadu NSDP grew at an annual average growth rate of 2.5 per cent. The growth was primarily led by the industry sector at an annual average growth rate (AAGR) of 6.1 per cent. There was hardly any growth in the agriculture sector (0.2 per cent), and the service sector registered 3.7 per cent growth per annum.

Figure 2.1: Annual Average Growth Rate in Each Decade



Source: Calculated from the NSDP data, EPW Research Foundation

In the 1970s, the AAGR of the NSDP was 2.1 per cent. This is the decade with the lowest growth rate since the 1960s until today, not only at the overall level but also

at the sectoral level. The agriculture and allied activities sector experienced a negative AAGR of -0.04 per cent, while the industry grew at 4.3 per cent and services at 3.1 per cent per annum. In these two decades (the 1960s and 1970s) industry sector experienced the highest growth rate, however modest.

In the decade starting in 1980, the growth rate picked up significantly, and all three sectors experienced similar growth. The NSDP grew at an annual average growth rate of 5.7 per cent. The agriculture and allied activities sector experienced its highest growth rate in this decade at 5.4 per cent per annum. No decade prior to the 1980s, the agriculture sector achieved a growth rate of over 5 per cent per annum. The industry sector grew at 5.9 per cent per annum. The 1980s was the decade in which the services sector emerged as the fastest-growing sector and experienced a turnaround in its growth rate by registering an annual average growth rate of 6.4 per cent. Thereafter, the services sector continued to register higher growth rates decade after decade.

In the decade between 1990 and 2000, the growth of NSDP increased further to 6 per cent per annum. The agriculture and allied activities sector grew at an annual average growth rate of 3.8 per cent per annum. At the same time, the industry and services sector registered an annual average growth rate of 4.8 per cent and 8.4 per cent, respectively.

In the following decade of the 2000s, the overall NSDP, industry and services sectors registered the highest ever growth rates while the agriculture sector growth remained low. The NSDP grew at 8.2 per cent per annum. The service sector grew at a magnificent 9.6 per cent per annum. The industry witnessed an AAGR of 8.5 per cent. The agriculture and allied activities sector experienced a low growth rate of 2.4 per cent per annum.

Since the 1990s, the growth in NSDP has been service led in Tamil Nadu. The service sector grew more than 8 per cent per annum over the last three decades. The industry sector experienced moderate growth between 5 and 8 per cent per annum. At the same time, the agriculture sector experienced low growth. During the 1990s agriculture sector was the largest provider of employment; therefore, the stagnation in agriculture growth would affect the livelihood of many people.

2.3.2 Changes in the Sectoral Composition of NSDP

The contribution share of the three broad sectors to the overall NSDP has changed significantly over time (see figure 2.2). In the 1960s agriculture and allied activities sector was the largest contributor to the overall NSDP, followed by services and industry. The agriculture and allied activities sector accounted for 51.9 per cent of Tamil Nadu's NSDP, while the services sector share was 30.4 per cent, and that of the industry was 17.7 per cent in the year 1960. As noted earlier, the agriculture and allied activities sector experienced meagre growth throughout the period except for the 1980s. As a consequence, its share in the overall NSDP dwindled. This sector accounted for only 7.4 per cent in 2013-14.

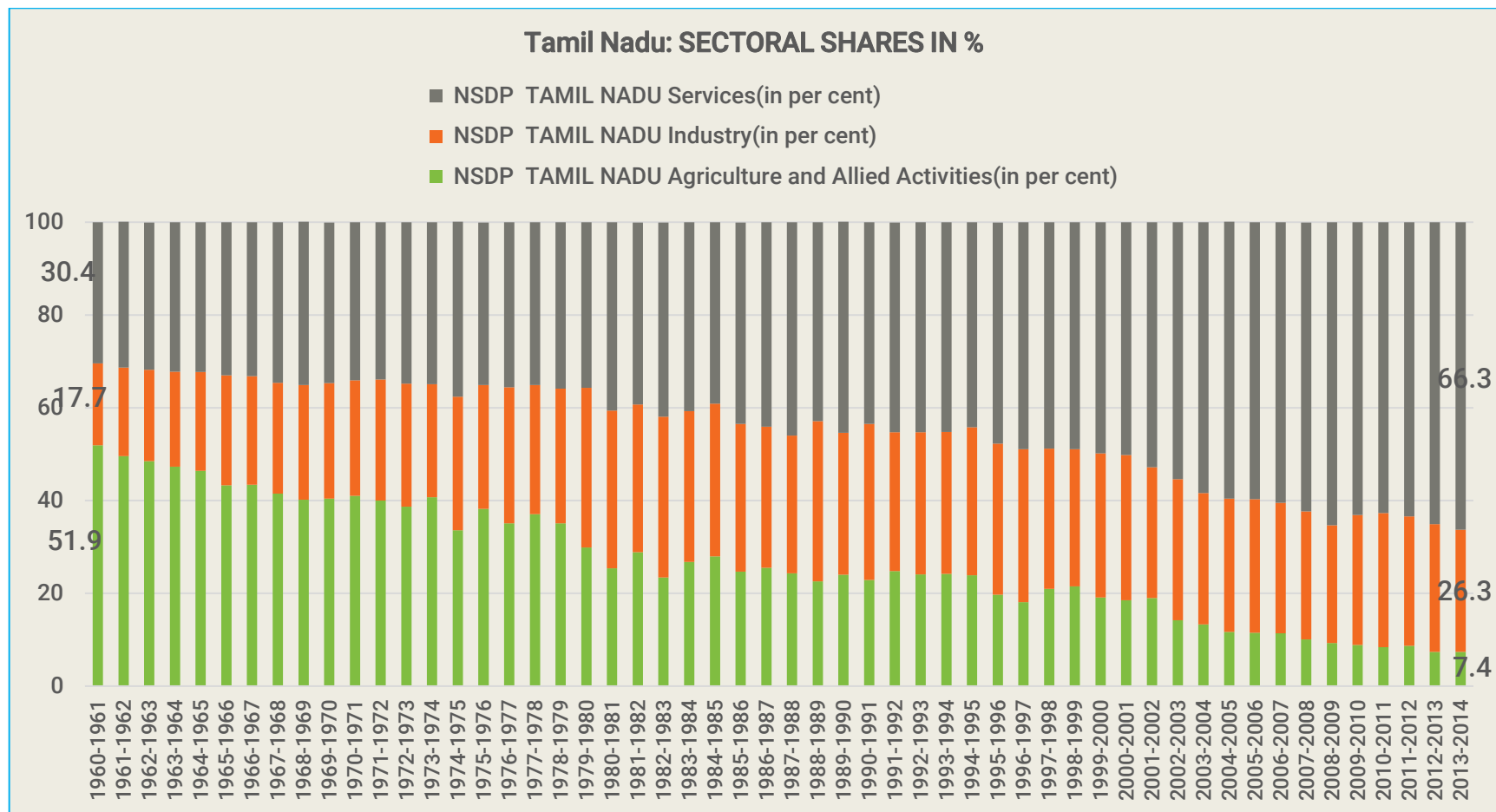
The industry sector share in the total NSDP was 17.7 per cent in 1960-61, which has increased to 26.3 per cent in 2013-14. The service sector share has grown enormously from 30.4 per cent to 66.3 per cent during the same period. This is on account of the consistent increase in the growth rate of the service sector since the 1980s. Overall the agriculture and allied activities sector grew slowly while the industry sector grew moderately, and the service sector experienced high growth.

Over the last few decades, the relative importance of the agriculture sector in output has diminished. The industry sector's share in output grew initially, achieving its

highest share of nearly 35 per cent in 1979-80. The size of the industry sector's contribution to the State's NSDP was about 26 per cent in 2013-14. Meanwhile, the service sector had grown enormously during this period and contributes the most to the NSDP today.

The emergence of the service sector as the largest contributor to output has consequences for people's livelihoods. If the service sector cannot generate adequate employment and the agriculture sector remains the largest provider of employment, it can lead to various crises for labour. Section 2.5 investigates whether the contribution share of these three major sectors to total employment has changed in line with their relative contribution to the State's output.

Figure 2.2: Changes in the Sectoral Composition of NSDP



Source: Calculated from the NSDP data, EPW Research Foundation

2.4 Features of Urbanisation

Urbanisation is central to the structural transformation process and economic development. This section presents an overview of the urbanisation process in Tamil Nadu since the 1990s.

The history of urbanisation in Tamil Nadu goes way back in time to the early Christian era. Madurai, the capital of the Pandiya Kingdom, was a flourishing urban centre, as noted in Tamil epics. Several market towns emerged in the eastern and north-eastern regions of Tamil Nadu during the Chola Empire between the 9th and 12th centuries. Several Temple towns were also present. Historically the distance of a household from the temple generally indicated its social and economic status (Vijayabaskar et al., 2011).

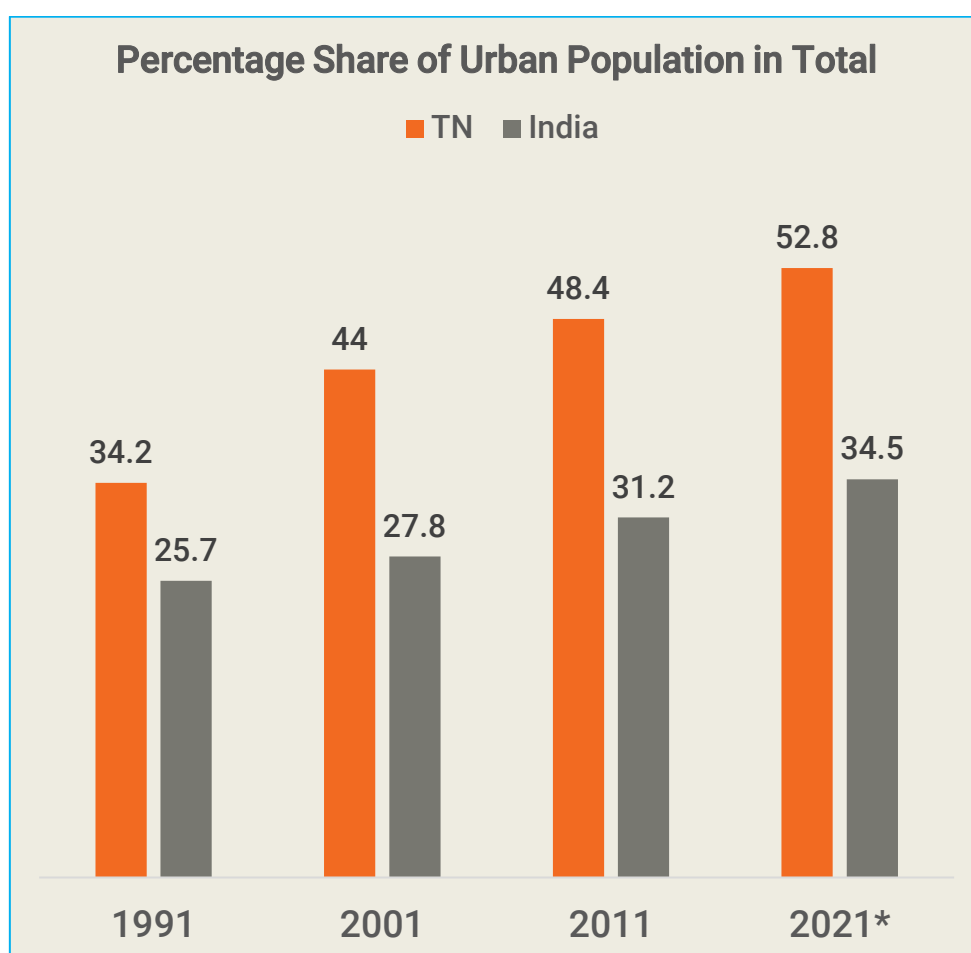
During the colonial period, the Madras region has become an urban centre for commerce and colonial administration. The railway laid between Madras and Mangalore in 1862 gave rise to the emergence of various small towns along its route. The commercialisation of agriculture precipitated the emergence of a number of market towns. The crisis in the traditional industries caused by the colonial policies led to a large-scale distress migration of labour to the urban areas. This labour was partly absorbed by the industrialisation induced by wartime demand and the global trade situation. Madras and Coimbatore witnessed the growth of many industries (Vijayabaskar et al., 2011).

Expansion in cotton cultivation and the rise in the demand for textiles spurred industrialisation, particularly in the Coimbatore region and, later, to some extent, in Madurai and Tirunelveli regions. After independence in the first two decades, Coimbatore witnessed a growth of the textile machinery repair and production industry

which diversified further into the production of irrigation pump sets and other engineering industries. Till today Coimbatore region remains an important industrial region second only to Madras (Vijayabaskar et al., 2011).

According to the census of India 2011, Tamil Nadu is the most urbanised State among the major States in India, with 48 per cent of its population living in the urban area. Figure 2.3 presents the percentage share of the urban population of Tamil Nadu and India for the census years 1991, 2001, 2011 and 2021.

Figure 2.3: Percentage Share of Urban Population in Total Population for Tamil Nadu and India



Source: Census of India

Note: * National Commission on Population (2019)

In the 1991, the total population of Tamil Nadu was 55.9 million, with 36.8 million rural and 19.1 million urban population, with a respective population share of 65.8 and 34.2 per cent (refer to table A1 in the annexure). The census of 2001 indicated an increase in the population, which stood at 62.4 million. At the same time, the rural population declined to 34.9 million while the urban population increased to 27.5 million. The share of the rural and urban population in 2001 was 56 and 44 per cent, respectively. The total population increased further to 72.1 million in the year 2011, while the rural population increased to 37.2 million and the urban population increased to 34.9 million. The share of the rural population was 51.6 per cent, and the share of the urban population was 48.4 per cent. The report of the technical group on population projections (2019) estimates the share of the urban population in Tamil Nadu to be 51 per cent in 2017 and 52.8 per cent in 2021. The share of the urban population in Tamil Nadu has been higher than the urban population share in India for the years 1991 (25.7 per cent), 2001 (27.8 per cent), 2011 (31.2 per cent), and 2021 (34.5 per cent).

Another important feature of the urbanisation process, according to Rukmani (1996), is the presence of strong urban-rural linkages. Tamil Nadu has a higher number of towns per unit area spread across the State. The urban-rural linkages are strengthened by the existence of a better mix of large, medium, and small towns. The State had perhaps witnessed *in situ* urbanisation. One of the factors underlying the wider spread of urbanisation is the historical evolution of the irrigation system in the State. The State had three region-specific irrigation systems. The Tanjavur valley region had canal irrigation. The important irrigation system in the Coimbatore region was well irrigation. The northern 'plains' regions had tank irrigation. These space-specific forms of irrigation systems have led to space-specific crop production. Paddy has been the main crop in the Thanjavur region, and the Coimbatore region specialised in intensive cash

crop cultivation while the plains specialised in the production of coarse cereals, to begin with, and later cotton and groundnuts were also being produced. The space-specific crop production has laid the foundations for the emergence of many agriculture-based towns as the scope for the trade and processing of these varieties of crops increased (Rukmani, 1996; Mandela S, 2018).

The industrial sector in Tamil Nadu has a better composition of organised, unorganised, and household-level production sectors. The location of the unorganised sector and the household-level production units are widely spread across the State. The higher spread of urban in the State is also aided by the better spread of the natural resource base, the state policy in terms of the location of large industries, better transport, infrastructure, and connectivity, and “the nature of the primate city in each region” (Mandela S, 2018, p. 3).

2.5 Employment Situation

Changes in the structure of employment with growth are critical for the development of low-income economies (Majid, 2019). An essential feature of the structural change is the reallocation of labour among the various sectors of the economy, especially towards high-productive sectors. This section analyses the changes in the employment structure of Tamil Nadu’s economy in the post-reform period.

The NSSO collects data on India’s employment and unemployment situation. The results from the analysis of the unit level NSSO EUS data for rounds 50, 61, and 68 pertaining to the years 1993-94, 2004-05 and 2011-12, respectively and Periodic Labour Force Survey 2017-18 data are discussed in this section. The employment status

considered is based on the usual status taking both the principal and subsidiary activity into consideration (upss).¹⁴

Table 2.1 presents the employment and unemployment situation in Tamil Nadu for the years 1993-94 and 2011-12. The number of employed persons in 1993-94 was 274.3 lakhs which is 49.1 per cent of the total population of Tamil Nadu. The unemployed were 6.7 lakhs or 1.2 per cent. That adds up to the total number of persons in the labour force, which is 281 lakhs which accounts for 50.3 per cent. The remaining 277.7 lakhs were not in the labour force, and their share of the population was 49.7 per cent. The number of employed persons in 2011-12 increased to 295.2 lakhs, and its share declined to 44.4 per cent. The unemployment increased to 7 lakhs while its share declined slightly to 1.1 per cent. The labour force increased to 302 lakhs, and its share fell to 45.4 per cent. The number of persons not in the labour force has gone up to 363.5 lakhs, and its share increased to 54.6 lakhs.

Table 2.1 also presents these trends at a disaggregated level for the rural and urban sectors. In 1993-94, 53.9 per cent of the rural population that is 195.2 lakhs, were employed while 0.7 per cent were unemployed (2.6 lakhs), putting the rural labour force at 197.7 lakhs that is 54.6 per cent of the rural population. The rest, 164.1 lakh persons, 45.4 per cent, were not in the labour force. By the year 2011-12, there was a significant fall in the rural labour force to 182.5 lakhs, which is 49.5 per cent of the rural population. The number of employed persons declined to 178.8 lakhs in percentage

¹⁴ The NSSO employment and unemployment survey consists of the following three reference periods, (i) one year, (ii) one week, and (iii) each day of the reference week. 'Usual status' denotes the activity status based on the reference period of one year.

Usual principal activity status refers to the activity status on which a person spent a relatively long time in the preceding 365 days from the date of the survey. This is based on major time criterion. A person could have pursued some economic activity for a shorter period of time (which is not less than 30 days) during the one-year reference period and this is referred to as subsidiary status. Usual principal and subsidiary status (upss) take both the principal and subsidiary activity status into consideration.

terms it is 48.5 per cent. The unemployment has increased to 3.7 lakhs so is the percentage share of the unemployed, which stood at 1 per cent. The number of persons not in the labour force has gone up to 186.3 lakhs, equivalent to 50.5 per cent of the rural population.

Table 2.1: Employment and Unemployment Situation in Tamil Nadu (UPSS)

Tamil Nadu	Rural		Urban		Total	
1993-94	Persons (Lakhs)	Per cent	Persons (Lakhs)	Per cent	Persons (Lakhs)	Per cent
Employed	195.2	53.9	79.2	40.2	274.3	49.1
Unemployed	2.6	0.7	4.2	2.1	6.7	1.2
Labour Force	197.7	54.6	83.3	42.3	281.0	50.3
Not in Labour Force	164.1	45.4	113.5	57.7	277.7	49.7
Total	361.9	100.0	196.8	100.0	558.7	100.0
2011-12						
Employed	178.8	48.5	116.5	39.2	295.2	44.4
Unemployed	3.7	1.0	3.3	1.1	7.0	1.1
Labour Force	182.5	49.5	119.8	40.3	302.2	45.4
Not in Labour Force	186.3	50.5	177.2	59.7	363.5	54.6
Total	368.8	100.0	296.9	100.0	665.7	100.0

Source: Calculated from NSSO EUS (Rounds 50 and 68)

About 40.2 per cent of the urban population were employed in 1993-94, which amounts to 79.2 lakh persons. In comparison, the unemployed persons were 4.2 lakhs which is 2.1 per cent. Therefore, the urban had 83.3 lakh persons in the labour force, which is 42.3 per cent. The number of persons not in the labour force was 113.5 lakhs which accounted for 57.7 per cent of the urban population in 1993-94. In 2011-12, there

was a significant surge in the size of employed persons in the urban (116.5 lakhs) but a decrease in the percentage share (39.2 per cent). The unemployment fell to 3.3 lakh persons and 1.1 per cent in percentage share terms. The labour force increased significantly to 119.8 lakh persons, but its share in the urban population declined slightly to 40.3 per cent. The category of persons not in the labour force has increased to 177.2 lakhs, accounting for 59.7 per cent.

Table 2.2 shows the percentage share of sector-wise employment in total employment in usual status, taking principal and subsidiary status into account. In 1993-94, the share of the agriculture and allied activities sector in total employment was 52.7 per cent, followed by the service sector employment share of 24.7 per cent and 22.7 per cent of the industry sector employment share. Similarly, in the year 2004-05, the agriculture and allied activities sector continued to provide the largest share of employment at 42.4 per cent, while the service sector share was at 30 per cent and that of the industry sector was at 27.6 per cent. Whereas in the year 2011-12, the industry sector became the largest provider of employment, accounting for 34.1 per cent of the total employment, slightly higher than the 33.5 per cent employment share of the agriculture and allied activities sector. The service sector employment share was at 32.4 per cent. In the year 2011-12, the contribution share of each of these three sectors in total employment was almost equal. In the year 2017-18, the agriculture and allied activities sector's share dwindled to 27.7 per cent. The employment share of the industry sector almost remained constant at 34.9 per cent. In 2017-18, the service sector emerged as the largest provider of employment, with a share of 37.3 per cent. This indicates a significant movement of labour out of the agriculture sector over the years. Consequently, the non-agriculture sector employment share increased from 47.3 per

cent in 1993-94 to 57.6 in 2004-05 and 66.5 per cent in 2011-12. In the year 2017-18, the employment share of the non-agricultural sector was 72.3 per cent.

Analysis at further disaggregated sectoral levels offers a better understanding of the employment situation in Tamil Nadu. Between the years 1993-94 and 2017-18, all the subsectors of the industry have shown some increase in their percentage share of employment. The mining and quarrying sector and the electricity and water sector though showing an increase in their contribution share, nevertheless remain below 1 per cent throughout the period of analysis. The manufacturing sector employment share has increased from 18.1 per cent in 1993-94 to 20.8 per cent in 2004-05, and it slightly declined to 20.5 per cent in 2011-12. It further decreased to 19.5 per cent in 2017-18. It is the construction sector which witnessed a tremendous increase in its share of employment from a mere 3.9 per cent in 1993-94 to 6.3 per cent in 2004-05, and further, it increased sharply to 12.4 per cent in 2011-12. The sector's share was 14.2 per cent in 2017-18. The increase in the service sector's share of employment is primarily driven by the increase in the share of the trade, hotel sector and transport sectors. The employment share of the trade and hotel sector increased from 9 per cent in 1993-94 to 12.8 per cent in 2004-05 and then to 13.2 per cent in 2011-12 and 13.9 per cent in 2017-18. The transport sector share has gone up from 3.7 per cent in 1993-94 to 4.8 per cent in 2004-05 and 6.7 per cent in 2011-12. The sector's share further increased to 8.7 per cent in 2017-18. The employment share of the finance and intermediary business sector increased from 1.5 per cent in 1993-94 to 3.2 per cent in 2004-05, and thereafter it declined to 2 per cent by 2011-12 and 1.9 per cent in 2017-18. The community social and personal services share of employment declined from 10.5 per cent in 1993-94 to 9.2 per cent in 2004-05, and then it increased to 10.4 per cent by 2011-12 and 12.9 per cent in 2017-18.

**Table 2.2: Overall TN: Sectoral Employment Share as a Percentage of Total
Employment**

	Industry-wise	1993-94	2004-05	2011-12	2017-18
I	Agri & allied	52.7	42.4	33.5	27.7
II	Non-Agri	47.3	57.6	66.5	72.3
1	Mining & Quarry	0.4	0.3	0.6	0.4
2	Manufacturing	18.1	20.8	20.5	19.5
3	Electricity, Water	0.4	0.3	0.7	0.9
4	Construction	3.9	6.3	12.4	14.2
Sum 1 to 4	Industry	22.7	27.6	34.1	34.9
5	Trade & Hotels	9.0	12.8	13.2	13.9
6	Transport, Storage & Communication	3.7	4.8	6.7	8.7
7	Fin Intermediaries, Business Services	1.5	3.2	2.0	1.9
8	Community, Social & Personal Services	10.5	9.2	10.4	12.9
Sum 5 to 8	Services	24.7	30.0	32.4	37.3

Source: Calculated from NSSO EUS (rounds 50, 61, and 68) and PLFS (2017-18).

2.5.1 Youth Unemployment

India is undergoing a demographic transition, with an increasing share of the working-age population (Mehrotra & Parida, 2019). Nevertheless, to reap the demographic dividend, the economy must create adequate quality employment,

particularly for the youth. Therefore, it is pertinent to evaluate whether the ongoing economic transformation process is able to generate decent employment, especially for the youth. This section discusses the unemployment situation for the youth in India and Tamil Nadu using the PLFS 2017-18 data. The unemployment rate (upss) for persons between the ages 15 and 29 rose sharply from 6.1 per cent in 2011-12 to 17.8 per cent in 2017-18. The same figure for Tamil Nadu is 7.8 per cent and 25.6 per cent. Almost one-fourth of the youth in the labour force is unemployed in Tamil Nadu. The problem is particularly severe in rural areas in the context of falling agricultural employment. The youth unemployment rate in rural Tamil Nadu is 29.3 per cent, and in urban is 21.4 per cent in 2017-18.

Table 2.3 presents the youth unemployment rate by education level for India and Tamil Nadu using the 2017-18 PLFS data. The unemployment rate is very high among the educated youth in India as well as Tamil Nadu. The unemployment rate for youth who have secondary-level education is 14.4 per cent in India and 17.9 per cent in Tamil Nadu. The same figure for higher secondary level is 21.1 and 24.2, respectively. For India, the unemployment rate for youth educated above the higher secondary level is 36.1 per cent, and for Tamil Nadu, it is 37.8 per cent.

Vijayabaskar (2017) notes from the “All-India Survey of Higher Education (2014-15)” that 45.2 per cent of the youth in the State aged between 18 and 23 are pursuing higher education. He adds that mere access to higher education does not translate into better employment, given the limited creation of quality jobs.

Table 2.3: Youth Unemployment Rate by Education in India and Tamil Nadu (UPSS)

2017-18	Youth Unemployment Rate (%)	
Education Level	India	Tamil Nadu
No formal schooling	7.0	5.6
Up to primary	8.4	6.7
Middle	13.7	14.1
Secondary	14.4	17.9
Higher Secondary	21.1	24.2
Above higher secondary	36.1	37.8
Total	17.8	25.6

Source: Calculated from the 2017-18 PLFS data

Indian economy is witnessing a growth slowdown in the last quinquennium (Nath et al., 2022). The growth slowdown can have consequences for employment generation, particularly for young persons looking forward to entering the labour market. Therefore, it is essential to study young persons who cannot get jobs or get discouraged and exit the labour market altogether (Majid 2021).

Table 2.4: Youth Not in Employment and Education Or Training

	NEET (%)	
2017-18	India	Tamil Nadu
Male	13.2	17.6
Female	56.2	48.7
Total	34.1	33.2

Source: Calculated from 2017-18 PLFS Data

Table 2.4 presents the NEET figures in percentage for India and Tamil Nadu in 2017-18. It is a major concern that 34.1 per cent of young persons in India between the ages 15 and 29 are neither in employment nor in education or training. The same figure for Tamil Nadu is 33.2 per cent. The problem is acute for young women, with NEET figures of 56.2 per cent and 48.7 per cent for India and Tamil Nadu, respectively.

Vijayabaskar (2017) conducted a similar analysis based on the 68th NSSO round and found that 12.2 per cent of rural male and 38.3 per cent of rural females fell under the NEET category in Tamil Nadu in 2011-12. The respective figures for the urban area are 8.3 per cent and 34.8 per cent. He further notes that 30 per cent of male graduates in the rural area fall under the NEET category. Through a survey of youth in Tamil Nadu, he contends that not mere access, but the quality of education is crucial for finding decent employment.

Thomas (2020) has observed that the structural transformation process is occurring when there is an expansive growth in the working-age population and when more and more younger people are being enrolled in higher education. In this context, he highlights that the non-agricultural employment opportunities are far less than the growth of potential job seekers. Vijayabaskar et al. (2018) argue that reviving rural employment in particular improving prospects of the agriculture sector is crucial to reap the dividend of demographic youth bulge.

2.5.2 Trends in Rural Employment

Table 2.5 shows the percentage share of the three sectors, namely, agriculture and allied activities, industry, and services, in total rural employment in usual status while considering the principal and subsidiary status.

Table 2.5 illustrates that the percentage share of agricultural work had declined, and that of industry and service employment had increased for Tamil Nadu and India throughout the period. Tamil Nadu trends are similar to all-India trends, but the levels are significantly different. By 2017-18, India still had about 60 per cent of its rural workers employed in the agriculture sector, whereas, in Tamil Nadu, it is only 42.5 per cent. Tamil Nadu also has much higher employment in industry at 33.3 per cent than all-India at 20.8 per cent. The State has 24.2 per cent of the workers employed in the service sector, and the same figure for all-India is 19.4 per cent.

Agriculture employment in rural Tamil Nadu declined from 70.4 per cent in 1993-94 to 65.3 per cent in 2004-05. It further fell sharply to 42.5 per cent in 2017-18. Correspondingly, the share of non-agricultural employment increased from 29.6 per cent in 1993-94 to 34.7 per cent in 2004-05 and further to 57.5 per cent in 2017-18. The rural non-farm sector emerged to be the largest employer in Tamil Nadu. That is not the case at the all-India levels.

Table 2.5. Employment Share (%) of Three Broad Sectors in Total Rural Employment (UPSS)

Sl.no	Sectors	1993-94		2004-05		2011-12		2017-18	
		TN	India	TN	India	TN	India	TN	India
1	Agriculture & allied activities	70.3 (78.4)	78.3 (86.0)	65.6 (73.9)	73.0 (83.4)	51.2 (50.6)	64.1 (74.9)	42.5 (51.0)	59.4 (73.2)
2	Industry	15.8 (14.0)	10.2 (8.5)	20.1 (16.6)	13.7 (10.1)	31.2 (39.5)	20.4 (16.7)	33.3 (32.9)	20.8 (13.7)
3	Services	13.9 (7.6)	11.5 (5.5)	14.3 (9.5)	13.3 (6.5)	17.6 (9.9)	15.5 (8.3)	24.2 (16.2)	19.4 (13.1)
2+3	Non-Agriculture	29.7 (21.6)	21.7 (14.0)	34.4 (26.1)	27.0 (16.6)	48.8 (49.4)	35.9 (25.0)	57.5 (49.0)	40.6 (26.8)

Source: Calculated from NSSO EUS (rounds 50, 61, and 68) and PLFS (2017-18)

Note: Figures within brackets indicate the sector-wise share of female employment in total rural female employment

However, this is not the only way the situation in Tamil Nadu is different from the all-India level. Table 2.5 (figures in bracket) shows the sector-wise distribution of female employment for Tamil Nadu and all-India. At the all-India level, in 2017-18, a very high proportion, that is, 73.2 per cent of the rural female workers, are employed in the agriculture sector, followed by 13.7 per cent in industry and 13.1 per cent in services. Abraham (2013) shows that the shift from agricultural to non-agricultural employment for female labour has been slower in India between 1983 and 2011-12. Thomas (2014) notes that the pace of job creation in the non-agricultural sector is inadequate to absorb the increasing supply of potential women workers. He cautions that India may lose its demographic dividend, especially the female part of the dividend, if the policy is not reoriented to generate jobs. As noted, the story of the shift of labour out of agriculture into the non-farm sector applies only to rural male labour at the all-India level. In sharp contrast, only 51 per cent of the rural female workers in Tamil Nadu are engaged in agriculture. And 33 and 16 per cent of the female agricultural workers in the State are employed in the industry and service sector, respectively. The movement of labour out of agriculture is accurate for both the male and female rural labour in Tamil Nadu. Tamil Nadu also has a higher work participation rate for rural female workers than the all-India level. The figures for Tamil Nadu and all-India are 29.4 and 17.5 per cent, respectively, in 2017-18. The share of rural female workers engaged in non-agricultural work is 49 per cent in Tamil Nadu, which is almost double that of all-India, which is 27 per cent. Therefore, in terms of gender and employment, the situation in Tamil Nadu is significantly different from that of the all-India situation. The implication of these differences for rural development in Tamil Nadu is an exciting aspect which needs further analysis.

Satheesha and Thomas(forthcoming) note that about 40 per cent of men and 50 per cent of women workers are employed in agriculture and allied activities in their study villages, Venmani and Palakuruchi, in the Nagapattinam district of Tamil Nadu. However, the shift of labour out of agriculture has been slower among the socially disadvantaged groups in the village. They note that a higher share of scheduled caste (SC) and most backward classes (MBC) workers are still engaged in the agriculture and allied activities sector. They find that MGNREGA work is the primary source of non-agricultural employment for women, SC, and MBC workers.

One can see from table 2.5 that there is a movement of rural labour (both male and female) away from the farm and into the non-farm sector. It also shows that there have been substantial improvements in the employment share of the industry sector. But it is of utmost importance to understand the nature of this industry employment by further disaggregating this sector. Table 2.6 presents the detailed sector-wise employment share of those usually employed in principal status or subsidiary status in rural Tamil Nadu.

Table 2.6: Employment Share (%) of Various Sectors in Total Rural**Employment (UPSS) in Tamil Nadu.**

Industry-wise	1993-94	2004-05	2011-12	2017-18
Agriculture & allied	70.4	65.3	51.2	42.5
Mining & Quarry	0.4	0.3	0.5	0.3
Manufacturing	12.9	14.0	14.6	14.3
Electricity, Water	0.2	0.1	0.6	0.8
Construction	2.3	5.7	15.5	17.9
Trade, Hotel	4.8	6.4	6.8	9.6
Transport, Storage & Communication	2.0	2.8	4.0	5.9
Fin Intermediaries, Business Services	0.8	0.8	0.9	1.0
Community, Social & Personal Services	6.2	4.7	5.9	7.7

Source: Calculated from NSSO EUS (Rounds 50, 61, and 68) and PLFS (2017-18)

Table 2.6 shows that the increase in the employment share of the industry sector is primarily due to the rise in construction employment. The employment share of the construction sector increased from a mere 2.3 per cent in 1993-94 to 5.7 per cent in 2004-05, then increased sharply to 15.5 per cent in 2011-12. It was around 18 per cent in 2017-18. The employment share of the construction sector at the all-India level in 2017-18 was 12.2 per cent. The gender-disaggregated figures contrast Tamil Nadu and the all-India situation in construction employment. In the year 2017-18, for Tamil Nadu, the proportion of rural male construction workers in total rural male workers is 17 per cent, and the proportion of rural female construction workers in total rural female workers is 20 per cent. The corresponding figures for all-India are 14.5 per cent and 5.3

per cent, respectively. Once again, it is evident that the female employment situation in Tamil Nadu is drastically different from the all-India story.

Contrary to popular belief that most of the increase in rural construction employment is fuelled by urban construction sites and commuting to the urban areas for work, Mahajan and Nagaraj (2017) show that rural construction workers are primarily employed in rural residential construction. They gave two explanations; first, a fall in the price-income ratio in the construction sector because of a decline in cement price. Second, the rise in agricultural wages between 2004-05 and 2011-12. The census data on housing also corroborate this. The percentage of pucca houses in rural Tamil Nadu increased from 47 per cent in 2001 to 60 per cent in 2011. The construction sector absorbs a significant proportion of the surplus labour moving out of agriculture. As many scholars pointed out, construction sector employment lacks any social security. Moreover, doubts are raised about the sustainability of higher employment generation in the construction sector in the long run.

In Tamil Nadu, employment growth in rural manufacturing has been very modest. It increased from 12.9 per cent in 1993-94 to 14 per cent in 2004-05 and remained constant after that. However, the manufacturing employment share in the State is higher than the all-India level of 8.0 per cent. At the all-India level in 2017-18, 7.6 per cent of the rural male workers and 8.1 per cent of rural female workers are employed in the manufacturing sector. The corresponding figures for Tamil Nadu are 15 per cent and 13 per cent, respectively.

The increase in the service sector employment has come from the rise in the employment share of the trade and hotel services sector from 4.8 per cent in 1993-94 to 6.4 per cent in 2004-05 and further to 9.6 per cent in 2017-18. The transport sector

employment share also rose from 2 per cent in 1993-94 to 2.8 per cent in 2004-05 and further to 6 per cent in 2017-18.

One of the striking observations from the data analysis is the reduction of the agriculture and allied activities sector's employment share in total employment in Tamil Nadu. The share of industrial employment was slightly higher than agricultural employment in 2011-12. By 2017-18, the service sector emerged as the largest provider of employment, overtaking the agricultural and industrial sectors. Therefore, in Tamil Nadu, the service sector not only contributes the most to the State's NSDP but also has the highest share in employment. Historically, these changes are associated with the process of structural transformation. The dwindling predominance of the agriculture sector in its contribution to NSDP and employment may reduce the structural gap in the economy. The following section analyses the trends in the structural gap in Tamil Nadu's economy.

2.6 Narrowing Structural Gap in Tamil Nadu Economy

In the initial stages of the structural transformation, according to Timmer (2009), the economy is characterised by a considerable gap between the percentage share of agriculture in employment and GDP. The 'structural gap', defined as the difference between the percentage share of agriculture in employment and NSDP, widens further when the economy grows faster initially, as was evident in the case of many countries that are part of the Organization for Economic Cooperation and Development (OECD) countries. This happens because the share of agriculture in GDP falls at a faster pace than the share of agriculture in employment. In the early stages, when the economy grows at a faster rate, the industrial and service sector with higher productivity grows much faster than agriculture resulting in a rapid decline of the share of agriculture in GDP while the agricultural employment share decline relatively

slowly. Moreover, the pace of decline in the share of agriculture in total employment depends primarily on the labour intensity of the industrial and service sector (Timmer, 2009).

A turning point in the structural transformation is reached when the ‘structural gap’ begins to reduce, as the labour productivity differentials between agriculture and other sectors start to diminish. In other words, the rate of decline of the share of agriculture in employment becomes faster than the rate of decline of its share in GDP (Timmer, 2009).

Tamil Nadu economy experienced a reduction in the structural gap between 1993-94 and 2017-18 (figure 2.4). The decline was at a slower phase between 1993-94 and 1999-2000 and remained constant between 1999-2000 and 2004-05. Thereafter, the economy witnessed a sharp decline in the structural gap between 2004-05 and 2011-12; and between 2011-12 and 2017-18. It emerges from the analysis of the NSDP data for Tamil Nadu that the share of agriculture in NSDP has declined rapidly, but the share of agriculture in employment declined rather slowly between the period 1993-94 and 2004-05. The slow decline in agricultural employment share is due to the sluggish growth in the output and the employment of the manufacturing sector, which contrary to the international experience, did not pull the labour out of agriculture into the modern manufacturing sector. In this period, the Tamil Nadu economy was characterised by low growth in agriculture; the other sectors within the industry grew moderately, and the service sector witnessed phenomenal growth. Therefore, the share of agriculture in NSDP dwindled. Since 2004-05 there has been a sharp decline in the share of agricultural employment.

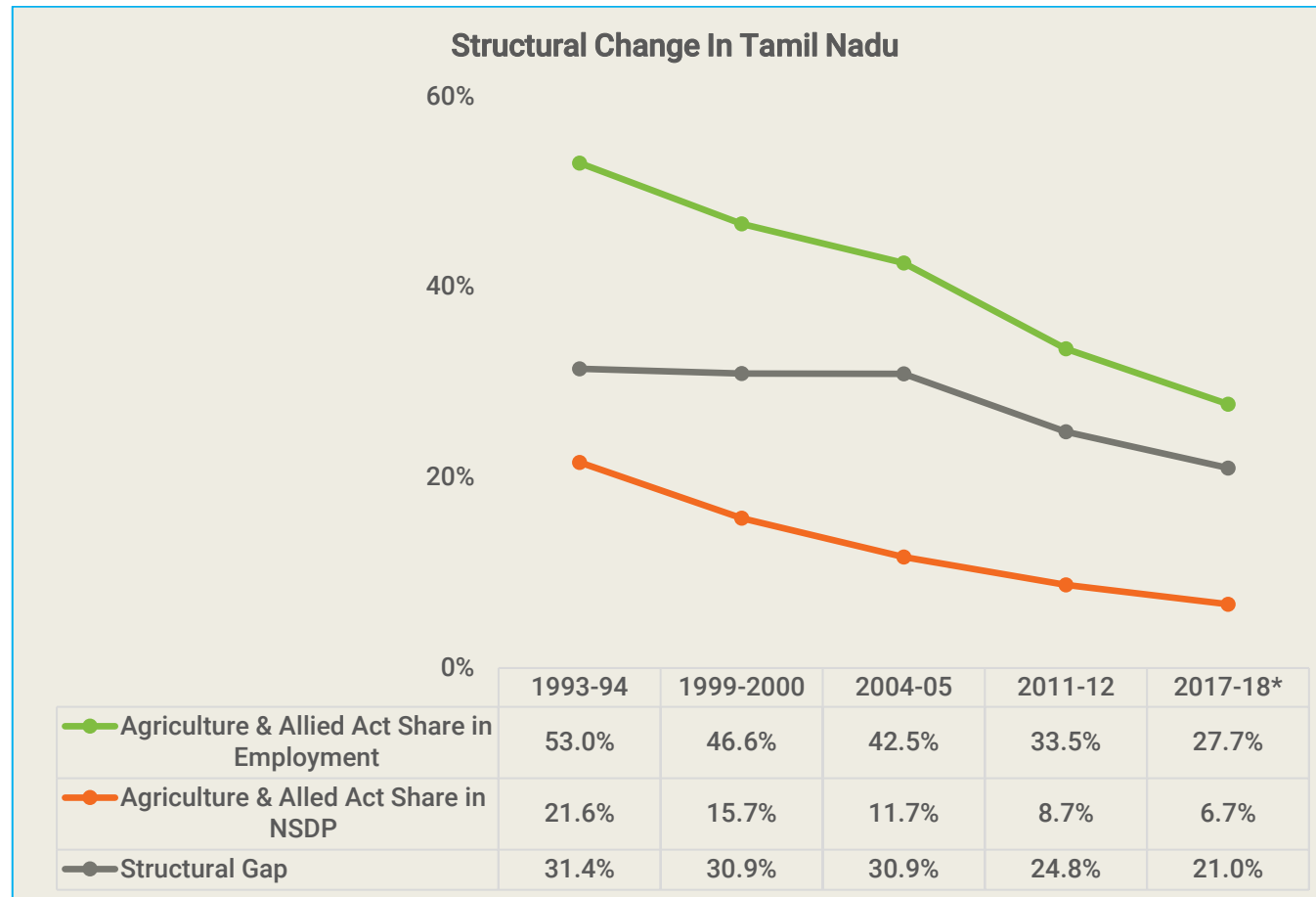
Figure 2.4 shows the changes in the contribution share of agricultural employment in total employment and the share of the agriculture sector NSDP in Tamil

Nadu's NSDP. The employment figures capture those usually employed in principal or subsidiary status (upss). The share of agricultural employment in total employment declined throughout the period from 53 per cent in 1993-94 to 46.6 per cent in 1999-2000. The agricultural employment share was 42.5 per cent in 2004-05 and further declined sharply to 33.5 per cent in 2011-12. In the year 2017-18, the agricultural employment share was 27.7 per cent.

The contribution share of the agriculture sector to NSDP was 21.6 per cent in 1993-94 and has been reduced to a mere 6.7 per cent by 2017-18. As explained earlier, this is on account of sluggish growth in agriculture, high growth in the service sector and moderate growth in the industry sector, except manufacturing. The 'structural gap' has reduced over the period 1993-94 and 2017-18 from 31.4 per cent to 21 per cent, respectively. The reduction in the structural gap was sharper since 2004-05. It declined from 30.9 per cent in 2004-05 to 24.8 per cent in 2011-12. It further declined to 21 per cent in 2017-18. Therefore, Tamil Nadu economy has been on a path of structural convergence since 2004-05.

At the all-India level, Binswanger-Mkhize (2012) argued that India is still far from structural convergence, where the share of agricultural GDP and the sector's employment share start to converge. Binswanger-Mkhize (2013) characterised the structural transformation in India as "stunted". Binswanger-Mkhize and D'souza (2015) have also argued that structural convergence has begun in six States in India, including Tamil Nadu. Similar findings were observed by Binswanger-Mkhize and D'souza (2015). They suggest that the factors driving these changes in Tamil Nadu are growth in urban industry and services in addition to the growth in rural non-farm employment (RNFE).

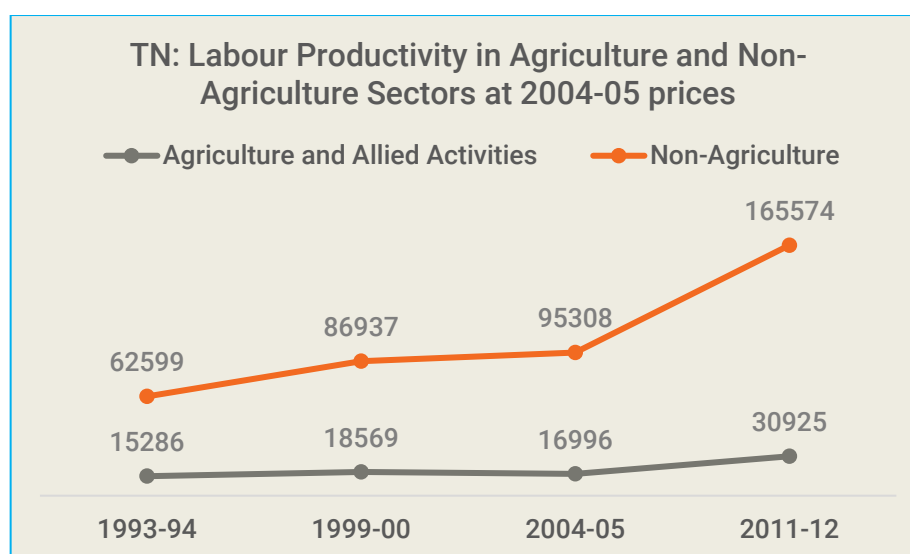
Figure 2.4: Kuznets Process of Structural Change in Tamil Nadu Economy



Source: Calculated from various NSSO EUS rounds, *PLFS 2017-18, and the EPWRF data on NSDP

The labour moved out of the agriculture sector mostly found employment in the informal sector like the construction and informal service sector. The quality of employment, productivity levels and social security benefits are poor in the informal sector (Basole et al., 2021). However, in Tamil Nadu, compared to the agriculture sector, the labour productivity levels (defined as NSDP per worker) in the non-agriculture sector are higher. Figure 2.5 shows the labour productivity for agriculture and non-agriculture sector in 2004-05 constant prices. The labour productivity level of the agriculture sector increased from Rs 15286 in 1993-94 to Rs 18569 in 1999-2000 and declined to Rs 16996 in 2004-05 on account of sluggish growth in the agriculture sector. Between 2004-05 and 2011-12, there was a revival in agriculture growth, and labour productivity increased to Rs 30925. The labour productivity in the non-agriculture sector has been increasing throughout the period. It went up from Rs 62599 in 1993-94 to Rs 165574 in 2011-12. The gap in the productivity levels between the agriculture and non-agriculture sector has been increasing throughout the period of analysis.

Figure 2.5: Tamil Nadu: Labour Productivity in Agriculture and Non-Agriculture Sectors at 2004-05 Prices



Source: Calculated from various NSSO EUS rounds and the EPWRF data on NSDP

To summarise, the Kuznets process of structural transformation is visible in Tamil Nadu economy. Since 2004-05, the structural gap in the economy has begun to reduce. In the last three decades, the process of growth has resulted in the movement of labour out of agriculture sector into industry and service. A vast majority of the labour that exited agriculture moved into various causal informal jobs in the construction, trade, hotel, transport and other service sectors. Informal sector jobs does not offer social security benefits and job security. Therefore, the growth process did not generate adequate good quality jobs especially for the youth of Tamil Nadu. In the context of increasing educational qualification among the youth, the inability to generate decent jobs, remains a serious challenge.

2.7 Conclusion

In the last three decades, the structure of the Tamil Nadu economy has undergone various changes. The relative importance of the agriculture sector in contribution to output and employment has reduced. Since the 1990s, the economy has grown at an annual average growth rate of 7.1 per cent. Over the years, the share of the agriculture sector in the State's NSDP and employment has reduced significantly. At the same time, the share of the service sector in NSDP, as well as employment, has increased significantly. In 1993-94, the agriculture sector had the highest employment share, and in 2017-18, it was the service sector that provided the largest share of employment. There are no considerable changes in manufacturing employment share; it is hovering between 18 to 20 per cent. However, the employment share of the construction sector had quadrupled over the years from close to 4 per cent in 1993-94.

The structural gap in the Tamil Nadu economy has been reduced in the last three decades. With the waning importance of the agriculture sector in terms of its contribution to NSDP and employment, Kuznets's process of structural transformation is visible.

There is a significant movement of labour (both male and female) out of the agriculture sector in Tamil Nadu.

However, a Lewisian process of structural transformation is not pronounced. Unfortunately, there is no clear trend of labour moving from the low-productive subsistence-oriented sector to high-productive sectors with secure jobs. Given the muted employment absorption capacity of the organised manufacturing sector, the labour exiting the agriculture sector moves to various informal sector jobs.

Despite the reduction in the structural gap, the State has high unemployment among youth, especially with higher education. It is due to the inability of the growth process to generate quality jobs, and this remains an important challenge.

In this context, the State, on the one hand, deepens the neoliberal marketisation process and, on the other hand, implements various social welfare measures that sustain these processes of change by mitigating the crisis suffered by the labour. Therefore, a Polanyian double movement can be observed in Tamil Nadu.

Chapter 3: Occupational Diversification in Rural Tamil Nadu

3.1 Introduction

The expansion of the rural non-farm economy is an integral part of the structural transformation process in India. During this process of moving from an agriculture-based economy to an industry or services-based economy, many households diversify out of agriculture for various reasons. Some households may be forced out of agriculture due to various push factors like drought, profitability crisis, agrarian distress etc. Households may move out of agriculture as part of a risk diversification strategy. Also, households could diversify out of agriculture due to pull factors like higher income possibilities in the non-agriculture sector.

What proportion of rural households in India/Tamil Nadu primarily rely on the agricultural sector as a source of livelihood and employment? Does the rural non-farm sector replace the agriculture sector as a primary provider of employment in India/ Tamil Nadu? The chapter investigates these questions by categorising the rural households into three groups based on the household members' occupational industry using the NSSO EUS unit-level data. On the one hand, the rural households that rely only on the agricultural sector for employment are declining. On the other hand, the share of rural households that rely only on the non-farm sector for employment is growing. This chapter analyses the phenomenal expansion of rural non-farm employment. It identifies the emergence of new rurality in Tamil Nadu over the last three decades, where the rural non-farm sector replaced the agriculture sector as the primary provider of employment. Further, the chapter estimates the odds of membership for households into the three

defined occupational diversification categories based on the household attributes using multinomial logistic regression.¹⁵

One of the main features of the structural transformation process is the movement of labour from the farm sector to the rural non-farm sector. The increasing importance of rural non-farm employment can be seen in many developing country contexts. The landless households in rural areas depend on non-farm employment to survive, and the small farmer households rely on the non-farm sector to diversify risks (Haggblade et al., 2010).

In the context of reducing farm income, the rural non-farm sector is seen as a potential alternative to spur rural income growth. Further, the rural non-farm sector can act as an alternative source of employment for those squeezed out of agriculture as part of the modern capitalist development process. The rural non-farm sector is also viewed as a possible way out of poverty (Haggblade et al., 2010).

Reflecting similar thinking, the Nehru-Mahalanobis perspective of Indian development during the early years of planning has accorded a vital role to rural industrialisation. Though the Initial Five-year plans ascribed primacy to the large-scale industry-led development inspired by the Soviet experience, the Five-Year Plans (FYP) were attentive to the fact that capital-intensive development would not generate adequate employment to cater to the growing rural working-age population. Protection and promotion of rural industries were considered a solution to the problem of inadequate employment-generating capacity of capital-intensive industrialisation. The FYP reserved the production of certain consumer goods for rural industries and barred large-scale

¹⁵ Some of the findings of this chapter are published in Mandela S, N., & Niyati, S. (2020). Structural transformation and the new rurality in Tamil Nadu. *IASSI Quarterly*, 39(3), 361-381.

industries from entering the production of these specified consumer goods. The strategic role envisioned for the rural industry to meet the demand for a variety of consumer goods not only aids in employment generation but also frees the capital for heavy industrialisation (Saith, 2001).

Moreover, this strategy also helps address the Gandhian development lobby that emphasizes a non-violent development model based on rural industry, promoting self-reliance and self-sufficiency (Saith, 2001). Thus, the role of the rural non-farm economy in economic development has been part of thinking since the initial Five-Year Plan. Despite this initial policy emphasis, the agriculture sector remained the predominant provider of employment in India (see chapter 2). And the manufacturing sector could not absorb adequate rural surplus labour.

In order to grasp the rising prominence of the non-farm sector in Tamil Nadu's economy, rural households are classified into three categories based on the household member's industry of occupation. The method of classification, the trends and the level of occupational diversification are explained in section 3.2. There are differences in the level of diversification out of the agriculture sector across castes and regions. Diversification levels also differ by age and the educational status of the household head. Section 3.3 analyses these differences. Section 3.4 estimates the odds of a particular household falling under any of the three defined occupational diversification categories given its characteristics using multinomial logistic regression. Section 3.5 discusses the growth in the agriculture sector and section 3.6 presents the concluding arguments and summaries the overall findings.

3.2 Occupational Diversification

Rural households are classified into three broad occupational categories for the current analysis. Namely, pure agricultural households (HH), diversified HH and pure non-agriculture HH. The categorisation is based on the National Industrial Classification (NIC) codes given in the NSSO EUS and the PLFS data. If all the employed members of a household work in the agricultural sector, then that household is categorised as pure agricultural HH. A pure non-agricultural HH is one in which all the working members are employed in the non-agricultural sector. A diversified HH has some members employed in the agricultural sector and others in the non-agricultural sector (Mandela S & Niyati, 2020).

Table 3.1 presents the proportion of households falling under these occupational categories for Tamil Nadu and India for the years 1993-94, 2004-05, 2011-12, and 2017-18. In 1993-94, one-third of households in rural India were ‘pure agricultural households’, i.e., those households depend only on agricultural employment. The share of ‘pure agricultural households’ was about 60 per cent in 2004-05, which decreased to 52.5 per cent in 2011-12 and 48.8 per cent in 2017-18. The share of ‘diversified households’ went up from 14.3 per cent in 1993-94 to 17.2 per cent in 2004-05. Later, it declined to 15.5 per cent in 2011-12 and 13.6 per cent in 2017-18. In 1993-94, the share of ‘pure non-agricultural households’ was 18.5 per cent, and it rose to 22.9 per cent in 2004-05. Thereafter, the share increased to 32 per cent in 2011-12. Pure non-agricultural households share was 37.6 per cent in 2017-18.

Bhue and Vijay (2017, p. 664) conducted an empirical exercise using the 2003 and 2013 rounds of NSSO unit-level data on household debt and investments. They classified the households “into farm, mixed, and non-farm sector households”. According to their classification

“A household is said to be farm sector household if all the members of the household earn their highest share of income from farm sector. A non-farm household is one where the activity status of all the members of the household is categorized as non-farm. If the members of the household are engaged in both farm and non-farm activities, then that household is classified as a mixed household” (Bhue & Vijay 2017, p. 667).

Similar to the findings in this chapter, Bhue and Vijay (2017) observe a declining trend of farm households and an increasing trend of non-farm households at the all-India level between 2003 and 2013.

The declining share of “pure agricultural households” and the increasing share of ‘pure non-agricultural households’ can also be observed in rural Tamil Nadu. However, the levels are pretty different from the all-India story. Table 3.1 shows that in rural Tamil Nadu, the percentage share of households who depend only on agricultural employment, i.e., the ‘pure agricultural households’ declined from 57.8 per cent in 1993-94 to 53.1 per cent in 2004-05 and further to 38.9 per cent in 2011-12. It was around 31 per cent in 2017-18. The share of ‘diversified households’ remained constant at 17.7 per cent in 1993-94 and 2004-05. It increased to 22.7 per cent in 2011-12 and again fell to 18 per cent in 2017-18. The share of ‘pure non-agricultural households’ rose from 24.5 per cent in 1993-94 to 29.2 per cent in 2004-05 and further to 38.5 per cent in 2011-12 and 50.7 per cent in 2017-18. This marks the emergence of new rurality in Tamil Nadu, where the non-agriculture sector provides more employment than the agricultural sector to rural households. Similar to the findings of this paper, Harriss and Jeyaranjan (2016); Harriss et al. (2012) characterise the Tamil Nadu economy as ‘post agrarian’. They come to this conclusion from their village studies and also from the review of several village studies conducted by various scholars. Tamil Nadu economy is ‘post agrarian’ in the sense that

the role of the agriculture sector in rural livelihood has declined. They observe that occupational diversification often involves commuting to towns and migration (both seasonal and long-term). Harriss et al. (2010) discuss the highly diversified occupational profile of the people of Iruvelpattu, a Slater village in Tamil Nadu. They write

“the increasingly complex, highly diversified ways in which the very mobile people of Iruvelpattu secure their livelihoods across a geographically wide range of locations - reflected in the fact that, walking round the village on most days, one sees large numbers of houses locked up with no-one there. The village is just one, possibly quite a minor site, in the livelihood spaces of village people these day.” Harriss et al. (2010, p. 61)

Heyer (2016) observes that the economic strategy of Gounders in the Coimbatore/Tirupur region of Tamil Nadu involved increasing investments in non-agriculture. In her study villages, she notes a declining role of agriculture and increasing non-farm employment accessed through commuting and out-migration. Nevertheless, she adds that agriculture remained essential to the village economy. Carswell and De Neve (2014) document the growing significance of non-agricultural employment in the hinterland of the Tirupur region.

Table 3.1: Occupational Diversification of Rural Households (%) in Tamil Nadu

Rural	1993-94			2004-05			2011-12			2017-18		
	Pure Ag HH	Diversif ied HH	Pure Non-Ag HH	Pure Ag HH	Diversif ied HH	Pure Non-Ag HH	Pure Ag HH	Diversif ied HH	Pure Non-Ag HH	Pure Ag HH	Diversif ied HH	Pure Non-Ag HH
Tamil Nadu	57.8	17.7	24.5	53.1	17.7	29.2	38.9	22.7	38.5	31.0	18.3	50.7
India	67.3	14.3	18.5	59.9	17.2	22.9	52.5	15.5	32.0	48.8	13.6	37.6

Source: Calculated from NSSO EUS (Rounds 50, 61, and 68) and PLFS (2017-18)

3.3 Occupational Diversification by Caste, Education, Age, and Region

Various push and pull factors that influence occupational diversification vary by the household's social location and other attributes. Caste plays an important role in determining occupational diversification possibilities (Heyer, 2016; Harriss and Jeyaranjan, 2016). Educational status, particularly good quality education, helps achieve good non-farm jobs (Vijayabaskar, 2017). The location of the households has a bearing on the accessibility of non-farm jobs (Guerin et al., 2014). This section presents an analysis of occupational diversification in Tamil Nadu by caste, education, age, and region for the year 1993-94, 2011-12, and 2017-18.

3.3.1 Occupational Diversification among Social Groups

Further, it is pertinent to note that the declining dependence on the agriculture sector for employment in rural Tamil Nadu is not a common story valid for all social groups. Though the trends indicate a decline, the level of decline varies across social groups. Tables 3.2, 3.3, and 3.4 present the occupational diversification among various social groups for the years 1993-94, 2011-12, and 2017-18, respectively.

Table 3.2: Occupational Diversification (%) among Social Groups in Rural Tamil Nadu (1993-94)

Social Group	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
ST	71.5	7.3	21.2	100
SC	72.8	16.7	10.5	100
Others*	52.1	18.3	29.6	100
Rural TN	57.8	17.7	24.5	100

Source: Calculated from NSSO EUS Round 50

Note: * Others include other backward classes in 1993-94 NSSO EUS data.

In 1993-94, more than 2/3rds of the scheduled tribe (ST) and scheduled caste (SC) households and little more than half of the ‘other’ category households were pure agricultural households. Nearly 30 per cent of the ‘other’ and 21 per cent of ST households were pure non-agricultural households. Only 10 per cent of SC households were pure non-agriculture type households. ST (7 per cent) households were the least diversified, followed by SC (16 per cent) and ‘other’ category (18 per cent) households.

Table 3.3: Occupational Diversification (%) among Social Groups in Rural Tamil Nadu (2011-12)

Social Group	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
ST	61.2	26.1	12.7	100
SC	41.6	29.4	29.0	100
OBC	37.5	20.6	41.9	100
Others	32.8	5.5	61.7	100
Rural TN	38.9	22.7	38.5	100

Source: Calculated from NSSO EUS Round 68

Most ‘Others’ and Other Backward Classes (OBCs) households have moved out of agricultural employment. In 2011-12, the proportion of ‘pure non-agricultural households’ among the ‘Others’ and OBCs were 61.7 per cent and 41.9 per cent, respectively. While for the SCs and STs, the corresponding figures were 29 per cent and 12.7 per cent, respectively (Table 3.3).

Among the ST and SC households, 26.1 per cent and 29.4 per cent, respectively, are diversified households. In contrast, 20.6 per cent of the OBC and only 5.5 per cent of ‘others’ are diversified households. A considerable proportion of SC and ST households

belong to the 'pure agricultural households' that is 41.6 per cent and 61.2 per cent, respectively.

Table 3.4: Occupational Diversification (%) among Social Groups in Rural Tamil Nadu (2017-18)

Social Group	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
ST	52.2	19.0	28.9	100.0
SC	33.1	21.8	45.2	100.0
OBC	29.7	16.8	53.5	100.0
Others	17.8	9.7	72.5	100.0
Total	31.0	18.2	50.7	100.0

Source: Calculated from PLFS (2019)

Table 3.4 shows that a large proportion of the 'Others' and Other Backward Classes (OBCs) households exited agricultural employment, following the trend since 1993-94. In 2017-18, the proportion of 'pure non-agricultural households' among the 'Others' and OBCs were 72.5 per cent and 53.5 per cent, respectively. While for the SC and ST households, the corresponding figures were 45 per cent and 29 per cent, respectively.

Among the ST and SC households, 19 per cent and 22 per cent, respectively, were diversified households, while 17 per cent of the OBC and only 10 per cent of 'others' were diversified households. A considerable proportion of STs and SCs belong to the

'pure agricultural households', 52 per cent and 33 per cent, respectively. Therefore, the people from these two social groups will be most affected by agrarian distress.

In line with the discussion above, Harriss and Jeyaranjan (2016) observe that Dalits increasingly predominate agriculture labour in Tamil Nadu. They further suggest that Dalits are excluded from more rewarding non-farm employment. Satheesha and Thomas (forthcoming) observe through their study of two villages in Nagapattinam district that Dalits and MBCs constitute a major share of the agricultural workforce. At the same time, the OBCs have diversified more into non-farm jobs. Heyer (2012) noted that the share of Dalit workers in agriculture has gone up over the years in western Tamil Nadu. She also notes that the terms of employment in agriculture improved in 2008-09 compared to what it was in 1981-82.

3.3.2 Occupational Diversification by Education of the Household Head

**Table 3.5: Occupational Diversification (%) by Education of the Household Head
(1993-94)**

Education of HoH	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
Without formal schooling	69.3	15.7	15.0	100
Up to middle school	52.7	19.5	27.8	100
Secondary	23.8	20.2	55.9	100
Higher secondary	29.7	21.3	49.0	100
Above higher secondary	9.0	13.4	77.6	100
Rural TN	57.8	17.7	24.5	100

Source: Calculated from NSSO EUS Round 50

Table 3.5 presents the occupational diversification of the households by the education level of the head of the household for the year 1993-94. A vast majority (69 per cent) of the households whose heads did not attend formal schooling are pure agricultural households. If the head of the household has completed secondary education and above, then a majority of such households fall under the pure non-agriculture households.

Table 3.6: Occupational Diversification (%) by Education of the Household Head (2011-12)

Education of HoH	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
Without formal schooling	49.0	28.6	22.4	100
Up to middle school	36.6	22.1	41.3	100
Secondary	32.4	17.8	49.9	100
Higher secondary	35.6	5.4	59.1	100
Above higher secondary	8.0	11.8	80.2	100
Rural TN	38.9	22.7	38.5	100

Source: Calculated from NSSO EUS Round 68

Table 3.6 shows that 49 per cent of the households with the head of the household (HoH) who do not have formal schooling are pure agricultural households. While 49.9, 59.1, and 80.2 per cent of the households with education level of the HoH being secondary, higher secondary and above higher secondary, respectively, are pure non-agriculture households.

Table 3.7 shows that 36 per cent of the households with the head of the household (HoH) who do not have any formal schooling are pure agricultural households. While

63, 68, and 81 per cent of the households with the education level of the HoH being secondary, higher secondary and above higher secondary, respectively, are pure non-agriculture households. The higher the educational levels of the HoH, the higher the possibility of that household being a pure non-agricultural household. The results from Tables 3.5, 3.6, and 3.7 indicate that education plays a vital role in the movement of people toward the non-farm sector.

Table 3.7: Occupational Diversification (%) by Education of the Household Head (2017-18)

Education of HoH	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
Without formal schooling	36.1	24.9	39.0	100.0
Up to middle school	32.7	17.2	50.1	100.0
Secondary	22.8	14.1	63.1	100.0
Higher secondary	24.5	7.9	67.5	100.0
Above higher secondary	10.4	8.8	80.8	100.0
Total	31.0	18.2	50.7	100.0

Source: Calculated from PLFS 2017-18

Lanjouw and Shariff (2004) analysed the rural data of 32000 households collected by the “National Council of Applied Economic Research (NCAER)” and found a strong correlation between education and higher non-farm income. Lanjouw and Murgai (2009) analysed the NSSO data and showed that illiterate workers predominate agricultural labour. Eswaran and Kotwal (2009) observed that 59 per cent of the working days were in the agriculture sector for illiterate males in 2004. For illiterate females, 65 per cent of

their total income comes from the agriculture sector. The dependence on the agriculture sector drops drastically for males who have completed middle school. They note that

“the non-farm sector demands a wage premium over what a worker with certain age and education characteristics can get in agriculture. It pays to get non-farm sector jobs and the probability of getting these jobs rises with education.”
Eswaran and Kotwal (2009, p. 52)

3.3.3 Occupational Diversification by Age of the Household Head

Table 3.8: Occupational Diversification (%) by Age of the Household Head (1993-94)

Age Cohort of HOH	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
15 to 29	57.8	12.2	30.0	100
30 to 44	56.8	15.4	27.8	100
45 to 59	56.1	22.4	21.6	100
60 and above	64.1	16.7	19.1	100
Rural TN	57.8	17.7	24.5	100

Source: Calculated from NSSO EUS Round 50

Table 3.8 shows that 57.8 per cent of the households with the age of the head of the household between 15 and 29 are pure agricultural households. Interestingly, the older cohort with HoH age 30 to 44 and 45 to 59 have a lesser number of households under the pure agricultural type (about 56 per cent) compared to the younger age cohort. Households with HoH age 60 and above have 64.1 per cent pure agricultural households. The youngest age cohort has the high share of pure non-agricultural households (30 per cent) and the lowest share of diversified households (12.2 per cent)

Table 3.9: Occupational Diversification (%) by Age of the Household Head (2011-12)

Age Cohort of HOH	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
15 to 29	20.8	19.0	60.2	100
30 to 44	34.2	21.4	44.4	100
45 to 59	41.0	25.2	33.9	100
60 and above	51.3	21.6	27.1	100
Rural TN	38.9	22.7	38.5	100

Source: Calculated from NSSO EUS Round 68

The younger the head of the households, the higher chances of them being pure non-agricultural households. About 60.2 and 44.4 per cent of the households with the age of the HoH between 15 to 29 and 30 to 44, respectively are pure non-agriculture households. Whereas 41 and 51.3 per cent of the households with the age of the HoH falling between 45 to 59, and 60 and above, respectively, are pure agricultural households (Table 3.9).

Table 3.10 shows that about 67 and 62 per cent of the households with the age of the HoH between 15 to 29 and 30 to 44, respectively, are pure non-agriculture households. Whereas 31 per cent and 36 per cent of the households with the age of the HoH falling between 45 to 59, and 60 and above, respectively, are pure agricultural households.

Eswaran and Kotwal (2009) examine the change in the sectoral pattern of employment by age cohorts. They find that only the youngest cohort of age 18-26 in 1983

moved to non-farm employment in 1993-94 and 2004-05. For younger males, the change in employment structure is sharper than for younger females.

**Table 3.10: Occupational Diversification (%) by Age of the Household Head
(2017-18)**

Age Cohort of HOH	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
15 to 29	27.7	5.6	66.7	100.0
30 to 44	28.7	9.3	62.1	100.0
45 to 59	30.8	24.9	44.4	100.0
60 and above	35.8	22.4	41.9	100.0
Total	31.0	18.2	50.7	100.0

Source: Calculated from PLFS 2017-18

3.3.4 Occupational Diversification by Region

Table 3.11: Occupational Diversification (%) by Region (1993-94)

NSSO Regions	Pure Ag HH	Diversified HH	Pure Non- Ag HH	Total
Coastal Northern	55.9	17.0	27.0	100
Coastal	65.2	14.7	20.1	100
Southern	61.0	19.8	19.2	100
Inland	51.0	18.5	30.6	100
Rural TN	57.8	17.7	24.5	100

Source: Calculated from NSSO EUS Round 50

The NSSO provides regional-level data for each State. The regions are based on agro-climatic conditions. Tamil Nadu has four regions, namely coastal northern, coastal, southern, and inland. The districts around Chennai city constitute the northern coastal region. The coastal region covers most of the Cauvery delta region and includes districts like Thanjavur Trichy etc. The southern region consists of Madurai, Tirunelveli, and the surrounding districts. The Inland region has districts surrounding the Coimbatore and Erode districts. The share of pure agriculture households is highest in the coastal region at about 65 per cent, followed by the southern (61 per cent), coastal northern (56 per cent) and Inland region (51 per cent). The share of diversified households is highest in the southern region (19.8 per cent) and lowest in the coastal region (14.7 per cent). The same figure for coastal northern and inland regions are 17 per cent and 18.5 per cent, respectively. The Inland region had the highest share of pure non-agricultural households (30.6 per cent). Coastal northern, coastal and southern regions had 27 per cent, 20.1 per cent, and 19.2 per cent pure non-agricultural households, respectively (table 3.11).

Table 3.12: Occupational Diversification (%) by Region (2011-12)

NSSO Regions	Pure Ag HH	Diversified HH	Pure Non- Ag HH	Total
Coastal Northern	35.0	32.4	32.6	100
Coastal	48.2	18.4	33.4	100
Southern	40.5	17.4	42.1	100
Inland	33.6	20.0	46.4	100
Rural TN	38.9	22.7	38.5	100

Source: Calculated from NSSO EUS Round 68

The share of pure agricultural households in the coastal region declined from 65.2 per cent in 1993-94 to 48.2 per cent in 2011-12 and still remains the region with the highest share of pure agricultural households. In the inland region, the share of the pure non-agricultural household (46.4 per cent) is higher than that of the pure agricultural household (33.6 per cent). This is a break from the past, where the agriculture sector ceased to be the predominant source of employment. Table 3.12 showed that the share of diversified households is highest in the coastal northern region (32.4 per cent) and lowest in the southern region (17.4 per cent) . It is to be noted that in 1993-94, the share of diversified households was the highest in the southern region (table 3.11).

Table 3.13: Occupational Diversification (%) by Region (2011-12)

NSSO Regions	Pure Ag HH	Diversified HH	Pure Non-Ag HH	HH share by region
Coastal Northern	26.1	41.5	24.5	29.0
Coastal	27.5	18.0	19.3	22.2
Southern	24.7	18.2	25.9	23.7
Inland	21.7	22.3	30.3	25.2
Total	100	100	100	100

Source: Calculated from NSSO EUS Round 68

An interesting point of table 3.13 is that the coastal northern region, with a share of 29 per cent of rural households, has about 41.5 per cent of the diversified households in Tamil Nadu. This region has the lowest average MPCE among all the other regions in Tamil Nadu. Therefore, it indicates the possibility of diversification due to distress.

Table 3.14: Occupational Diversification (%) by Region (2017-18)

NSS Region	Pure Ag HH	Diversified HH	Pure Non-Ag HH	Total
Coastal Northern	34.1	10.8	55.0	100
Coastal	32.6	28.7	38.8	100
Southern	33.4	13.1	53.4	100
Inland	23.7	22.2	54.2	100
Total	31.0	18.2	50.7	100

Source: Calculated from PLFS 2017-18

It is noted from table 3.14 that except for the coastal region (38.8 per cent), all other regions have more than 50 per cent of the rural households depending entirely on non-agricultural employment. The dependence on non-agricultural employment is highest in the Coastal Northern region of Tamil Nadu, with about 55 per cent of pure non-agriculture HHs. In 2011-12, the coastal northern region had the highest share of diversified households, but in 2017-18 it had the lowest share of diversified households. Probably, most of the households there were diversified in 2011-12 and had become pure non-agricultural households by 2017-18. The Coastal Northern region comprises districts like Chennai, Thiruvallur, and Kancheepuram, which attracted a lot of ICT (Information and Communication Technologies) based industries. These areas also experienced a further expansion in automobile and other large-scale manufacturing industries. Tamil Nadu contributes about 48 per cent of the total automobile exports in India (Government of Tamil Nadu, 2021).

3.4 Multinomial Logistic Regression

Lanjouw and Shariff (2004) employ a multinomial logit model to understand the influence of individual, household, and community characteristics on the probability of being employed in the non-farm employment in rural India. They find that women are significantly more likely to be engaged in agricultural labour, education to be strongly associated with employment outside agriculture manual work, SCs and STs are significantly less like to be employed in the non-farm sector, and finally they find that landownership is positively associated with cultivation and non-farm employment but not agriculture wage labour. Reddy et al., (2014) find that women workers are more likely to be in agriculture sector compared to men. They note that the non-farm sector has drawn younger male with some education. They further observe that non-farm diversification varies by caste and region. In addition to the literature cited above section 3.3 presented the variations in occupational diversification along the lines of caste, education, age, and region.

In this section, multinomial logistic regression is carried out using the maximum likelihood estimation to understand the odds of a particular household falling under any of the three household types given its characteristics. In other words, the regression is conducted to understand the influence of various households' characteristics on occupational diversification. The regression results are presented in Table 3.16.

The type of household Type_HH is the dependent variable. Type_HH 1 is pure agriculture household, Type_HH 2 is diversified HH, and Type_HH 3 is pure non-agriculture HH. There are six independent variables. Out of which two are continuous, and four are categorical variables (see table 3.15).

Landownacre indicates the land owned by the household in acres. PLFS data does not provide information on land ownership. Therefore, landownacre is not an independent variable for the 2017-18 regression. The age of HoH is the age of the head of the household. These are continuous variables.

Tamil Nadu is divided into four regions by NSSO based on the agro-climatic conditions. These four regions are arranged in ascending order based on their average MPCE. The coastal northern region with the lowest average MPCE is nssregion_dummy 1. Southern, Inland and Coastal are nssregion_dummy 2, 3, and 4, respectively, where the coastal region has the highest average MPCE in rural Tamil Nadu.

NSSO (2011-12 data) provides details of four social groups, 1 ST, 2 SC, 3 OBC and 9 Others. 1993-94 NSSO data provide information only for three social groups, 1 ST, 2 SC, 9 Others. SexofHH indicates the sex of the head of the household, 1 is male and 2 is female.

Education_hoh provides details on the general educational level of the head of the household. Education_hoh 1 without formal schooling, 2 up to middle school, 3 secondary, 4 higher secondary, and 5 above higher secondary.

Table 3.15: Variable Description of Multinomial Logit Model for Rural Tamil**Nadu**

Type of Household	Dependent Variable
Pure Agricultural Household (1)	Base Category
Diversified Household (2)	
Pure Non-Agricultural Household (3)	
Independent Variables	
Age of HoH	Continuous Variable
Landownacre	Continuous Variable
NSS Region_Dummy	Categorical Variable
1	(Base: Coastal Region)
2	Southern
3	Inland
4	Coastal Northern
Social Group	Categorical Variable
1	(Base: Scheduled Tribe)
2	Scheduled Caste
3	Other Backward Classes
9	Others
Sex of HH	Categorical Variable
1	(Base: Male)
2	Female
Education of HoH	Categorical Variable
1	(Base: No Formal Schooling)
2	Up to Middle School
3	Secondary
4	Higher Secondary
5	Above Higher Secondary

For a multinomial logit, we have K-1 equations. Each equation models the odds of a household to be a specific type (pure agricultural household or pure non-agricultural household) relative to the baseline (diversified household).

The dependent variable Y is a categorical ordered variable. Any household may be categorised under only one variable. Here, $y = j \dots [j = 1,2,3]$

The multinomial density function for one observation is then defined as;

$$f(y) = p_1^{y_1} \times \dots \times p_m^{y_m}$$

$$= \prod_{j=1}^m p_j^{y_j} \dots$$

$$[m = 3]$$

Now the probability that household i chooses j^{th} alternative

$$p_{ij} = P_r[y_i = j] = F_j(X_i, \beta)$$

Since the regressors – land ownership, age of the household head, region where the household is located, gender and education of the head of the household are unique for the i_{th} household in located in, does not vary. This means;

$$P_{ij} = P(Y_i = j) = e^{w_i' Y_j} / \sum_{k=1}^3 e^{(w_i' Y_k)}$$

And,

$$\sum_{j=1}^3 p_{ij} = 1$$

[w is the coefficient]

In this model, one set of coefficients, that is, the base variable, is normalised to zero, therefore, the coefficients of other alterations are interpreted with reference to the base outcomes.

The marginal effect of an increase of a regressor then means:

$$\partial P_{ij} / \partial w_i = p_{ij} (r_j - \bar{r}_j)$$

The multinomial logistic regression results for the year 2017-18 are presented in Table 18. The older the head of the household, the greater the odds of those households being diversified compared to pure-agriculture households. At the same time, households with older heads are significantly less likely to be pure non-agricultural households.

Compared to the northern coastal region, the households in the southern, inland, and coastal regions are significantly more likely to be diversified. Similarly, the households in the Inland region are significantly more likely to be pure non-agricultural households. Those in the coastal region are significantly less likely to be pure non-agricultural households. The scheduled caste and ‘other’ households are significantly more likely to be diversified rather than pure agricultural households when compared to the scheduled tribe households. Households that belong to SC, OBC and ‘other’ category are significantly more likely to be pure non-agricultural households compared to ST households. Women-headed households have greater odds of being pure non-agricultural households. Head of households with up to middle school or secondary level education are significantly less likely to be diversified households. The higher the educational level of the head of the household, the greater the odds of those households being pure non-agricultural households.

In 2011-12, households with older heads were significantly less likely to be pure non-agricultural households than pure agricultural households. Households owning more

land are significantly less likely to be pure non-agricultural and diversified households than the base category. Households with head of the households educated up to middle school or above higher secondary are significantly more likely to be diversified households. The higher the education of the head of the household, the greater the odds of those households being pure non-agricultural households compared to pure agricultural households. Women-headed households are significantly less likely to be diversified households.

Scheduled caste households and OBC households are significantly more likely to be diversified. OBC households are significantly more likely to be pure non-agricultural households than the base category. Compared to the northern coastal region, the households in the southern, inland, and coastal regions are significantly less likely to be diversified. At the same time, the households in the southern and coastal regions are significantly less likely to be pure non-agricultural households (see Table 3.16).

In contrast to the 2011-12 results, the older the head of the household, the higher the odds of being a diversified or pure non-agricultural household in 1993-94. Households with higher land ownership are significantly less likely to be diversified or pure non-agricultural households. The higher the educational status of the head of the household, the greater the odds for those households to be diversified or pure non-agricultural households. Women-headed households are significantly less likely to be diversified. Scheduled caste households are significantly more likely to be diversified and less likely to be pure non-agricultural households. Other category households are significantly more likely to be diversified. Households in the inland region are significantly more likely to be diversified or pure non-agricultural households.

Interestingly, between 1993-94 and 2011-12, the direction of the relationship between the dependent variable (type of household) and the independent variable, the

age of the head of the household, changed. In 1993-94 households with older heads had greater odds of falling under the diversified or pure non-agricultural household type. But in 2011-12, the older the head of the household, the lesser the odds of those households being pure non-agricultural type.

Table 3.16: Multinomial Logistic Regression Results for Type of Households

Type of Household	1993-94	2011-12	2017-18
Base: Pure Agricultural Household			
Diversified Household			
Land owned (in acres)	0.897* (0.035)	0.898*** (0.018)	
Age of the Head of the Household	1.018*** (0.003)	0.996 (0.004)	1.015** (0.004)
NSS Region (Base: Coastal Region)			
Southern	0.861 (0.110)	0.593*** (0.892)	1.334* (0.225)
Inland	1.247* (0.166)	0.703** (0.107)	2.837*** (0.457)
Coastal Northern	0.803 (0.108)	0.732** (0.108)	2.361*** (0.355)
Social Group (Base: Scheduled Tribe)			
Scheduled Caste	2.253* (1.105)	2.893** (1.222)	1.577 (0.553)
Other Backward Classes		2.450** (1.011)	1.198 (0.415)
Others	3.075** (1.489)	0.942 (0.635)	3.734** (2.495)
Sex of the Head of the Household (Base: Male)			
Female	0.745* (0.121)	0.442*** (0.080)	0.832 (0.149)
Education of the Head of the Household (Base: No Formal Schooling)			
Up to Middle School	1.651*** (0.180)	1.069 (0.136)	0.802* (0.106)

Secondary	3.106*** (0.653)	1.412* (0.274)	0.655* (0.151)
Higher Secondary	5.147*** (1.657)	0.696 (0.212)	0.596 (0.198)
Above Higher Secondary	6.316*** (2.164)	1.661* (0.450)	1.327 (0.491)
Constant	0.040*** (0.020)	0.749 (0.353)	0.166*** (0.071)

Table 3.16: Multinomial Logistic Regression Results for Type of Households (cont.)

Type of Household	1993-94	2011-12	2017-18
Base: Pure Agricultural Household			
Pure Non-Agricultural Household			
Land owned (in acres)	0.318*** (0.054)	0.533*** (0.033)	
Age of the Head of the Household	1.011*** (0.004)	0.984*** (0.004)	0.981*** (0.004)
NSS Region (Base: Coastal Region)			
Southern	0.846 (0.123)	0.709** (0.096)	1.045 (0.128)
Inland	1.554*** (0.224)	0.851 (0.120)	1.725*** (0.219)
Coastal Northern	0.897 (0.137)	0.778* (0.110)	0.746** (0.093)
Social Group (Base: Scheduled Tribe)			
Scheduled Caste	0.502* (0.180)	1.318 (0.488)	3.307*** (1.071)
Other Backward Classes		2.041** (0.736)	4.362*** (1.396)
Others	1.542 (0.520)	1.785 (0.873)	16.360*** (9.628)
Sex of the Head of the Household (Base: Male)			
Female	0.944 (0.161)	0.981 (0.144)	1.672*** (0.236)

Education of the Head of the Household (Base: No Formal Schooling)			
Upto Middle School	2.240*** (0.280)	2.033*** (0.245)	1.297** (0.145)
Secondary	13.381*** (2.760)	4.249*** (0.777)	1.678*** (0.286)
Higher Secondary	11.146*** (3.925)	3.823*** (0.989)	2.063*** (0.488)
Above Higher Secondary	44.559*** (15.668)	10.921*** (2.818)	6.516*** (1.816)
Constant	0.114*** (0.0459)	2.176* (0.922)	0.689 (0.267)
Number of Observations	3,052	2,927	2,842
Log Pseudolikelihood	-2567.4228	-2677.6121	-2710.6467
Pseudo R2	0.1051	0.1216	0.0642

Note:

- i. Constant estimates baseline relative risk for each outcome.
- ii. Standard errors are in parentheses.
- iii. *, **, *** indicate 10%, 5%, and 1% level of significance respectively.

3.5 Analysis of the Agrarian Sector

The implications of occupational diversification for rural development and the rural populace's well-being are myriad. Ellis (1998) eloquently summarises various aspects of the diversification of rural households in developing countries. He writes,

“Diversification may occur both as a deliberate household strategy [Stark, 1991] or as an involuntary response to crisis [Davies, 1996]. It is found both to diminish [Adams, 1994] and to accentuate [Evans and Ngau, 1991] rural inequality. It can act both as a safety valve for the rural poor [Zoomers and Kleinpenning, 1996] and as a means of accumulation for the rural rich [Hart, 1994]. It can benefit farm investment and productivity [Carter, 1997] or impoverish agriculture by withdrawing critical resources [Low, 1986]” (Ellis, 1998, p.2).

As stated above, the possible effects of diversification vary in several ways across space and time. There is “no monotonic relationship” between agrarian growth and the diversification of the rural economy (Chandrasekhar, 1993, p. 208).

The preceding analysis of employment patterns indicates the shift of employment away from the agriculture sector, the increasing number of pure non-agriculture households, and the occupational diversification in the rural area between 1993-94 and 2011-12. This section offers an analysis of the agricultural sector in this period.

Post the 1990s, the agricultural sector was in crisis across the country, including Tamil Nadu (Reddy & Mishra, 2009; Mishra, 2020). Due to agrarian distress several farmers have committed suicides in India, particularly after 1997 (Nagaraj, 2008). Later in the mid-2000s, agricultural growth picked up for a brief period. In Tamil Nadu, the agriculture and allied activities sector experienced stagnation in the first period. Between 1993-94 and 2004-05, it grew at a meagre rate of 0.6 per cent per annum (see table 3.17).

In the second period between 2004-05 and 2011-12, the sector registered an annual average growth rate of 5.9 per cent.

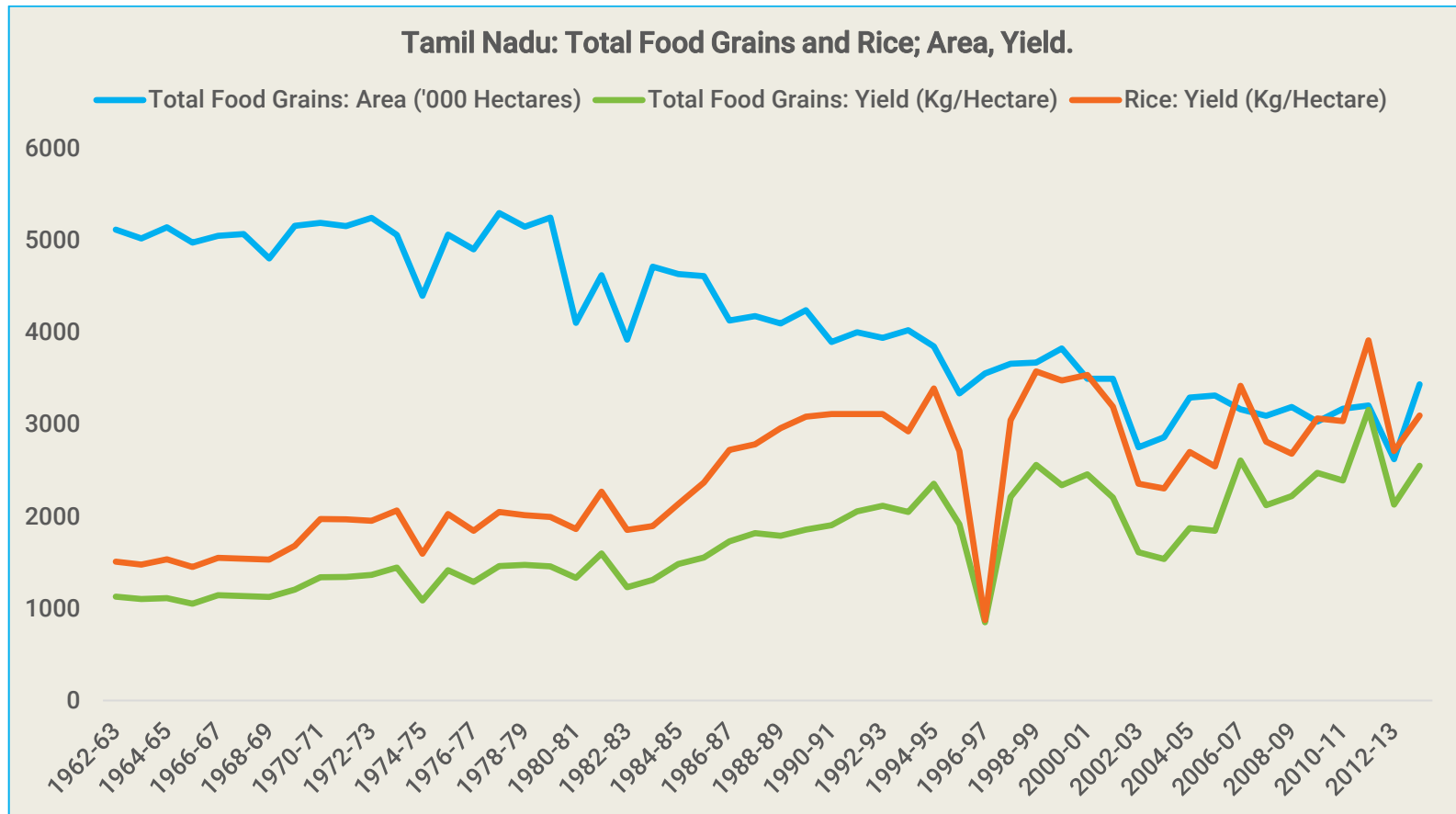
Table 3.17: Growth in Agriculture and allied activities sector (TN)

Tamil Nadu	Annual average growth rate of agriculture & allied activities sector
1993-94 to 2004-05	0.6%
2004-05 to 2011-12	5.9%

Source: Calculated from EPW Research foundation data on NSDP.

Figure 3.1 presents the area and yield data for total food grains and yield data for rice. The area under total food grains has been declining since the 1980s, and the yield has been increasing overall. In the first period between 1993-94 and 2004-05, the yield levels fluctuated and fell drastically in various years, while the area declined for most years. In the second period, when the agriculture sector was growing, the area was constant, and the yield increased, propelling agricultural growth.

Figure 3.1: Area and Yield of Total Food Grains and Rice (Tamil Nadu)



Source: Calculated using Area, Production, and Yield statistic from EPW Research Foundation data

Table 3.18: Tamil Nadu: Sources of Irrigation (Area in '000 Hectares)

Year	Total Holding Area	Area Irrigated					Net Irrigated Area	Net Irrigated Area (%)
		Canals	Tanks	Wells	Tube wells	Other Sources		
1995-96	7,303	1033	507	931	182	51	2,703	37.0
2000-01	6,972	798	484	1,017	210	76	2,584	37.1
2005-06	6,824	728	525	1,130	288	43	2,714	39.8
2010-11	6,488	712	500	1,509	518	15	3,254	50.2

Source: Agricultural Census

Table 3.18 shows the changes in the net irrigated area from 1995-96 to 2010-11. When the agricultural sector registered higher growth during the second period, the net irrigated area increased from 27 lakh to 32 lakh hectares. The share of net irrigated area has grown sharply between 2005-06 and 2010-11 from 39.8 to 50.2 per cent. But the majority of this increase is due to the increase in the area under well and tube well irrigation while the area under canal and tank irrigation fell. The area under canal irrigation decreased from 10 lakh hectares in 1995-96 to 7 lakh hectares in 2010-11. During the same period, the area under tank irrigation has remained at about 5 lakh hectares. The area under the well irrigation increased from 9 lakh hectares in 1995-96 to 15 lakh hectares in 2010-11, while the tube well irrigated area expanded from 1.8 lakh to 5.2 lakh hectares in the same period.

To summarise, the revival of agricultural growth in the second period was driven by an increase in yield and net irrigated area. The impact of agricultural growth on

agricultural wages and farm incomes would have consequences for the inequality levels in Tamil Nadu.

3.6 Conclusion

The analysis suggests increasing occupational diversification among rural households in Tamil Nadu. The share of ‘pure agricultural HH’ has been declining since 1993-94 and the share of ‘pure non-agriculture HH’ has been increasing. The share of ‘diversified HH’ increased between 2004-05 and 2011-12 and decreased thereafter. In 2017-18, the share of ‘pure agriculture HH’ (31%) was lesser than the share of ‘pure non-agriculture HH’ (50.7 %). For the first time, the non-agriculture sector replaced the agriculture sector as the primary source of employment in rural Tamil Nadu, marking the emergence of new rurality in Tamil Nadu. Occupational diversification in Tamil Nadu increased during both the period of agricultural stagnation and growth.

The regression results suggest that age, educational status, gender, location and land ownership are significant factors that influence occupational diversification in Tamil Nadu. The higher the land ownership, the lesser the odds of those households being a ‘pure non-agriculture HH’ compared to ‘pure agriculture HH’. The older the head of the household, the greater the odds of those households being ‘diversified HH’ and are significantly less likely to be ‘pure non-agriculture HH’ compared to ‘pure agriculture HH’. Women-headed households have greater odds of being ‘pure non-agriculture HH’. With an increase in the education level of the head of the household, the odds of being a ‘pure non-agriculture HH’ increases.

Chapter 4: Inequality and Rural Class Structure: Concepts, Data, and Methodology

4.1 Inequality Measures: An Introduction

There is a noticeable rise in inequality and income disparities between individuals from different genders, social groups, regions, and other dimensions across countries. This has caught the attention of academics and policymakers as rising inequality is associated with poverty and deprivation, lower economic growth and employment levels, and social unrest (Milanovic, 2006; Atkinson & Piketty, 2010; Ravallion, 2018; McGregor et al., 2019).¹⁶ Understanding the concepts of measuring inequality is the first step in studying inequality. The first part of the chapter focuses on dimensions of inequality, a survey of available inequality measures, and discusses the relative strengths and weaknesses of the available inequality measures.

4.2 Choosing an Appropriate Indicator

Inequality captures the disparities in the distribution of resources, opportunities, and outcomes. It is extremely challenging to measure inequality as we must answer a few questions before developing and choosing a measure. The first question is, what is the variable we care about? Thus, before identifying the inequality measure essential for a study, it is important to reflect on the choice of variable or dimension (such as income, consumption, education, wealth, etc.). The most used variables are income and consumption; however, income inequality is difficult to measure as it varies significantly with the context (like if we have a large population relying on informal work for income).

¹⁶ Refer to Adelman (2007) to discuss the implications of income inequality on geopolitical stability, Benhabib (2003) for the relationship between inequality and economic growth, and Payne (2017) for relationship between inequality and welfare.

Also, it varies significantly with the taxation rules practised in a particular country (McGregor et al., 2019). In several developing countries, we may not have a reliable measure of income estimates.

In comparison, consumption is a more widely used variable, as large-scale surveys capture information on household consumption expenditure on various commodities. It also can have challenges due to difficulty in estimating the expenditure on some goods.¹⁷ Most often, consumption inequality is lower than income equality as individuals (or households) manage consumption levels during temporary shocks (like a job loss).¹⁸ The second question is, what is the population of focus for measuring inequality? Global inequalities use between-country comparisons rather than individuals, and within-country inequality measures use individuals in a population. However, the decision on the population also depends on the purpose of the research. If we are interested in inequalities between different social groups to design redistributive policies, we look at the population by groups and estimate the inequalities accordingly. And finally, what properties of the variable distribution are of interest while choosing the measure? What kind of summary statistics are we interested in? Thus, addressing these challenges and concerns is essential before choosing an appropriate indicator to measure inequality.

¹⁷ There are many challenges of using consumption as a variable to measure inequality as it requires an effective tracking of expenditures on various goods and services and often there are cases of misreporting. And imputing value to the consumption of public goods and services is also challenging (Deaton 2005).

¹⁸ And when we talk about income and consumption, a household might be an apt unit of measurement since earnings and incomes are pooled at the household level. Often official datasets use equivalence scales to deduce the per individual disposable income and consumption. However, such equivalence scales might underestimate and ignore differences at the intrahousehold level (like gender differences). We might need a different measurement if research is based on capturing such dynamics.

4.3 Approaches to Measuring Inequality

There are two broad approaches to measuring inequality, one derived from social welfare functions - with a primary assumption that unequal distribution of incomes can affect the social and economic welfare in a society. These are the normative measures. Second, positive or descriptive measures of inequality do not make an assumption based on social welfare. One approach depends on how the social welfare function is defined, while the other is a strict description of inequality and is independent of the social welfare formulation. Sen (1979, 1996) is critical of the normative measures of inequality as they do not define inequality objectively or on the degree of inequality in society as it takes a normative approach with ethical considerations on the distribution of incomes in a society. However, the differences between these approaches are often blurred, as with changes in assumptions about social welfare function, positive measures can be made normative measures (Sen, 1996). Despite these differences, the critical distinction between approaches emerges from the underlying motivation, which for one is “what should be”, and the other is “what is” the level of inequality in a society.

4.4 Properties of an Inequality Index

Income distribution is an n-vector of individual income, and can be expressed as $x = (x_1, x_2, \dots, x_n)$, with mean income $\mu(x) = \mu(x_1, x_2, \dots, x_n)$, and the mean income can be written as;

$$\mu(x) = \mu(x_1, x_2, \dots, x_n) = 1/n \sum_{i=1}^n x_i$$

There are a few desirable properties or sets of principles or axioms that an inequality measure must satisfy for comparisons across countries, groups, and time points. Therefore, inequality measurement is also referred to as the “axiomatic method or axiomatic approach to measuring inequality”. Four basic principles are necessary; however, one can add further axioms to deduce a narrow class of inequality measures. These axioms or principles are based on economic rationales and mathematical logic to maintain consistency across the measures (Subramanian 2011).

Assuming I is a function that measures inequality of any income distribution $x: (x_1, x_2, \dots, x_n)$, then inequality of income distribution can be expressed as;

$$I(x) = I(x_1, x_2, \dots, x_n)$$

The four core principles/axioms that any class of inequality measure should follow are:

1. Axiom 1: Anonymity – Suppose x' is formed from distribution x by a permutation of the components in x , then $I(x) = I(x')$, implying that overall inequality remains the same with a change in the permutation of personal labels within a given income distribution. In simpler terms, it means that it does not matter who earns the income. In other words, an individual's identity is not relevant, but the ordering of the income level is essential. Before calculating any inequality measure, we need to order the incomes from the lowest to the highest in each distribution.

2. Axiom 2: Population Principle – According to this principle, overall inequality remains the same if we clone or replicate the population with the same

income pattern. That is, the size of the economy does not matter for the inequality measure. That is, If $x = \{x_1, x_2\}$ and $x_d = \{x_1; x_2; x_1; x_2\}$ then $I(x) = I(x_d)$. It is also referred to as the “Daltonian Principle of Population” or population replication invariance. It is essential for comparing income distributions across countries with different population sizes.

3. Axiom 3: Relative Income Principle – According to this axiom, only relative income levels matter, not absolute income levels in a distribution. That is $x^a = \alpha x$; if we transform an income distribution x by multiplying it with a positive constant α , then inequality should remain the same for the two distributions, $I(x^a) = I(x)$. Therefore, even if income increases by a constant proportion for all individuals in a population, the inequality remains unaltered as the relative position of individuals in income distribution remains the same.

4. Axiom 4: Transfer Principle or Pigou-Dalton Transfer Axiom – According to this axiom if a fixed amount is transferred from a non-poorer to a poorer person in an income distribution and the receiver of the amount remains poorer than the donor (that is, a progressive transfer), the inequality reduces for the given income distribution. Let $(x_1, x_2, x_3, \dots, x_n)$ be an income distribution, and consider $x_i \leq x_j$, a transfer of income from individual i to j is referred to as regressive transfer, and a transfer of income from j to i is progressive transfer. Assuming amount α is transferred from j to i , and after transfer also i remains poorer than j , then according to Dalton transfer principle, $I(x_1, x_2, \dots, x_i, \dots, x_j, \dots, x_n) > I(x_1, x_2, \dots, x_i + \alpha, \dots, x_j - \alpha, \dots, x_n)$.

The other principle followed while deriving class of inequality measures is symmetry, implying that if all individuals' incomes in distribution are equal, then inequality should be zero. Then, we also have a continuity principle which expects the inequality index to be a continuous function, thus, avoiding an abrupt change in the magnitude of an index due to a small error in income measurement.¹⁹

4.5 Inequality Measures

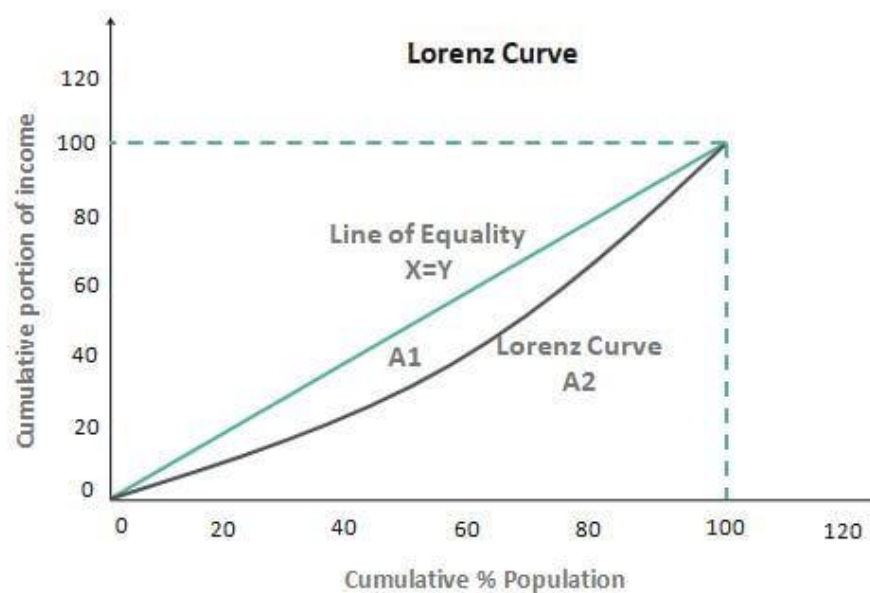
1. Lorenz Curve

The Lorenz curve is a useful method to graphically represent the income distribution in a society. It plots the cumulative percentage of the population on the x-axis or the horizontal axis. And on the y-axis, we plot the percentage of the total income accruing to any fraction of the population or, most often, the cumulative share of income earned by the poorest x% of the population (mean income of the poorest x% of the population). The Lorenz curve is increasing and convex as the population is ordered from poorest to richest. The 45° line refers to the line of equality or egalitarian line, which represents the case when income is shared equally among all individuals. The slope of the curve refers to the contribution of the person at that point to the cumulative share of total income. And thus, as we move away from the line of equality, the bottom x per cent

¹⁹ A few other criteria considered while choosing inequality measures include, “level sensitivity” and “sub-group decomposability” axioms. Level sensitivity demands that if a population is divided into equal non-overlapping subgroups, other things equal, an increase in the subgroup inequality should cause an overall increase in inequality. And according to subgroup decomposability principle, an inequality measure (I) can be decomposed into two components: i) sum of inequality within subgroups and ii) between group inequality components. It can be expressed as, $I(x) = I_w(x) + I_B(x)$, where I_w refers to within-group component (and $I_w(x) = \sum_{j=1}^k w(x_j) I(x_j)$, where, w refers to the weight attached to subgroup j's inequality). Refer to Subramanian (2011) for more details on inequality measurement with subgroup decomposability.

population earns much less than the x per cent, thus, indicating an unequal distribution of income. Therefore, if one individual has all income and the rest with no income – a perfectly unequal income distribution, the curve will be L-shaped. The distance between the line of equality and the Lorenz curve depicts the degree of inequality in society (Figure 4.1).

Figure 4.1: Lorenz Curve



Source: Lorenz Curve (wallstreetmojo.com)

The Lorenz curve satisfies scale invariance (as it is normalised by the mean income), so only share matters, and proportional changes to the income do not affect the Lorenz curve. It also satisfies anonymity, replication, and symmetry, as permutations and replications do not affect the curve. And regressive transfer moves the curve further away from the line of equality; thus, it satisfies the transfer axiom. Despite this, a major limitation of the Lorenz curve is that the Lorenz ranking is incomplete. When two Lorenz curves

cross, we cannot decide which income distribution is less unequal. In such cases, we do not have any information to prefer one distribution over the other.

Alternatively, scalar or numerical measures can provide a complete ranking of the income distributions.

2. Simple Measures of Inequality

We have basic quantitative or numerical inequality measures such as range, Kuznets ratio, and mean absolute deviation.

i. Range

It is a crude measure of inequality and is based on the difference between extreme values of the income distribution, that is, the highest and lowest income levels or the ratio of mean income, and can be defined as;

$$E = \frac{Max x_i - Min x_i}{\mu}$$

In this x_i is defined as the income of a person i , and the average income is μ . When income is divided equally, $E=0$. An important limitation of the range is that it ignores the income distributions between the extremes.

ii. Kuznets Ratio

It refers to the ratio of the richest $x\%$ to the poorest $y\%$ and is again a crude ratio as it ignores the distributions between the extremes.

iii. Mean Absolute Deviation

The mean deviation is the average of deviations around the mean income (or the absolute distance from the mean value). It can be expressed as,

$$M = \frac{1}{n} \sum_{i=1}^n |x_i - \mu|$$

However, this is not used commonly as it cannot be used for further algebraic decompositions and treatment.

iv. Relative Mean Deviation

It is a slightly reformed way of measuring the mean deviations of incomes as it does not merely consider the difference between extremes. It is obtained by dividing the mean deviation by the mean income and can be expressed as,

$$M = \frac{\sum_{i=1}^n |\mu - x_i|}{n\mu}$$

When incomes are equally distributed, $M = 0$, though it considers the entire income distribution, it does not satisfy the transfer principle. If a transfer happens from a wealthier to a poorer individual on the same mean income side, adding the deviations from the mean will leave the inequality measure unchanged (Sen, 1996).

3. Coefficient of Variation

It is one of the most used measures of inequality that considers the information from the entire income distribution. The coefficient of variation (CV) is the ratio of standard deviation to the mean income level. Variance (V), the sum of the squared difference between individual incomes and the mean income level, does not consider the absolute values of the gap (like, in the case of mean absolute deviation) and is also a

measure of variation in the income distribution. However, it also depends on the value of the mean income. For example, even if an income distribution has a higher relative variation, it may have a lower variance if the mean income is lower than the income distribution with a lower variation. Thus, CV solves this concern as it does not depend on the mean value of the income distribution.

CV can be expressed as (where μ = mean income level, n = number of individuals in the income distribution, x_i is the income of the i^{th} individual),

$$\text{Variance } (V) = \sum_{i=1}^n (\mu - x_i)^2 / n$$

$$\text{Coefficient of variation } (CV) = \sqrt{V} / \mu$$

CV satisfies the four primary axioms as it is sensitive to income transfers and independent of the mean income. However, the measure is criticised on the following aspects, first, giving the same weightage to transfers of income at different levels. Second, it is susceptible to changes in mean. As Sen and Foster (1997) argue, the measure does not capture the difference between the income of different individuals but instead the difference from the mean level.

4. Gini Coefficient

The Gini coefficient is a measure of variability propounded by an Italian statistician Corrado Gini. It is the most widely used index to measure wealth or income inequality. The Gini coefficient takes values between 0 and 1, where zero indicates perfect equality (i.e., all the individuals have equal income), and one indicates perfect inequality (i.e., one individual has all the income, and the rest have none) (Bellu & Liberati, 2006).

It is the most widely used measure of inequality. It is linked to the Lorenz curve, as it is the ratio of the difference in area between the line of equality and the Lorenz curve to the triangular region beneath the diagonal.

Gini Coefficient (G)

$$= \frac{\text{Area between the line of absolute equality and the Lorenz Curve}}{(\text{Area of triangle below the 45 degree line})}$$

The Gini coefficient satisfies all four axioms. Suppose we calculate the Gini coefficient as per the equation above. In that case, it is one-half of the relative mean difference, defined as an average of the absolute values of differences between all income pairs in the income distribution.

$$G = (\frac{1}{2n^2\mu}) \sum_{i=1}^n \sum_{j=1}^n n_i n_j |x_i - x_j|$$

The measure also avoids the difference of incomes from the mean, unlike the coefficient of variation and mean absolute deviation. As stated earlier, a perfectly equal distribution would have a G value of 0; otherwise, it will lie between 0 and 1. An advantage of this measure is that it uses information from the entire income distribution, not only depending on extreme values. However, there are a few concerns with this measure, such as in cases where two income distributions have the same Gini value, we cannot identify the more unequal distribution. For example, there are two cases. First, in which 50 per cent of the population receives zero income, and the remaining half shares the income equally. The Gini value would be 0.5. In the second case, 75 per cent of the population earns 25 per cent of the total income, and 25 per cent receives 75 per cent of the income (split equally within groups), the Gini would again be 0.5. From the welfare perspective, one can say the

first case is worse off since 50 per cent of the population does not receive any income at all (Trapeznikova, 2019). Rothschild and Stiglitz (1973) and Sen and Foster (1997) raised similar concerns as the Gini ranking does not reflect the welfare function.²⁰

5. Theil Index

This measure of inequality belongs to the family of general entropy measures (GE).²¹ It means that as the probability of an event increases, the information content or the “surprise” content reduces. In a way, the information content (h) is a decreasing function of the probability of the event (x). That is, $h(x) = \log 1/x$. Suppose n number of events are possible with respective probabilities x_i , then the entropy or the expected information of the event can be expressed as;

$$H(x) = \sum_{i=1}^n x_i h(x_i) = \sum_{i=1}^n x_i \log\left(\frac{1}{x_i}\right)$$

The most used entropy measure in inequality measurement is the Theil index, which is also referred to as mean logarithmic deviation. GE satisfies a few properties: the $H(x)$ is a non-negative value, it satisfies symmetry, and when $x_i = 1/n$, $H(x)$ attains the highest value that is equal to $\log n$, and it is a concave function.

The general formula of GE measures with α depicting the class of measures based on the sensitivity of the measure to income differences at different intervals of the income

²⁰ Refer to Atkinson (1970), Rothschild and Stiglitz (1973), Sen and Foster (1997) for concerns related to Gini ranking in case of same Gini values for two different income distributions.

²¹ It is taken from the notion of entropy in statistics that deals with the amount of uncertainty and unpredictability involved in a random outcome.

distribution. That is, if α is large, the $GE(\alpha)$ is more sensitive to the changes in the upper tail of the income distribution. It is expressed as;²²

$$GE(\alpha) = 1/n(\alpha^2 - \alpha) \sum_{i=1}^n [(\frac{x_i}{x})^\alpha - 1]$$

When $\alpha=0$, it is called Theil's L or mean logarithmic deviation. When $\alpha=1$, it is called Theil's T, commonly known as Theil index, and when the value is equal to 2, it is the coefficient of variation. These measures satisfy the principal and decomposability axioms (Cowell, 2005). An important limitation of this measure is that the values are not comparable across different units. If the size changes, the value will differ. Sen and Foster (1997) consider this an arbitrary formula as it assumes that individual welfare functions should take the form that x_i is proportional to $\log(\frac{1}{x_i})$, which does not have sound logical reasoning.²³

6. Ratios

These are simple inequality measures that focus on specific points or tails of the income distribution. For example, the inter-decile ratio refers to the ratio of the average income of 10 per cent richest to the 10 per cent poorest in the distribution. Palma ratio, a commonly used measure, refers to the ratio of incomes of the top 10 per cent to the bottom 40 per cent in income distribution. A major advantage of these ratios is their simplicity in the presentation of the results, and they are easy to understand. However, it may not satisfy

²² Refer to Cowell (1985), Sen (1996), Cowell (2011), Muszyńska and Wędrowska (2018) for the derivation of the equation.

²³ Refer to Sen and Foster (1997).

the transfer principle. Also, it depends on the specific portions of the income distribution and does not provide comprehensive information about the distribution.

7. Normative Measures: Atkinson Index

One such widely used normative measure of inequality is by Atkinson (1970). Dalton (1920) is one of the early works on inequality measurement that follows the utilitarian approach – which describes the relationship between income distribution and aggregate utility function in society. According to the Dalton index, the utility function is strictly concave and indicates the diminishing marginal utility of income. Equal income distribution maximises aggregate or social welfare (Sen 1996, Kaplow 2005). It is given by the following equation, where x_i refers to the income of individuals in the income distribution and μ refers to the mean income level in the distribution, and U gives the utility level;

$$D = [\sum_{i=1}^n U(x_i)] / nU(\mu)$$

However, Atkinson (1970) raises concerns about Dalton's measure as it is invariant to the positive linear transformations of the utility function. Atkinson (1970) defines an equivalent income of a given distribution that is the per capita income that is distributed to everyone in a population that would make welfare equivalent to the total welfare generated by the actual distribution. And the equally distributed equivalent of income y_e is given by,

$$y_e = y | [nU(y) = \sum_{i=1}^n U(y_i)]$$

Since $U(y)$ is a concave function, the y_e cannot exceed μ (the mean income). More equal the income distribution, y_e will be equal to the mean income μ . Atkinson's index of inequality is given by,

$$A = 1 - \left(\frac{y_e}{\mu} \right)$$

Suppose the income is equally distributed, $y_e = \mu$, and thus $A=0$. The value of A ranges between 0 and 1 (Atkinson, 1970; Sen, 1996).

A significant limitation of this measure is the dependence of the index on the form of social welfare function; thus, it ceases to be descriptive, indicating “what is” the level of inequality. Instead, it captures “what needs to be”.

4.6 The Measure of Inequality Chosen for the Study

The Gini coefficient is chosen to analyse inequality in India. As discussed above, the Gini coefficient is a summary index of inequality and not just ranking criteria. Further, the Gini coefficient is not based on information from a particular section of the distribution, for example, the extreme values. A major limitation of the Gini coefficient is that it is not sub-group decomposable. That is because the Gini is sensitive to both the distribution of incomes and the distribution of ranks. While it is easier to decompose the Thiel index into within-group and between-group, we have chosen to use the Gini because a more complex decomposition of Gini offers more information than the straightforward decomposition of the Thiel index (Yitzhaki & Lemram, 1991). The limitations on the decomposability of the Gini coefficient are overcome by using the method developed by Yitzhaki (1994).

4.7 Gini Coefficient Decomposition Method

Analysing the Gini coefficient for the whole population is helpful to the extent that it offers insights into the level of inequality for that population. As we know, the population is not a homogenous whole, and it constitutes various groups along the lines of class, region, caste, and religion. Therefore, it is essential to decompose the Gini coefficient further to find the contribution share of each such group to the overall inequality and to understand the inequality existing between these groups of people and the level of inequality within them.

Shlomo Yitzhaki (1994) has developed a method to decompose the overall Gini coefficient into an inter (between) component and an intra (within) component. A brief explanation of the Yitzhaki decomposition method is given below.

The overall Gini coefficient is decomposed into inter-component and intra-component following the method suggested by Yitzhaki (1994):²⁴

Let G be the Gini coefficient

$$G = I_b + I_r$$

Where I_b is Inter-group inequality and I_r is Intra-group inequality (the remainder term).

$$I_b = \frac{2 \operatorname{cov}(\mu_i, F_{oi}(y))}{\mu}$$

²⁴ For a detailed explanation, refer (Yitzhaki and Lerman (1991); Yitzhaki (1994) Zacharias and Vakulabharanam (2011); Wolff and Zacharias (2013); Milanovic and Yitzhaki (2002).

Where y denotes consumption, μ indicates the mean consumption of the overall distribution, μ_i is mean consumption of group i , and $F_{oi}(y)$ indicates the average position of a group's members in the overall distribution, i.e., the mean rank of group i . Therefore, the extent of between-group inequality I_b is two times the covariance between the mean consumption of each group and its mean rank divided by the overall mean consumption. The mean consumption of groups and the average ranks of their members in the overall distribution represent each group. According to Milanovic and Yitzhaki (2002), the term I_b will become zero if the average consumption or average rank of all groups is equal.

The remainder term

$$I_r = \sum_i s_i G_i O_i$$

Where s_i , denotes group i 's share in total consumption. G_i , indicates the Gini coefficient of the consumption distribution within group i . O_i , is group i 's overlapping index with the overall distribution. The remainder term I_r is the sum of the products of Gini coefficients, overlapping index, and income shares of all groups.

The overlapping index measures the degree to which a group's consumption range overlaps with the overall population's consumption range. It can further indicate the trend towards stratification. Stratification indicates a group's isolation from the other group's members (Yitzhaki & Lerman, 1991).

The overlapping index

$$O_i = \frac{cov_i(y, F_{oi}(y))}{cov_i(y, F_i(y))}$$

Where $F_{oi}(y)$ is the function that ranks group i 's members in the overall distribution (all individuals in group i are assigned a rank in the overall distribution, and $F_{oi}(y)$ represents the mean rank). F_i is the function that gives the rank to the members of group i in the consumption distribution within the group i . cov_i is the covariance of the distribution within group i .

The minimum value of O_i is equal to the population share of group i , and its maximum value is 2. If O_i is equal to its minimum value, then group i exists as a perfect stratum in the overall distribution. If O_i is equal to 1, then group i perfectly overlaps with the whole distribution and if $O_i > 1$, then the group i is polarised, i.e., the group comprise two strata, one with a higher mean and another with a lower mean than the mean consumption of the overall population (Vakulabharanam, 2010).

The overlapping index O_i can be further decomposed to understand the composition of each group in the overall distribution. The overlapping of group i , is composed of group i 's overlap with all the other groups and with itself.

$$O_i = p_i + \sum_{j \neq i} p_j O_{ji}$$

Where p_i represents the population share of group i in the total population. O_{ji} is the overlapping of group j by group i .

Where

$$O_{ji} = \frac{cov_i(y, F_{ji}(y))}{cov_i(y, F_i(y))}$$

F_j is a function that ranks group i 's members in the distribution of group j .

The properties of the overlapping index O_{ji} are

“(a) $O_{ji} \geq 0$. The index is equal to zero if no member of the j distribution is in the range of distribution i ... (b) O_{ji} is an increasing function of the fraction of group j that is located in the range of group i (note that the reference group is subscripted second). (c) For a given fraction of distribution j that is in the range of distribution i , the closer the observations belonging to j to the mean of group i , the higher O_{ji} . (d) If the distribution of group j is identical to the distribution of group i , then $O_{ji} = 1$. Note that by definition $O_{ii} = 1$... (e) $O_{ji} \leq 2$. That is, O_{ji} is bounded from above by 2. This maximum value will be reached if all observations belonging to distribution j are concentrated at the mean of distribution i ...”
(Milanovic & Yitzhaki, 2002, p. 161).

It can be seen that O_{ji} is an index that shows the magnitude to which group j is included in the range of group i . The inter-group inequality I_b will be equal to G if all the groups are perfectly stratified (i.e., $O_i = p_i$). Therefore, the presence of overlap between groups ensures that inter-group inequality does not reach its upper limit of G . Further, an increase in inter-group inequality is associated with a decrease in the overlapping index.

4.8 Agrarian Class Structure: An Introduction

This section reviews the literature with a focus on the identification of the rural classes in India. The idea is to define a class structure and use it to analyse inequality trends. As discussed in Chapter 2, inequality levels are linked to the agrarian transformation of an economy.

Lenin's richest analytical contribution to agrarian political economy is his study of "The development of capitalism in Russia".²⁵ Lenin offers some key insights; "the class differentiation among the peasantry is both the expression and driver of development of capitalism in agriculture". The emergence of capitalism is characterised by the formation of three basic classes- rich, middle and poor peasants which will eventually transform into rich peasants (capitalist farmers) and poor peasants (proletariat labour), with a small number of middle peasants transforming into the former and a considerable number transforming into the later.

Athreya et al. (1987) quote Lenin's classical definition of class

"Classes are large groups of people differing from each other by the place they occupy in a historically determined system of social production, by their relation (in most cases fixed and formulated in law) to the means of production, by their role in the social organisation of labour, and, consequently, by the dimensions of the share of social wealth of which they dispose and the mode of acquiring it. Classes are groups of people one of which can appropriate the labour of another owing to the different places they occupy in a definite system of social economy" (Athreya et al., 1987, p. 149)

India has rich literature on the identification of classes in the countryside. Most of the literature is part of the mode of production debate that took place in the 1970s and 1980s. The chapter offers a detailed summary of the debate focusing on the class structure. One part of the debate is primarily concerned with identifying the emergence of capitalist

²⁵ The Development of Capitalism in Russia was first published in 1899.

farmers. The other part of the debate focused on identifying the doubly free wage labour in Indian agriculture. The scholars invoke various theoretical and empirical criteria to identify classes in rural India relevant to the study.

4.9 Agrarian Class Structure in Rural India

In his series of articles in 'The Statesmen' (November 1967), Daniel Thorner observed the emergence of enterprising farmers in India engaging with new scientific technologies in agricultural production. He interpreted this significant trend in agriculture to be profitable and expanding, with an implication that the capitalist farmers were rapidly growing in number and their further emergence as powerful elements in some regions of the country not only in terms of economic but social and political as well. This insightful observation by Thorner during the period when the initial effects of the green revolution were prominently experienced was instrumental in attracting a series of responses and rigorous research that came to be known as the mode of production debate.²⁶

The initial findings of Ashok Rudra (1969) based on his sample survey of big farmers (who own more than 20 acres of land) in Punjab conducted during 1968-69 did not confirm the observations made by Thorner. He found that cultivation was the only occupation for 92 per cent of the large farmers in his sample, where 97 per cent did not engage in any subsidiary activity, and the remaining 3 per cent were former government employees or military personnel. Only 1 per cent had educational attainment of college level, while 69 per cent were illiterates. He also observed an increase of 9.5 per cent in the

²⁶ The main source of literature is the three-part article by Alice Thorner titled "Semi-Feudalism or Capitalism? Contemporary Debate on Classes and Modes of Production in India", published in 1982 in Economic and Political Weekly, Vol.17, Nos. 49, 50, and 51.

land owned by the big farmers over 12 years and an evident increase in rates of capital formation. Further analysis of his survey revealed that 39 per cent of the big farmers were involved in non-agricultural activities, which was along the lines of the claim that the big farm families diversified their interest in various economic activities made by Daniel Thorner.

Rudra further engaged with the question of classes within the peasantry and observed that categorising the peasantry into small peasants, middle peasants, and big farmers was unnecessary. Rudra (1970) delineated the criteria for the capitalist as distinguishable from big farmers, suggesting that the capitalist in Punjab would prefer to cultivate the land than lease it out. The capitalist farmer would employ more hired labour than family labour. The capitalist farmer tends to utilise farm machinery and sell a significant part of the produce in the market for a higher return. Rudra assigned the following five variables as proxies to the above stated characteristics of a capitalist, firstly, the proportion of land leased out in total land owned; secondly, wages paid in cash per acre of farm size (X_2); thirdly, the value of modern capital equipment used per acre of farm size (X_3); fourthly, the percentage of produce marketed to total produce (X_4) and finally, the cash profit per acre (X_5). (X_1) is productivity defined as the value of output per acre (Rudra, 1970; Thorner, 1982). He contended that if there was a positive correlation between any pairs of variables (for example, X_2 & X_3 or X_2 and X_4 etc...), then the existence of capitalist farmers could be established. He observed that his field data did not indicate any such correlation; therefore, Rudra ruled out the existence of capitalist farmers.

Patnaik (1971) contended Rudra's criterion of a high degree of positive correlation between pairs of variables for establishing the existence of capitalist farmers as too ideal,

which can be satisfied only in the advanced stage of capitalism. Patnaik refuted Rudra's claim by making a comprehensible argument that historically capitalists emerge from the previously prevailing pre-capitalist relations, not out of thin air. The argument is further intensified with reference to the significant feature of the erstwhile colonies like India, characterised by a lack of full-scale capitalist development and the question of whether there is any tendency toward capitalism today which was not present earlier. The clear indication made by Patnaik was that the answer to the question raised should be found neither in the increased production for markets nor in the employment of hired labour. The accumulation and reinvestments for expanded production are indispensable features of capitalist production, with the further explanation that the capitalists in agriculture could be identified by "the degree of capital intensification" (Patnaik, 1971a, p.126). This capital intensification tendency has been visible since the 1950s. Based on a survey of 66 big farmers across five States in India, including Tamil Nadu, Patnaik concluded that India witnessed the emergence of capitalist farmers in varying degrees across the country.

Patnaik (1971a, p.129) criticised Rudra's employment of definitions of peasant classes as statistical discontinuities incompatible with Marxist analysis. She argued that the Marxist distinction between classes "based on the relations of production" and not to be superficially derived from statistical criteria as defined by Rudra.

To defend his stance, Rudra (1971, p. 2292) argued that the "concept of discontinuities is the direct translation of the Marxian concept of quantities into qualities", which he argues is necessary to test the hypothesis of the existence of three classes in agriculture. He further strengthened his position by claiming that there is no "readily

identifiable group” of capitalist farmers in Punjab, demonstrating the absence of polarisation among the farmers in Punjab.

Amit Bhaduri (1973), based on his field study in West Bengal in 1970, characterised the dominant production relation in Indian agriculture as ‘semi-feudal’ as they shared more common features of feudalism than that of industrial capitalism. He identified four essential characteristics of the semi-feudal relations prevalent in Indian agriculture; firstly, the practice of sharecropping; secondly, the unending indebtedness of the small tenants to landlords; thirdly, the practice of double exploitation, through usury and land ownership and finally, the appropriation of the surplus thus generated by the same economic class which owns the land and lends money; and lack of market access for the small tenant. Bhaduri debated that the land-owning class would act as a hurdle to improving the productive forces because the increase in productivity would increase the tenants’ income, freeing them from debt bondage. He predicted that, firstly, the prevailing power structure in the villages of eastern India would continue due to the poor productivity of the agriculture sector. Secondly, the semi-feudal relations would be altered according to the employment of improved technology for production. Thirdly, there could be a gradual transformation to the capitalist mode of production. And finally, there is a possibility that in the absence of land reforms, the rural poor would overthrow the semi-feudal class.

Pradhan Prasad, based on his field data, which he collected through his surveys in Bihar in 1970 and 1972, similar to Bhaduri’s proposition, claimed that usury as a relation is maintained to ensure the bondage of direct producers to the landlords. Prasad observed that the land-owning classes, to keep their control over tenants, would pursue strategies to prevent their tenants’ technological improvements and productivity increases even at the

cost of their profits. And thus, semi-feudal relations could obfuscate the development of productive forces. Prasad cited evidence from the various data collected through surveys conducted between 1951 and 1971 to reinforce the argument that most parts of India could be characterised as semi-feudal (Prasad, 1973; 1974)

Nirmal Chandra (1974) analysed the official data for West Bengal and remarked that no trends were compatible with the laws of motion for agriculture formulated by Lenin and Kautsky. Based on data from 250 farms in West Bengal between 1962-63 and 1967-68, he deduced that India did not witness a capitalist transformation because of some critical socio-economic factors that hindered such a transformation. He argued imperialism had been a significant obstacle to capitalist transformation, and colonial rule strengthened feudal or semi-feudal relations, which was mainly responsible for the apathetic development in the post-colonial period. Nirmal Chandra proposed two important modifications to Bhaduri's thesis; firstly, he argued that Bhaduri overstated the process of semi-feudal relations, hindering the development of productive forces. He suggested that by enforcing a variable share-cropping ratio, the semi-feudal class could ensure its dominance even in the event of a productivity increase by lowering the tenant's share of the production. Secondly, he explained the stability of feudalism through the presence of critical unemployment and underemployment, which was outside the ambit of Bhaduri's consideration. He argued that such a high unemployment level would peg the labour power's value at a minimum and ensure that the tenant's real income is not higher than that of the agricultural labourer. The quantity of the surplus to be appropriated by the landowner would be the same under one or the other system. In the case of a productivity increase due to the introduction of new technology, the landowner could reduce the share of the tenant

due to the weak bargaining power of the tenants. He argued that the presence of high unemployment could impose a demand constraint for industrial products, and further, the presence of a huge labour surplus could perpetuate semi-feudal relations; thus, without addressing this problem, capitalist development would be challenging to accomplish.

Ranjit Sau (1975) argued in favour of Nirmal Chandra and Bhaduri's view that "the mode of production in Indian agriculture is semi-feudal", and the presence of high unemployment in agriculture was acting as an impediment to capitalist growth. He observed that the stubborn resolve of the small peasants to pursue cultivation enabled the semi-feudal relation to persist.

Rudra (1974) reversed his earlier position and argued that capitalistic relations are emerging in Indian agriculture. Contrary to the claims of Prasad and Chandra, he discovered that landowners engaged in capital investment, like developing irrigation facilities, fertilisers, HYV seeds etc. While Rudra confirmed that big landowners earned income through usury, he stated that it was not the primary source of income. Contrary to Nirmal Chandra, Rudra observed a clear trend of land concentration (as defined by Patnaik) in terms of the value of the land held, not the area held. He further encountered Chandra's arguments by stating that though there was high underemployment during the off-season, a labour shortage was noted during the peak season.

Mencher (1974) attempted to study the classes in rural India as it was essential to systematically investigate why peasant revolts happened in one region and not another. Mencher observed that struggles occurred in regions with higher agricultural landless labourers. She claimed that landless labour forms the critical constituent of the peasant uprising, contrary to Eric Wolf's proposition that middle peasants form the critical factor

in such uprisings. She did a comparative analysis of two regions, namely Thanjavur of Tamil Nadu and Kuttanadu of Kerala, known for their radical peasant mobilisation. Through this study, she explained how the possibilities of peasant uprising were impeded. She argued that Chengalpattu had a vast proportion of agricultural labourers, and most of them were involved in sharecropping. The competition among them and with small peasants to obtain land for sharecropping prevented them from coming together and acting in unity against the big land-owning class. She further pointed out that caste alliances were also used to thwart unity among the poor.

Based on her survey of 10 villages in 1966-67 and 1970-71, Mencher classified the rural population of Chengalpattu into six socio-economic classes. First, the 'landless class' earns livelihood by working as wage or bonded labour. This class also includes the sharecropper who receives one-seventh of the harvest. Second, 'small peasants' who own between 1 and 2.5 acres of land and also labour out to earn a living. Third, 'middle peasants' who own land between 2.5 and 7.5 acres. Middle peasants are employers of labour and can mostly sustain themselves without labouring out. Fourth, 'rich farmers' who own between 7.5 and acres of land. They are self-sufficient and produce enough surplus to withstand a bad year and procure consumer goods. Fifth, in the category of farmers who own between 15 and 30 acres, there are three types' rich farmers, capitalist farmers, and traditional landlords'. Rich farmers lease out part of the holdings to sharecroppers and cultivate the remaining themselves by hiring coolies and performing some of the manual labour themselves. Capitalist farmers do not engage in manual labour and cultivate by hiring coolies. The traditional landlords give their land to labourers under various kinds of

tenancy. And sixth, the 'intermediate class of large landholders' that own more than 30 acres of land.

Mencher (1974) observed that class and caste categories overlapped to a significant extent in her study villages. For instance, most of the landless households (including those who owned less than 1 acre) belonged to Vanniyars (lower-caste) or Paraiyans (untouchables), relatively lesser Paraiyans belonged to the poor peasant category, and large landholding households were from Brahmin, Mudaliar and Reddiar castes. She argued that caste alliances do obfuscate class antagonisms and impede radical mobilisations.

Nirmal Chandra (1975) offered the following class categorisation for the Burdwan district of West Bengal. He characterised the landed families who did not perform wage labour as 'upper classes', which included landlords (rental income), capitalist farmers (operate land through wage-labour), rich peasants (primarily dependent on hired labour though at times perform labour in their land) and middle peasants (marginally dependent on hired labour). He added that the villages were divided nearly into equal halves; the land-owning class who leased out land or hired workers on the one side and the poor peasants and landless labours on the other. He believed that given this sort of an almost equal split, the struggle against exploitation would never really fire up.

Utsa Patnaik (1976) focused on 'class differentiation among the peasantry'. Analysing the census data on landholdings, she observed that there was a concentration of modes of production. She implied that different types of holdings differed in how the production activity was organised. Citing evidence from the NSSO figures on landholding and the results of various Farm Management Surveys, she observed that at one end of the spectrum, there were households with more productive resources relative to the family size

and hence primarily depended on hired labour to organise production (landlords and rich peasants; the exploiting classes). At the other end were the households that did not possess enough means of production, which primarily depended on working for others as labourers or tenants. This section constituted the majority (poor peasants, landless labourers, and exploited classes). There is another category of petty producers which fell in between, who neither employed hired labour to organise production nor did they work for others as labourers.

Patnaik (1976) came up with the ‘labour-exploitation criterion’ denoted by the letter E, which she claimed to be a “descriptive approximation to the analytical concept of economic class”. The composite ratio E would consider hiring in, hiring out, renting in, renting out, and using family labour for each household. She claimed that the ‘labour-exploitation criterion’ was formulated to reveal the necessity for the various classes within the peasantry to enter into relations with each other in the production process. Patnaik identifies two exploiting classes, landlords and rich peasants. Based on the predominant form of exploitation, the landlords are further classified as capitalist (exploitation through labour hiring more than rent) and feudal (exploitation through labour hiring is equal to or lesser than rent).

Similarly, the rich peasants are classified as Proto-bourgeois (exploitation through labour hiring more than rent) and Proto-feudal (exploitation through labour-hire is equal to or lesser than rent). She further identifies two exploited classes, poor peasants and full-time labourers (no rent payments). Poor peasants are further classified into agricultural labourers operating land (labour hiring out is more than rent payments) and petty tenants (labour hiring out is lesser than or equal to rent payments).

Ashok Rudra (1978), in his article on class relations in Indian agriculture, proposed a thesis on class composition in Indian agriculture. He articulated that class contradictions defined classes. He argued that in the production process, different classes enter into relation with each other, which is the relations of production. Still, at the same time, not all relations of production define a class. According to him, the relations of production define different social groups; only some social groups would qualify as a class. He rejected the conventional thesis of class differentiation among the peasantry and argued that there were only two classes, namely, the big landlords and the agricultural workers. He stated that the antagonistic relation between the class of landlords and agricultural labourers formed the principal contradiction in Indian agriculture. He further explained that there are no contradictions between the feudal and the big capitalist landowners; he stated that they were a single hybrid class, part feudal and part capitalist. He identified this class of big landowners as the ruling class. He argued that the caste factor negates the distinction between big landowners and rich peasants in India. He believed that the class contradiction between the big landowners and the labourers and the struggles that arose from these contradictions were the potential force for any radical change in the Indian agrarian structure.

Rudra (1978) concluded by making specific suggestions for revolutionary political praxis. He rejected the proposal of an alliance of the entire peasantry, which included various classes from landless labourers to capitalist farmers to wage struggles against the feudal landlords. He argued that such an alliance would betray the interests of the agricultural labourers, and he called for an uncompromising struggle against the landlords without any sympathies for some classes for possessing more capitalistic traits than others.

Pranab Bardhan (1979), while agreeing with most of the points made by Rudra on the class relations in Indian agriculture, he differed with Rudra's rejection of middle peasants as a separate class based on the data compiled by Kalpana Bardhan from Farm Management Surveys conducted in Tamil Nadu, Punjab, Uttar Pradesh and West Bengal between 1967 and 1972. The data showed that the number of middle peasants varied from one part of the country to another; hence, he argued for further extensive research. Pranab Bardhan disagreed with Rudra's claim that no contradiction within the hybrid class of big landlords between capitalist and feudal elements existed.

Prasad (1979, 1980) identified three class categories for the North Indian Hindi-speaking belt with the details of the caste makeup of classes. The class of top peasantry, including landlords, consider manual work, even on their farms, degrading to their status. This class is predominantly upper caste. Middle peasants perform manual labour only on their farm and do not labour out. The class of middle peasantry hire agricultural labourers, but the poor middle peasants do not. This class is constitutive of middle-caste Hindus. And finally, the class of agricultural labourers are drawn predominantly from the scheduled caste, scheduled tribes and a few from the middle castes.

Prasad emphasised the mounting contradictions between the emerging middle caste groups and the traditionally predominant upper caste groups. Further, he observed an emerging contradiction between the landlords and the poor peasants. He believed that as the semi-feudal relations would weaken, this contradiction would be replaced by another contradiction between the poor peasants and the new upper caste Hindus. He suggested that caste rivalries diffused class contradictions once and hindered agricultural

development, and he predicted that later the caste conflicts would undermine the semi-feudal relations in Bihar.

Harriss (1979) identified classes in rural Tamil Nadu based on the household's resource holding to livelihood needs and labour relations. One, capitalist farmers have assets that are enough to meet fourfold the basic livelihood needs. They rarely contribute family labour and employ a permanent labour force. Two, rich peasants possess assets that can meet two to four times the household requirements and they employ family labour considerably. They may employ a few permanent labourers as well. Three, independent middle peasants have assets that are capable of meeting up to twice the household requirements. They primarily employ family labour and at times work for wages. Four, poor peasants, have assets that do not meet subsistence requirements and engage primarily in wage labour. Poor peasants include agriculture wage labour and marginal farmers.

Kathleen Gough (1980), in her article, traced the political economy of Thanjavur since 850 A.D and characterised the relations of production in Thanjavur in the late 19th and the early 20th century as capitalist. She argued that the relations of production turned into what Marx called the 'formal subsumption of labour under capital' with a colonial character and not yet into the 'real subsumption of labour under capital'.

Gough noted that labourers in the Tanjavur region achieved freedom from bondage with the abolition of slavery. She noted that agricultural labourers and artisans were freed from the means of production in the 18th and 19th centuries and were forced to sell their labour power for sustenance. Further, landlords owned the means of production and sold more than half of the agricultural produce in the market. The area under cultivation in Thanjavur increased with improvements in irrigation. Gough observes the extended

reproduction of capital and a rise in “the organic composition of capital” in mills and transport sector. These sectors were characterised by the “real subsumption of labour under capital” Gough (1980, p. 355).

Athreya et al. (1987) defined the agrarian class structure in Tamil Nadu based on the field survey data of six villages in the Trichy district. The authors define the class using the ‘surplus criterion’ that is “based on the reproduction of the family and the farm” (Athreya et al., 1987, p. 163). They define surplus using the following equation

$$S = Y - (K + B + C + D)$$

Surplus (S) is the difference between “farm income and the total of the grain deficit” (K), “the costs for production in cash” (B) and “the cash required for non-grain consumption” (C) and “the wage equivalent of the family labour days” (D) (Athreya et al., 1987, p. 167).

Based on the surplus criterion, Athreya et al. (1987) identified two rural proletariat classes (agricultural labourers and poor peasants), three middle peasant classes (lower middle, middle, and upper middle), and four surplus-appropriating classes (rich peasants, capitalist farmers, cultivating landlords, and pure landlords). The rest were considered others and unclassifiable. The authors provide the agrarian population estimates for the dry and wet areas in the field study. The size of the rural working class is similar in both areas, but about 60 per cent of the working class in the wet villages and 36 per cent in the dry area did not cultivate the land. They also observe a dramatic difference in the size of the middle peasants between the two areas. Wet areas are more polarised, with about 21 per cent of the population belonging to the middle peasantry.

In contrast, the middle peasantry in the dry region constitutes about 46 per cent of the population. The wet villages have a significantly large class of surplus appropriators, about 14 per cent. Further, they do not find any evidence for proletarianisation or the polarisation process. They argue that the contradictions over land have receded to the background in their study area due to the strong tenant movements and the incomplete displacement of landlordism. At the same time, the contradiction over government policies on the terms of trade between agriculture and industry has gained significance.

Ramachandran (1990) surveyed 650 households in Gokilapuram village (Theni district), located in an advanced agriculture region of Tamil Nadu. He identified ten major socio-economic classes.

“1. Landlords: major and medium landlords 2. Non-labouring small landowners 3. The peasantry, subdivided into strata 4. Agricultural labourers 5. Non-agricultural labourers 6. Households whose main income is from business activities other than direct crop production 7. Households whose major earnings are from artisan activity or work at traditional caste callings 8. Households whose major earnings are from salaried persons and professionals 9. Households whose main or sole income is from small rents, remittances, old age pensions, etc. 10. Unclassified households.” Ramachandran (1990, p. 49)

Landlords own and control the largest landholdings in the village. They do not engage in manual work on their land and rely on the labour of others. In Gokilapuram, in addition to hired labour, they rely on semi-free forms of labour and extract ‘labour services’ from agricultural labourers. There are 21 landlord households in the village. Moreover, the primary source of land for the landlord class is inheritance.

The class of non-labouring small landowners typically descend from landlord families, though, due to generational subdivisions, they own small parcels of land. They also do not participate in manual operations. Some of these households have relatively higher assets.

Ramachandran (1990) divides the peasantry into three classes, rich, middle, and poor peasants, based on the ratio of labour expended by the households (for own cultivation and hiring out) and the labour hired by the households. Rich peasants are those households whose own labour is less than 75 per cent of the hired labour. Middle peasants are those whose own labour is almost equal to the hired labour (labour ratio = 1 ± 0.25). The manual labour of poor peasant households is more than 125 per cent of the labour hired.

The agricultural labour class are involved in manual labour that includes crop production (i.e., some households who work as non-agricultural labour while being involved in agricultural labour work are also classified as agricultural worker). Non-agricultural labour is those who exclusively perform manual labour other than crop production.

Das et al. (forthcoming) define socio-economic classes based on the Marxist understanding of class for their study villages, Venmani and Palakuruchi in Nagapattinam district of Tamil Nadu. Agrarian relations in the Thanjavur region evolved over 1000 years, with big landowners (*mirasdars*) at the top and agriculture labours from Dalit and other lower caste groups at the bottom. There was presence of abject subordination of the agricultural labourers to the landlords. Today, the class of agricultural workers have disappeared and a class of wage worker who perform both agricultural and non-agricultural work for wages is more prevalent. Das et al. (forthcoming) disaggregate the class of wage

workers into two classes based on their skill levels. One class of unskilled or semi-skilled workers and other, skilled workers. And on the other end, they identify a class of landlords cum big capitalist farmers. They observe that over the years the number of landlords has declined. So is the size of their landholdings. Landlords today have also diversified into various business activities. In between landlords and wage workers lie the peasantry. Das et al. (forthcoming) observe that while inequality in asset ownership is high in the villages, the landlordism of the old form has disappeared.

All the studies discussed above use microdata; therefore, the results are specific to the study area. Moreover, most of these studies do not capture the changes over time. As was specified by Ramachandran, the identification of class in terms of single-year data has several problems. A way out is to use the available secondary data, but it does not contain the rich information available in the primary data. Therefore, while using secondary data, one is constrained to use lesser information to derive classes, and this method is not free of limitations. However, by supplementing the aggregate picture with micro-level studies, it is hoped that, to some extent, the limitations are addressed.

4.10 Defining the Class Schemas Using NSSO CES Data

Class is generally defined in terms of income categories such as rich, middle, and poor. However, income is an outcome of various social processes of which class is an important determinant.

In Marxist political economy, the definition of class is based on how surplus value is produced, appropriated, and distributed. The surplus value-producing classes are workers, and the surplus value-appropriating classes are capitalists. Also, there are other classes whose role is to provide the conditions for the production and appropriation of

surplus value, and in return, they receive a part of the surplus value (Sreeraj & Vakulabharanam, 2015; Mandela S, 2018). Based on this broad understanding of class, Vakulabharanam (2010) suggests a class schema to analyse the class dynamics of inequality in India using the NSSO household-level data on the consumer expenditure survey.

The NSSO CES provides data on the type of household, landholdings, occupations (recorded using the national classification of occupations (NCO)) and industry of work (recorded using the national industrial classification (NIC)). These data are used to classify rural households into various classes.

The land is one of the important means of production in the countryside. The distribution of land ownership is highly skewed in rural India, and there were no significant land redistribution programmes. The ownership and control of land is an essential feature of the class dynamic of rural India. Therefore, those households which are self-employed in agriculture are classified into large, middle, small, and marginal farmer classes based on their extent of land ownership and control. Moreover, additional weight is given to irrigated land to address the yield differences between irrigated and unirrigated land. An acre of irrigated land is considered equivalent to two acres of unirrigated land based on the differences in yield.²⁷ For instance, if a household owns one acre of irrigated land and two acres of unirrigated land, then the land owned by that household is four standard acres (Mandela S, 2018).

²⁷ Vakulabharanam (2004) suggest that irrigated land is equivalent to twice the unirrigated land on the basis of yield per acre.

Patnaik (1976) cautioned about using the extent of land ownership as a criterion to assign class status in the Marxist sense. She argued that depending on the technological level, holdings of similar size could produce enormously different levels of surplus. Therefore, the same size class may consist of various classes. Though Patnaik's reasoning is theoretically acceptable, we nevertheless use ownership/control of land as a major criterion for identifying agrarian classes. Basole and Basu (2011) note that among the 236 sample households surveyed by Patnaik (1980), most of landowners with 2.5 to 10 acres of land were small farmers. Also, the majority of landowners with 10 and 15 acres of land were middle farmers. They argue that even in Patnaik's sample, "the size of holding provides a good approximation of the class position of the owner." (Basole and Basu, 2011, p.46).

The NSSO classifies rural households into five different 'household types' based on the household's major source of income in the last 365 days preceding the date of the survey. The household types are (a) self-employed in agriculture, (b) agricultural labour, (c) self-employed in non-agriculture, (d) other labour and (e) others. The self-employed in agriculture and agriculture labour households primarily depend on the agriculture sector, and the rest three types of households, namely self-employed in non-agriculture, other labour and others, depend primarily on the non-agriculture sector for their income.

The household types that depend primarily on the agriculture sector are categorised into five distinct classes based on their ownership/control of means of production, that is, land. The households "self-employed in agriculture" are categorised as "large farmers" if they own/operate 10 or more acres of land. "Middle farmers" own/operate between 5 acres and less than 10 acres of land. "Small farmers" own/operate between 2 and less than 5

acres. “Marginal farmers.” are defined as those who own/operate less than 2 acres of land. The “agricultural worker” class are identified directly in the survey as “agricultural labour” type households.

The households primarily dependent on the non-agricultural sector are categorised into six classes. Households that own more than half an acre of land and are identified as “self-employed in non-agriculture” type are termed as “absentee landlords + self-employed in non-agriculture” type. The remaining households “self-employed in non-agriculture” are categorised as “non-agriculture self-employed”. Among the households that belong to “other” types, those with more than half an acre of land are identified as “absentee landlord + others” class. Using the NCO codes, the class of “rural professionals” are identified from the “other labour” type of households. The “other labour” type of household is considered a class of “non-agriculture workers”. Those households which cannot be placed under any of these classes due to lack of sufficient information are categorised as “rural unclassified.” The classes defined here are exclusive categories which do not overlap.

4.11 A Note on the NSSO Rounds that were Considered for the Analysis

In the post-reform period, NSSO has conducted five thick rounds of consumer expenditure survey, 1993-94 (round 50), 1999-2000 (round 55), 2004-05 round (61), 2009-10 (round 66), and 2011-12 (round 68).

A data issue of salience is the quality of the 55th round of consumer expenditure survey conducted in 1999-2000. The change made to the recall period in the 55th round has resulted in an underestimation of inequality. Conventionally, all the thick sample rounds from 1977-78 had canvassed a schedule with a uniform recall period of 30 days. In the 55th round, three different schedules were canvassed, one with a 7-day recall, second with a 30-

day recall period, and third with a 365-day recall period to capture the consumer expenditure on certain durable goods, education, health, footwear, clothing etc. (Subramanian & Jayaraj, 2015). Sen (2001) notes from analysing the thin sample round from 51st to 54th that the 7-day recall resulted in the overestimation of food expenditure compared to the 30-day recall. He adds that the inequality in consumption of the items captured using the 365-day recall is lower than the 30-day recall. Therefore, the 55th round essentially overestimated the consumption of the poor (food items) and underestimated the consumption of the wealthy (durable goods etc.). Sen (2001) states that the 7-day schedule contaminated the 30-day schedule data.

Furthermore, 2009-10 was an abnormal year, when drought affected rural India, and the global slowdown impacted the urban areas. Therefore, the household consumer expenditure was repeated in 2011-12.²⁸

For the reasons stated above, the 55th and 66th rounds are dropped, and only rounds 50, 61, and 68 pertaining to the years 1993-94, 2004-05, and 2011-12, respectively, are considered for the analysis of inequality. The MPCE data based on the uniform reference period of 30 days is used for comparability with earlier rounds of NSSO CES.

4.12 Conclusion

The ‘household types’ that depend primarily on the agriculture sector are categorised into five distinct classes based on their ownership/control of means of production, that is, land. The households that depend primarily on the non-agriculture

²⁸ Please refer to the study description of the National Sample Survey 2011-2012 (68th round) using the link <https://catalog.ihnsn.org/catalog/3281/study-description>. Also, refer <https://economictimes.indiatimes.com/news/politics-and-nation/nssso-to-conduct-fresh-survey-in-2011-12/articleshow/7382952.cms?from=mdr>

sector are categorised into six distinct classes. In total, 11 rural classes are identified, they are namely 1. Large Farmer, 2. Middle Farmer, 3. Small Farmer, 4. Marginal Farmer, 5. Agriculture labour, 6. Absentee landlords who are self-employed in non-agriculture, 7. Non-agriculture self-employed (petty), 8. Absentee landlords + others, 9. Non-agricultural workers, 10. Rural professional, and 11. Rural unclassified.

Among the various measures of inequality discussed, the Gini coefficient is chosen for the analysis. The advantage of using the Gini coefficient is that it is a summary index of inequality. Moreover, the Gini coefficient is based on information from the entire distribution, not just the extreme values or sections of the distribution. The limitations on the decomposability of the Gini coefficient are overcome by using the method developed by Yitzhaki (1994).

Chapter 5: Inequality Trends in Tamil Nadu between 1993-94 and 2011-12

5.1 Introduction

Classical economists were concerned with the conflict between major social classes over the distribution of income (Piketty, 2014). Ricardo's opening lines in his famous work "On the Principles of Political Economy and Taxation" are,

"The produce of the earth -- all that is derived from its surface by the united application of labour, machinery, and capital, is divided among three classes of the community; namely, the proprietor of the land, the owner of the stock or capital necessary for its cultivation, and the labourers by whose industry it is cultivated." Ricardo (2001, p. 5)

For Ricardo (2001), identifying the mechanisms/laws that govern the distribution of income among landlords, capitalists and workers, such as rent, profit and wages, respectively, is the principal problem in political economy.

Adam Smith was also profoundly concerned with the issues of poverty and inequality, even though he suggested that inequality is a natural consequence of social development (Blanco, 2020). For a more detailed exposition of Smith's ideas on economic inequality, see Rasmussen (2016).

Marx viewed inequality as an inherent problem of capitalism. A system where the means of production are privately owned will inherently produce inequality between social classes. Marx's views on class and its relevance to the study of inequality have been discussed in detail in chapter 4. The recognition of the relevance of class for the study of economic inequality goes long back. However, with the ascendancy of neo-classical economics, the class was replaced by 'agents', and the study of economic inequality did not consider class (Wolff & Zacharias, 2013). The concerns of classical

economists and Marx over how class process shapes inequality is more relevant today than ever.

This chapter intends to extend the understanding of the distributional dynamics of the high growth story of Tamil Nadu by analysing the NSSO data on household consumer expenditure across time using a Marxist class framework. The period of the analysis is 1993-94 to 2011-12. Using the Yitzhaki Gini decomposition method, the inequality is decomposed into between-class and within-class components. Further trends towards stratification are presented. The study illuminates the relative prosperity or pauperisation achieved by various classes during the post reform period. No studies have investigated the inequality trends in Tamil Nadu along these lines.²⁹

The rest of the chapter is organised as follows. Section 5.2 presents a brief overview of the literature on inequality in India and Tamil Nadu. Section 5.3 examines the trends in overall and rural-urban inequality in Tamil Nadu. Section 5.4 introduces the class composition of rural Tamil Nadu and analyses the changes over time. Section 5.5 presents the class analysis of inequality in rural Tamil Nadu using Yitzhaki Gini decomposition technique. Section 5.6 presents concluding discussions on the problem of inequality in Tamil Nadu.

5.2 Literature Review

A World Bank policy brief by Sharma et al. (2011) suggests that inequality levels can rise despite a decline in poverty and high economic growth. They offer the example of East Asia and, most notably, China. The rising inequality, they argue, can

²⁹ The findings of the chapter are published in Mandela S, N. (2018). Inequality in Rural Tamil Nadu between 1993–1994 and 2011–2012: A Class Analysis. *Indian Journal of Human Development*, 12(1), 109-117.

escalate social tensions eventually undermining the growth process. Therefore, the argument that the problem of inequality does not merit attention as long as there is high economic growth and poverty reduction is inaccurate.³⁰

The study of inequality between and within countries has gained attention in the recent years (Stiglitz, 2012; Kanbur et al., 2014; Piketty, 2014; Atkinson, 2015; Milanovic, 2016). The problem of inequality in India has gained lesser attention than poverty. However, it is changing in the recent years, and many scholars have focused on economic inequality in India.

In India, the studies on inequality used data from secondary sources or village studies. Most studies dealing with inequality trends are based on NSSO data on household consumer expenditure as we do not have any official data source on incomes (Swaminathan & Rawal, 2011). A few studies analysed data on rural incomes of the “National Council of Applied Economic Research (NCAER)” (Azam & Shariff, 2009; Vanneman & Dubey, 2013). They observed a rising trend in inequality in rural incomes. However, Swaminathan and Rawal (2011) have raised concerns over data quality and reliability.

The studies dealing with inequality in consumer expenditure as a proxy for income are reviewed below.

Deaton and Dreze (2002) observed an intensification of regional disparities from analysing the 1993-94 and 1999-2000 NSSO consumer expenditure data. They found widening rural-urban disparities and increasing intra-urban inequality in most

³⁰ The report of the ‘expert group to review the methodology for estimation of poverty (2009)’ and the Planning Commission report (2014) noted that in Tamil Nadu the percentage of population below the poverty line came down sharply from 44.6% in 1993-94 to 28.9% in 2004-05 which declined further to 17.1% in 2009-10.

States in India. Deaton and Dreze (2002) further suggest that the inequality between occupation groups has increased during this period.

Dev and Ravi (2007) analysed NSSO CES data from 1983 to 2004-05 and found that inequality increased in post-reform period. They noted that the increase in inequality led to a decline in the rate of poverty reduction.

Himanshu (2018) noted a declining or stagnant consumption inequality in India during the 1980s, and increasing trend in inequality after the introduction of economic reforms in 1991. The topmost deciles experienced faster growth in consumer expenditure in the 1990s in contrast to the 1980s when the bottommost deciles witnessed higher growth in the rural areas. Himanshu (2018) further observed that agricultural labour and other labour households witnessed the slowest increase in their consumer expenditure.

Subramanian and Jayaraj (2015) used the Krttscha index, an intermediate measure of inequality, and found that consumer expenditure inequality in India widened between 1983 and 2009-10. Basole (2014) analysed the world's top income database and argued that inequality declined in India throughout the planning period and increased since the 1980s. In 1981, the share of top 1 per cent hit the lowest point of 4.4 per cent. Then the trend reversed in the early 1980s. Basole (2014), drawing on Banerjee and Piketty (2005), suggested that the inequality started to increase in the early 1980s a decade before the economic reforms, because of the pro-business policies of the Indira Gandhi and Rajiv Gandhi governments.

Studies that look at the class aspects of inequality are limited. Wolff and Zacharias (2013) argued that class division among households in the United States of America constitutes an important aspect of inequality. They found that the gap between

capitalist households and earner households widened between 1989 and 2000. Their Gini coefficient decomposition results revealed that the share of interclass inequality rose from 27 to 39 per cent between 1989 and 2000.

Vakulabharanam (2010) analysed inequality within and between-classes in India using the 1993-94 and 2004-05 NSSO CES data. The study found that overall inequality increased in this period, mainly driven by inequality between classes. He observed a moderate increase in rural inequality from 0.286 to 0.305 between 1993-94 and 2004-05 at all-India levels. He observed that the rise in rural inequality was on account of the rise in inequality within non-agrarian classes and between agrarian and non-agrarian classes. In particular, marginal farmers consumption share along with that of tenants and agricultural workers suffered a decline. In contrast, the consumption shares of the rentier classes, like the absentee landlords and moneylenders, increased.

Sreeraj and Vakulabharanam (2015) analysed the NSSO CES data between 1983 and 2009-10 and observed an increasing trend in inequality in Kerala. Unlike the all-India story, where between-class inequality was the main factor, the authors contended that the rise in inequality in Kerala was due to the rise in within-class inequality. They argued that within-class inequality was higher due to skill differences. They opined that migration driven polarisation among the non-farm workers in Kerala led to an increase in within-class inequality.

A similar study of West Bengal by Biswas (2020) found that rural inequality increased between 1993-94 and 2004-05 and declined during 2004-05 and 2009-10. She argued while the agriculture sector grew moderately in the first phase, the agriculture wages experienced negative growth rates resulting in an increasing inequality between 1993-94 and 2004-05. In the second phase agricultural growth was declining, but the relative position of the agricultural workers and other poor strata was

strengthening relative to other classes in West Bengal. Therefore, inequality declined between 2004-05 and 2009-10.

There are a few studies that discussed inequality in incomes, wealth, and assets in Tamil Nadu.

Swaminathan (1988) studied wealth inequality in the context of agricultural growth and state policies (Integrated Rural Development Programme) aimed to create income-bearing assets among the poor. The study was based on panel data from Gokilapuram village between 1977 and 1985. The village is in an advanced agriculture region of Tamil Nadu, the Cumbum Valley, that witnessed an expansion of commercial crop cultivation, increasing paddy yield, a well-developed agricultural extension programme, robust transport infrastructure, and a wide banking network. She found that wealth inequality worsened between 1977 and 1985 despite the already higher levels of inequality in 1977. She argued that the increasing concentration of land ownership was the primary factor causing a rise in wealth inequality. She also noted high inequality between households involved in different categories of occupations, namely, landlords, peasants, manual labourers, artisans, households that pursue traditional caste occupations, households with major income from business activities, and others. She explained the persistence of inequality by various factors like the failure to implement land reforms effectively, and differential access to credit and public infrastructure.

In a comparative study of Gujarat and Tamil Nadu, Kalaiyarasan (2014) found that the inequality levels in Tamil Nadu were higher than in Gujarat. In Tamil Nadu, rural inequality increased between 1993-94 and 2004-05 and declined between 2004-05 and 2011-12. In contrast, Gujarat experienced a rise in inequality in both periods. Nevertheless, the inequality levels were lower compared to Tamil Nadu.

Mandela S (forthcoming) analysed the household asset data of Venmani and Palakurichi villages in the Nagapattinam district of Tamil Nadu. The study used the concept of socio-economic class as defined by Das et al. (forthcoming) and found very high asset inequality between classes in the study villages. The paper observed that high inequality in asset ownership was due to highly unequal land distribution. The paper further found that SC households owned the least assets per household while the upper caste households owned highest assets per household reflecting the traditional caste hierarchy in the villages.

Inequality studies have focused on inequality between social groups, religious groups and regions (Deshpande, 2011; Himanshu, 2007; Kanbur et al., 2014). There is a paucity of literature on the class dimensions of inequality in India. Moreover, hardly any studies that investigate class inequality in Tamil Nadu (Mandela S, 2018). This chapter attempts to fill this gap in literature and examine the class aspects of inequality in Tamil Nadu in the post-reform period.

5.3 Rural-urban Inequality

A critical fallout of the urbanisation process in the initial stages is the rise in inequality fuelled by the rural-urban gap in income or consumption levels (a process related to the kind discussed in Kuznets (1955). It arises on account of the productivity differences between rural and urban sectors, where rural is considered to be largely dependent on the traditional (agriculture) sector and urban is based on the modern (industrial) sector. Kuznets identified an “inverted ‘U’ shaped relationship between income and inequality” (Baymul & Sen, 2020, p.1643). It is true for many countries, and this was not found to be true for others. Therefore, the fundamental contribution of Kuznets is not a specific relationship between income and inequality; instead, his main contribution is identifying the fact that inequality is primarily determined by the

structural changes associated with the process of modern economic growth (Galbraith, 2010). This section investigates the rural-urban inequality in Tamil Nadu using the available data since 1993-94.

Table 5.1 presents the decomposition results for rural-urban inequality in Tamil Nadu. For each year, the table has four columns: consumption share in percentage, Gini coefficient, overlap index, and contribution share in percentage. The Gini coefficient and overlap index are explained above in the section on Gini coefficient decomposition method. A group's share in overall consumption is the consumption share and its share in overall Gini is the contribution share.

Overall, rural and urban inequality in Tamil Nadu rose between 1993-94 and 2004-05 and declined between 2004-05 and 2011-12. The overall Gini coefficient was 0.344 in 1993-94, which increased to 0.379 in 2004-05 and decreased to 0.345 in 2011-12. Correspondingly, the rural Gini slightly increased from 0.312 in 1993-94 to 0.322 in 2004-05 and declined to 0.301 in 2011-12. Following a similar trend, the urban inequality increased from 0.348 to 0.361 between 1993-94 and 2004-05 and declined to 0.338 in 2011-12.

The overlapping index for the rural is slightly greater than one throughout the period, which means the rural sector closely follows the overall distribution, and is not a stratified. The mean rank of the people in rural sector in overall Tamil Nadu is 0.399 (i.e., the mean rank F_{oi} of rural people is 39.9th percentile) and the mean rank of urban people in the overall distribution is 0.625 (62.5th percentile). The mean ranking greater than 0.5 implies that an individual i of a sub-group (in this case, urban sector) has a higher rank in the total distribution than their rank within the sub-group. For instance, a poor person in the urban sector will have a low rank within the sector but will be relatively rich in the overall distribution.

The within-component of the Gini coefficient declined continuously between 1993-94 and 2011-12. The between-component of the Gini coefficient increased during 1993-94 and 2004-05 and slightly decreased between 2004-05 and 2011-12. The contribution of the between-component increased from 10.9 per cent to 21 per cent between 1993-94 and 2004-05 and declined to 14.9 per cent in 2011-12.

The contribution share of rural inequality to the overall inequality was 51.3 per cent in 1993-94 and 41.1 per cent in 2004-05, which declined to 39.1 per cent in 2011-12. The urban contribution share to the overall inequality was 37.8 per cent in 1993-94, and it remained almost constant at 37.9 per cent in 2004-05. After which, it increased to 46 per cent in 2011-12.

The contribution of rural inequality to the overall inequality was higher than the share of urban inequality until 2004-05. After this, the share of urban inequality contributed the most to the total inequality in the State. It points to the rising importance of the urban region in the inequality dynamics of Tamil Nadu associated with the rapidly unfolding urbanisation process in Tamil Nadu.

Table 5.1. Decomposition Results: Rural-Urban Inequality in Tamil Nadu

Sector	1993-94					2004-05					2011-12				
	Consumption Share %	Gini	Overlap Index	Contribution	Contribution Share %	Consumption Share %	Gini	Overlap Index	Contribution	Contribution Share %	Consumption Share %	Gini	Overlap Index	Contribution	Contribution Share %
Overall		0.344		0.344	100		0.379		0.379	100		0.345		0.345	100
Rural	55.2	0.312	1.022	0.176	51.3	47.2	0.322	1.024	0.156	41.1	44.0	0.301	1.018	0.135	39.1
Urban	44.8	0.348	0.834	0.130	37.8	52.8	0.361	0.752	0.143	37.9	56.0	0.338	0.838	0.159	46.0
Within				0.306	89.1				0.299	79.0				0.294	85.1
Between				0.037	10.9				0.079	21.0				0.052	14.9

Source: Calculated using unit level NSSO CES Data (Rounds 50, 61 and 68)

Table 5.2 presents the mean consumption ratio of urban to rural over time. The urban mean consumer expenditure has remained higher than the rural mean consumer expenditure throughout the period. The urban-to-rural mean consumer expenditure ratio increased from 1.49 in 1993-94 to 1.79 in 2004-05, declining to 1.58 in 2011-12. It explains the trends in inter-sector inequality, which increased between 1993-94 and 2004-05 and declined after that.

Table 5.2. Mean Consumption Ratio (Urban /Rural)

Tamil Nadu	Mean Ratio (Urban/Rural MPCE)
1993-94	1.49
2004-05	1.79
2011-12	1.58

Source: Calculated using unit level NSSO CES Data (Rounds 50, 61 and 68)

5.4 Class Composition in Rural TN: Proletarianisation Without Polarisation

Table 5.3 presents the percentage share of the class-wise population in the total rural population for 1993-94, 2004-05, and 2011-12. The population share of large farmers declined from 3.7 per cent to 2.3 per cent between 1993-94 and 2004-05, and further to 1.8 per cent in 2011-12. Similarly, the share of middle farmers declined from 5.8 per cent in 1993-94 to 4.6 per cent in 2004-05 and declined further to 4.2 per cent in 2011-12. The share of small farmers also decreased from 9.6 per cent in 1993-94 to 8.6 per cent in 2004-05 and reduced to 6.9 per cent in 2011-12. In other words, between 1993-94 and 2011-12, the class of large, middle, and small farmers experienced a reduction in their respective population share.

Table 5.3: Class-wise Percentage Share of Population (Rural TN)

Rural TN	Population Share %		
Class	1993-94	2004-05	2011-12
Large Farmer	3.7%	2.3%	1.8%
Middle Farmer	5.8%	4.6%	4.2%
Small Farmer	9.6%	8.6%	6.9%
Marginal Farmer	3.5%	3.2%	4.4%
Agricultural worker	40.8%	40.9%	35.5%
Absentee LL + Non-ag self-employed	3.1%	3.2%	2.9%
Non-ag Self-employed (Petty)	10.5%	11.4%	12.4%
Absentee LL + Others	0.4%	0.4%	0.5%
Non-agricultural Workers	17.7%	20.8%	25.7%
Rural Professional	2.7%	1.8%	2.5%
Rural Unclassified	2.3%	2.9%	3.3%

Source: Calculated using unit level NSSO CES Data (Rounds 50, 61 and 68)

In the first period between 1993-94 and 2004-05, the population share of the marginal farmer declined from 3.5 per cent to 3.2 per cent, and it increased to 4.4 per cent in 2011-12. The population share of agriculture workers remained constant at about 41 per cent in the first period, and declined to 35.5 per cent in the second period between 2004-05 and 2011-12.

The population share of absentee landlords who are self-employed in non-agriculture was hovering around 3 per cent, and absentee landlords who belong to other type household were around 0.5 per cent throughout the period. The share of rural professionals declined from 2.7 per cent in 1993-94 to 1.8 per cent in 2004-05, and increased to 2.5 per cent in 2011-12.

The share of the non-agriculture self-employed class increased throughout the period from 10.5 per cent in 1993-94 to 11.4 per cent in 2004-05, and it increased further to 12.4 per cent. The share of non-agriculture workers increased remarkably from 17.7 per cent in 1993-94 to 20.8 per cent in 2004-05, and further to 25.7 per cent in 2011-12.

To summarise, the cultivating classes, except for the marginal farmers, experienced a decline in their respective shares in the rural population. The absentee landlord class population share remained constant while the share of non-agriculture workers and non-agriculture self-employed increased.

The agriculture and non-agriculture workers together constituted about 58.5 per cent in 1993-94, which increased to 61.2 per cent in 2011-12. This indicates a process of proletarianisation in rural Tamil Nadu. The declining share of large farmers, along with a decline in their share of landholding, indicates an absence of polarisation. Table 5.4 presents class-wise percentage share of landholding and mean landholding size in standard acres.

Table 5.4: Class-wise Landholding Share and Mean Landholding Size in Standard Acres.

	1993-94			2004-05			2011-12		
Class	Population Share %	Land Share %	Mean Holding Size (Acres)	Population Share %	Land Share %	Mean Holding Size (Acres)	Population Share %	Land Share %	Mean Holding Size (Acres)
Large Farmer	3.7%	35.0%	18.2	2.3%	26.7%	16.6	1.8%	24.0%	16.8
Middle Farmer	5.8%	20.6%	6.8	4.6%	21.2%	6.5	4.2%	20.7%	6.4
Small Farmer	9.6%	16.1%	3.2	8.6%	19.4%	3.2	6.9%	17.9%	3.4
Marginal Farmer	3.5%	2.0%	1.1	3.2%	1.8%	0.8	4.4%	2.3%	0.7
Agricultural worker	40.8%	10.4%	0.5	40.9%	13.4%	0.5	35.5%	12.9%	0.5
Absentee LL + Non-ag self-employed	3.1%	6.4%	4.0	3.2%	7.1%	3.2	2.9%	10.5%	4.6
Non-ag Self-employed (Petty)	10.5%	0.4%	0.1	11.4%	0.6%	0.1	12.4%	1.3%	0.1
Absentee LL + Others	0.4%	0.3%	1.6	0.4%	0.8%	2.6	0.5%	1.0%	2.9
Non-agricultural Workers	17.7%	6.8%	0.7	20.8%	7.5%	0.5	25.7%	7.8%	0.4
Rural Professional	2.7%	2.0%	1.5	1.8%	1.6%	1.3	2.5%	1.6%	0.8
Rural Unclassified	2.3%	0.1%	0.0	2.9%	0.1%	0.0	3.3%	0.1%	0.0
Rural TN	100.0%	100.0%	1.9	100.0%	100.0%	1.4	100.0%	100.0%	1.3

Source: Calculated using unit level NSSO CES Data (Rounds 50, 61 and 68)

Along with a declining trend in the population share of large farmers, their share in the total landholdings also declined from 35 to 27 per cent between 1993-94 and 2004-05. It declined further to 24 per cent in 2011-12. The average landholding size reduced from 18.2 to 16.6 acres between 1993-94 and 2004-05 and then remained the same. In contrast, the landholding share of absentee landlords who are self-employed in non-agriculture increased from 6.4 to 7.1 per cent between 1993-94 and 2004-05. It increased further to 10.5 per cent in 2011-12.

It points towards the increasing significance of absentee landlords in the rural scene. Nevertheless, the large farmers still own the largest share of rural land, and their significance cannot be undermined. There was no considerable change in the landholding share of the middle, small and marginal farmers over the period. This indicates that the absentee landlord class would have effectively gained the land lost by the large farmer. In the context of increasing tenancy in Andhra Pradesh, Vijay (2012) observed the rise of a new class of intermediaries in the agrarian structure, the non-cultivating peasant households (NCPH) (those who own land but do not cultivate). He argued that the NCPH lack incentives to invest in agriculture, constraining the agrarian transformation. Vijayabaskar and Menon (2018) emphasised that land, especially rural land, became a speculative financial asset in Tamil Nadu. He noted that farmers increasingly sold their land to non-cultivating households.

Another important aspect that emerged from the analysis was a middling agricultural economy in rural Tamil Nadu, where the large farmers and agricultural labourers exited agriculture. This finding is similar to the observations made by Djurfeldt et al. (2008). The authors observed that the big landowners, poor peasants and agricultural labour exited agriculture between 1979 and 2004, strengthening the family farm dependent on family labour.

Harriss et al. (2012), based on their study of the Gangaikondan village in the Tuticorin district of Tamil Nadu, noted that the control of land does not anymore imply control of people and their labour power due to the growing importance of non-farm employment for rural households.

Vijayabaskar (2017) contended that the struggle for land reforms is limited under conditions where most of the land holdings are marginal and small. Further, the possibility of a productive sector absorbing the surplus labour looked bleak. Hence, he emphasised the suggestion of Ferguson (2015) “to reorient the demand for social protection away from the domain of work and employment and broad base it around institutions of citizenship and social justice” (Vijayabaskar, 2017, p.71)

This position is also connected to the argument that the agrarian question of capital is either resolved or bypassed. That is, under the conditions of globalisation, the local elite is not interested in generating a surplus in the agriculture sector, as capital is available from elsewhere. Therefore, what remains to be solved is the agrarian question for labour. Given that quality employment is not generated in the economy, the demand for social protection based on the institution of citizenship is of paramount importance.

It could be true that the local elite or the national bourgeoisie is not interested in resolving the agrarian question under globalisation, as access to capital is available from elsewhere. Nevertheless, the resolution of the agrarian question (all three components of it) is of paramount importance to the interests of labour. The farmers’ agitations across various states like Rajasthan, Madhya Pradesh, Maharashtra and Tamil Nadu (protest in New Delhi) in 2017-18 and the year-long farmers’ agitation in 2020-2021 demanding the scrapping of the farm bill were on the issues of costs and

prices and these were not ‘citizenship struggles’.³¹ Particularly in a densely populated country like India, it is impossible to achieve meaningful improvements in the people’s living standards by relying only on global capital investments (Byres, 2003). It is in the interest of the labour to demand social protection from the work domain, and that requires the struggle for the resolution of the agrarian question in entirety.

5.5 Class Dynamics of Inequality in Rural Tamil Nadu

5.5.1 Class-wise Inequality in Rural Tamil Nadu

This section explains the changes in the inequality levels in rural Tamil Nadu by examining the inequality between and within various rural classes. Table 5.5 presents the decomposition results for 1993-94, 2004-05, and 2011-12.

Rural inequality rose from 0.312 to 0.322 between 1993-94 and 2004-05. It is driven by the rise in between-class inequality during the same period. The between-class Gini coefficient rose from 0.059 to 0.066 between 1993-94 and 2004-05, with a contribution of 18.8 per cent and 20.4 per cent, respectively.

Rural inequality declined from 0.322 to 0.301 between 2004-05 and 2011-12, with a decline in within-class and between-class components. The within-class component reduced slightly from 0.256 to 0.255. However, the between-class component declined significantly from 0.066 to 0.046 in the same period. The share of the between-class component in total rural inequality declined from 20.4 to 15.4 per cent between 2004-05 and 2011-12.

³¹ Please refer to <https://fas.org.in/events/agrarian-protests-in-contemporary-times/>

Table 5.5: Decomposition Result: Class-wise Inequality in Rural Tamil Nadu

Rural TN	1993-94				2004-05				2011-12			
Class	Consumption Share %	Gini	Overlap Index	Contribution Share %	Consumption Share %	Gini	Overlap Index	Contribution Share %	Consumption Share %	Gini	Overlap Index	Contribution Share %
Large Farmer	5.1%	0.294	0.769	3.7%	3.3%	0.295	0.708	2.1%	2.3%	0.317	0.812	2.0%
Middle Farmer	7.4%	0.380	0.863	7.8%	5.1%	0.246	0.770	3.0%	6.0%	0.386	0.895	6.8%
Small Farmer	9.4%	0.281	0.942	8.0%	9.4%	0.318	0.892	8.2%	7.0%	0.323	1.077	8.0%
Marginal Farmer	3.1%	0.230	0.932	2.1%	3.4%	0.353	0.985	3.7%	5.1%	0.396	1.053	7.0%
Agricultural worker	31.3%	0.247	0.977	24.2%	30.4%	0.214	0.954	19.2%	26.6%	0.209	0.941	17.4%
Absentee LL + Non-ag self-employed	4.1%	0.317	0.801	3.3%	4.2%	0.311	0.731	3.0%	4.6%	0.374	0.752	4.3%
Non-ag Self-employed (Petty)	11.4%	0.294	0.917	9.8%	14.0%	0.383	0.908	15.1%	13.4%	0.265	0.866	10.3%
Absentee LL + Others	0.6%	0.323	0.805	0.5%	0.6%	0.253	0.734	0.4%	0.7%	0.342	0.833	0.7%
Non-agricultural Workers	19.8%	0.292	0.889	16.4%	21.0%	0.280	0.940	17.2%	26.7%	0.271	0.913	21.9%
Rural Professional	5.5%	0.296	0.545	2.8%	5.2%	0.518	0.347	2.9%	4.3%	0.351	0.634	3.1%
Rural Unclassified	2.4%	0.333	1.013	2.5%	3.4%	0.419	1.076	4.8%	3.3%	0.286	0.963	3.1%
Intra Class		0.254		81.2%		0.256		79.6%		0.255		84.6%
Inter Class		0.059		18.8%		0.066		20.4%		0.046		15.4%
Rural TN		0.312		100.0%		0.322		100.0%		0.301		100.0%

Source: Calculated using unit level NSSO CES Data (Rounds 50, 61 and 68)

The contribution share of agricultural workers class to the rural Gini was highest at 24.2 per cent, followed by the between-class component at 18.8 per cent, non-agricultural workers at 16.4 per cent and non-agriculture self-employed class at 9.8 per cent in 1993-94. In 2004-05, the between-class component contribution share to the rural Gini coefficient was the highest at 20.4 per cent, followed by agricultural workers at 19.2 per cent, non-agricultural workers at 17.2 per cent and non-agricultural self-employed class at 15.1 per cent. The contribution shares changed significantly in 2011-12. In 2011-12, the non-agricultural worker class contributed the most at 21.9 per cent, followed by agricultural workers at 17.4 per cent, the between-class component at 15.4 per cent and the non-agriculture self-employed class at 10.3 per cent. The fact that the population shares of agricultural workers and non-agricultural workers were relatively higher than others could explain these classes' higher contribution share to the overall rural Gini. In 2011-12, small farmers and marginal farmers/tenants had overlapping index above 1, and hence, were polarised into two strata.

5.5.2 Changes in Consumption Levels among Rural Classes

Table 5.6 presents monthly per capita consumer expenditure for each rural class at 2011-12 prices. The consumer price index for agriculture labour (CPI-AL) is used to convert the 1993-94 and 2004-05 prices into 2011-12 prices. Along with real MPCE for three periods, the table also shows the annual average growth rates for 1993-94 to 2004-05 and 2004-05 to 2011-12.

Table 5.6. Growth in Real MPCE at 2011-12 Prices for Various Classes in Rural**Tamil Nadu**

Rural TN	MPCE RS (2011-12 prices)			Annual Avg Growth Rate	
Class	1993-94	2004-05	2011-12	1993-94 to 2004-05	2004-05 to 2011-12
Large Farmer	1299	1524	1894	1.6%	3.5%
Middle Farmer	1202	1156	2176	-0.3%	12.6%
Small Farmer	928	1140	1525	2.1%	4.8%
Marginal Farmer	830	1131	1726	3.3%	7.5%
Agricultural worker	725	779	1131	0.7%	6.5%
Absentee LL + Non-ag self-employed	1267	1395	2345	0.9%	9.7%
Non-ag Self-employed (Petty)	1029	1288	1634	2.3%	3.8%
Absentee LL + Others	1366	1559	2093	1.3%	4.9%
Non-agricultural Workers	1059	1060	1528	0.0%	6.3%
Rural Professional	1935	2995	2575	5.0%	-2.0%
Rural Unclassified	979	1247	1746	2.5%	5.7%
Rural TN	946	1048	1505	1.0%	6.2%

Source: Calculated using unit level NSSO CES Data (Rounds 50, 61 and 68)

Throughout the periods, the rural professional class had the highest MPCE. It was Rs 1935 in 1993-94, which increased to Rs 2995 in 2004-05 and declined to Rs 2575 in 2011-12. In the first period between 1993-94 and 2004-05, rural professionals witnessed the highest annual average growth rate of MPCE at 5 per cent, and in the next period

between 2004-05 and 2011-12, this class experienced the lowest growth of -2 per cent per annum.

The agriculture worker class had the lowest MPCE at Rs 725 in 1993-94, Rs 779 in 2004-05, and Rs 1131 in 2011-12. During the first period, the MPCE of agriculture worker class registered a low annual average growth rate of 0.7 per cent, and in the second period, this class witnessed a moderate growth of 6.5 per cent per annum.

Apart from the rural professional class, the absentee landlord class, who belong to other types of households and are self-employed in non-agriculture had higher MPCE at Rs 1366 and Rs 1267, respectively, in 1993-94. The large farmers, too, did relatively well with a MPCE of Rs 1299. The small and marginal farmers had a lower MPCE of Rs 928 and Rs 830, respectively. The non-agriculture self-employed and non-agriculture worker had a MPCE of Rs 1029 and Rs 1059, respectively, in the same year.

In 2004-05, the absentee landlord + others class, absentee landlord + self-employed in non-agriculture class and large farmers had MPCE of Rs 1559, Rs 1395, and Rs 1524, respectively. During the same period, the non-agriculture and agriculture workers, who constituted about 50 per cent of the rural population, hardly witnessed an increase in their respective MPCE, which explains the increase in inequality between 1993-94 and 2004-05.

The MPCE of the absentee landlord + others class, absentee landlord + self-employed in non-agriculture class grew sharply at 4.9 per cent and 9.7 per cent per annum respectively, between 2004-5 and 2011-12 and stood at Rs 2093 and Rs 2345, respectively in 2011-12. While the large farmers grew at a moderate 3.5 per cent per annum, and their MPCE was Rs 1894 in 2011-12. The classes which form the lower rungs of the rural

society, the marginal/tenant farmers, agriculture workers, and non-agriculture workers, witnessed high average annual growth rates at 7.5 per cent, 6.5 per cent and 6.3 per cent, respectively. Their respective MPCE in 2011-12 were Rs 1726, 1131, and Rs 1528. The higher growth of MPCE for those classes at the bottom of the consumption ladder explained the declining inequality in Tamil Nadu between 2004-05 and 2011-12.

Table 5.7 presents the mean ratio for various rural classes in Tamil Nadu for the years 1993-94, 2004-05, and 2011-12. The mean ratio is defined as the mean MPCE of a class divided by the mean MPCE of rural Tamil Nadu. The higher the mean ratio, the better the relative position of a given class on the consumption ladder.

Between 1993-94 and 2004-05, the mean ratio of large farmers increased from 1.37 to 1.45, and rural professionals from 2.05 to 2.86. In the same period, the absentee landlord class witnessed only a marginal rise in their mean ratio. The agriculture worker class and the non-agriculture worker class witnessed a decline in their mean ratios from 0.77 to 0.74 and 1.12 to 1.01, respectively. During this period, the increasing mean ratio of large farmers, rural professionals, and absentee landlords coupled with the declining mean ratios of agriculture and non-agriculture workers increased the between-class inequality.

The mean ratio of large farmers fell from 1.45 to 1.27, and of rural professionals from 2.86 to 1.71. At the same time, the mean ratio of agriculture workers increased slightly from 0.74 to 0.75, and non-agriculture workers from 1.01 to 1.04, explaining the declining inequality between 2004-05 and 2011-12.

Table 5.7: Mean Ratio of MPCE for Various Rural Classes in TN

Rural TN	Mean Ratio		
Class	1993-94	2004-05	2011-12
Large Farmer	1.37	1.45	1.27
Middle Farmer	1.27	1.10	1.43
Small Farmer	0.98	1.09	1.01
Marginal Farmer	0.88	1.08	1.15
Agricultural worker	0.77	0.74	0.75
Absentee LL + Non-ag self-employed	1.34	1.33	1.56
Non-ag Self-employed (Petty)	1.09	1.23	1.09
Absentee LL + Others	1.44	1.49	1.53
Non-agricultural Workers	1.12	1.01	1.04
Rural Professional	2.05	2.86	1.71
Rural Unclassified	1.03	1.19	1.03

Source: Calculated using unit-level NSSO CES Data (Rounds 50, 61 and 68)

5.5 Understanding the Decline in Rural Inequality

The agriculture and allied activities sector grew at an annual average growth rate of 0.6 per cent in the first period between 1993-94 and 2004-05. In the same period, the MPCE of rural Tamil Nadu grew at a low rate of 1 per cent per annum. In the second period between 2004-05 and 2011-12, the agriculture sector grew at a high rate of 5.9 per cent per annum. In this period, the MPCE of rural Tamil Nadu grew at 5.9 per cent per annum. In

the second period the agriculture and non-agriculture workers experienced a higher growth in their MPCE, thereby leading to a decline in rural inequality.

The higher growth in MPCE of agriculture and non-agriculture workers could be explained by the effectiveness of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), other non-farm work opportunities, and an increase in agricultural wages (Harriss et al., 2010; Das, 2020).

The agricultural wages grew for men and women at 5 per cent and 6.7 per cent per annum, respectively, between 2005–2006 and 2010–2011 (Usami, 2011). Harriss et al. (2010) suggested that agricultural wages were driven higher due to the tightening of the labour market as the availability of non-farm employment increased. Kalaiyarasan and Vijayabaskar (2021) argued that a combination of factors like investment in education, growing non-farm employment opportunities, a near-universal PDS, and MNREGS led to an increase in rural wages in Tamil Nadu. They found that rural wages doubled in Tamil Nadu between 2004-05 and 2011-12.

MGNREGS could have been one of the reasons for the faster growth of wages for female workers. Bonner et al. (2012) found that Tamil Nadu ranks the highest in terms of women's participation in the MNREGS programme among all the States in India. Jeyaranjan (2011) through his field study in the Cauvery delta region, also showed that the provision of employment under MGNREGS led to a 100 per cent hike in the agricultural wages for the women workers and a shortening of the working day. It provided the possibility of doing multiple jobs in a day, which increased the income of the workers. It offered agricultural labourers who predominantly were Scheduled Castes an employment

opportunity relatively independent of the oppressive production relations in agriculture and caste hierarchy.

As discussed in Chapter 3, there is an increasing occupational diversification among rural households in Tamil Nadu. The non-farm sector has emerged as the primary provider of employment in rural Tamil Nadu. In this sense, there is an emergence of new rurality in Tamil Nadu. Similar to the findings, Harriss and Jeyaranjan (2016) characterised rural Tamil Nadu as 'post agrarian' because of the declining role of agriculture in rural livelihood. The increasing non-farm employment opportunities have led to the tightening of the rural labour market, putting upward pressure on wages and improving terms of employment (Heyer, 2012; Harriss, 2010). Djurfeldt et al. (2008) found that inequality in their study villages declined because of increasing non-farm income in most households.

The efficiently functioning public distribution system (PDS) accessible to a vast majority of the rural population also explains the declining inequality in rural Tamil Nadu (Drèze and Sen, 2013). The authors argued that Tamil Nadu offered the highest implicit subsidy through PDS (Rs. 107.3 monthly per capita) in 2009-10 among all the States in India. They further noted that PDS accounts for about 44 per cent of the reduction in poverty in rural Tamil Nadu, while the same figure for rural India is 10.6 per cent (Drèze & Sen, 2013). The quality of the grain, lesser diversion rate, better accountability of the system through supervision by the state and by the collective action of the people, the better spread of the PDS centres geographically and an efficient institutional mechanism resulted in a more effective PDS in Tamil Nadu (Khera, 2011; Srinivasan, 2015). The political environment of populist and competitive party politics compels successive governments to

provide better social welfare policies, including the PDS (Harriss, 2001; Subramanian, 1999).

The PDS played a crucial role in ensuring the food security of the poorest of the rural poor, particularly in the second period of the analysis (2004–2005 to 2011–2012). Tamil Nadu government offered rice at ₹2 per kg since 2005, which was later reduced to ₹1 per kg of rice. Since 2011, Tamil Nadu government has been offering every month 35 kg of rice free of cost to Antyodaya Anna Yojana card holders and 20 kg of rice free of cost to others.

The state played a crucial role in the reproduction of rural households, particularly in the second period of analysis. Jeyaranjan (2011) argued that the intervention of the state in the rural scenario as a provider of employment through MGNREGS and food through PDS had affected the control of the traditional dominant classes over the working people. The poor no longer relied on the grains offered by the landowning classes for their food security. It severely affected the local power structures. He, thus, contended that the PDS and MGNREGS had profound implications for social changes in rural Tamil Nadu.

Heyer (2010) also argued that the PDS and MGNREGS contributed substantially to the increase in real income of Dalit households. Heyer (2012) studied villages in the Tiruppur region and observed considerable improvement in the living standard of labourers over the last 30 years. She attributed these improvements to various state welfare measures relating to education, transport, communication, and subsidised food. An increase in the non-farm employment opportunities in the region, especially in the knitwear production units, contributed to the improvements in the standard of living. The availability of non-farm employment and state welfare provisioning has also improved agricultural workers'

terms and conditions of work. She nevertheless cautioned that most of the non-farm employment generated was low-skilled manual work. She contended that the state policies had improved the living conditions for manual labour but did not equip them to move out of manual work. She criticised the policy of the State that helps the capital shed its responsibility of fully reproducing the labour by providing safety nets for the labour. Therefore, she argued for a strategy based on improved skills and labour productivity. She contended that this would push capitalists to provide for labour and remain fully competitive. She believed that a strategy to promote development and mitigate inequality through skilling and productivity improvement is better in the long run.

Harriss et al. (2010) also found that the PDS and other public services such as drinking water, roads, electricity, healthcare and education provided by the state along with the MGNREGS had improved the living conditions of the rural poor. Similarly, Vijayabaskar (2011) echoed that the MGNREGS and PDS played an important role in the coping strategies of labour in the Tiruppur region. Carswell and de Neve (2014) noted that social welfare interventions in Tamil Nadu have the potential to change social relations progressively in favour of the oppressed caste groups in addition to strengthening their position in the labour market.

Therefore, it can be argued from the analysis that the acceleration of the agriculture and allied activities sector growth rates along with an increase in agricultural wages combined with a set of state welfare policies and an increase in non-farm employment opportunities led to a reduction in inequality levels in Tamil Nadu over the period between 2004-05 and 2011-12.

5.6 Conclusion

Overall, rural, and urban inequality has increased in Tamil Nadu between 1993-94 and 2004-05 and declined between 2004-05 and 2011-12. The decomposition of the Gini coefficient reveals that the increase in rural inequality in the first period is due to an increase in inequality between classes. The decline in rural inequality between 2004-05 and 2011-12 is due to a decline in within-class and between-class components of inequality.

In the first period, when the agricultural sector was stagnant, the relative position of rich farmers and rural professionals strengthened vis-a-vis the poor classes. The agricultural and non-agricultural workers witnessed hardly any growth in their consumer expenditure. In the second period between 2004-05 and 2011-12, the agricultural and non-agricultural workers class achieved higher consumer expenditure growth than rich farmers, which led to a decline in inequality levels.

In the second period, the relative position of the rural working classes strengthened due to three important factors, an increase in agricultural wages, availability of non-farm employment, and state welfare provisioning. The agriculture and allied activities sector grew at 6 per cent per annum between 2004-05 and 2011-12. The agricultural wages have increased for men and women workers (Das, 2020). The terms of employment have also improved during this period. The availability of non-farm employment increased, though, in the informal sector. The wages were nevertheless higher than in the agriculture sector. Additionally, the availability of non-farm employment led to a tightening of the rural labour market resulting in better wages and terms of employment. Further, the state is playing a major role in the reproduction of rural households by providing subsidised food

through PDS, employment through MGNREGS and various other programmes offering nutrition for children, education, health, and a few consumer goods.

Nevertheless, as Heyer (2012) pointed out, the state policy does not focus on improving labour productivity and generating decent jobs. That remains a serious challenge in the long run.

Chapter 6: Conclusions

The economic transformation and associated developmental outcomes vary across regions in India. Stark regional variations can be observed in urbanisation, sectoral allocations of employment and output, and inequality levels due to differences in institutional capacities, cultural specificities, and political and historical contexts. Therefore, it is important to study transformation in India at the regional level.

This thesis contributes to the literature by examining the rural change and inequality in post-reform Tamil Nadu, a State that is known for achieving economic growth and human development (Kalaiyarasan & Vijayabaskar, 2021). There are three main objectives of the thesis. First, it analyses the changes in the structure of Tamil Nadu's economy since the 1990s in terms of output, employment, and urbanisation. Second, it investigates the nature of the rural transformation by analysing the patterns of occupational diversification among rural households. Third, it examines the inequality trends associated with the rural transformation in Tamil Nadu using a class perspective.

The study draws from various secondary sources of data, such as official statistics on output from the National Statistical Office (NSO), NSSO surveys on employment and household consumer expenditure, and the Census of India. The findings are explained with insights from available village studies.

Tamil Nadu economy set itself on a high growth trajectory since the 1980s. The analysis showed that the NSDP registered an annual average growth rate of 6.7 per cent between 1981-82 and 2012-13. The economy experienced various changes during this high growth phase. The sectoral composition of the NSDP moved from the predominance of the

agriculture sector to the service sector. Simultaneously, the employment structure witnessed a decline in the importance of the agriculture sector. This is in contrast to the all-India situation, where the relative importance of the agriculture sector has reduced in output but not in employment. In Tamil Nadu, the service sector has emerged as the largest contributor to total output and employment (see chapter 2).

Consequently, the structural gap in Tamil Nadu economy, defined as “the difference between the percentage share of agriculture and employment and its share in NSDP”, declined from 31.4 per cent to 21 per cent between 1993-94 and 2017-18, with a sharp decline from 2004-05. Contrary to this, Binswanger-Mkhize (2012) did not find a reduction in the structural gap at the all-India level, and they characterised the structural transformation in India as stunted. Therefore, a visible Kuznets structural transformation process distinguishes Tamil Nadu from the all-India narrative.

Nonetheless, the labour that exited agriculture moved into the construction sector and a few service sub-sectors (like hotel, trade, transport) that suffer from low productivity and lack of social security. Therefore, the Lewisian process of structural transformation, which requires the transfer of labour from the low-productive to the high-productive sector, does not apply in this context.

Experiences of developed countries showed that the Lewisian structural transformation process primarily led by the labour-intensive manufacturing sector improved the standard of living and other development indicators. Despite the absence of a Lewisian transformation, Tamil Nadu improved developmental outcomes, such as literacy rates, gross enrolment, and a reduction in infant mortality rates (Kalaiyarasan & Vijayabaskar, 2021).

Therefore, Tamil Nadu presents a paradox where, on the one hand, the State could not generate quality and secure employment, especially for educated youth, women, and other marginalised groups. On the other hand, it could deliver improvements in development outcomes.

The thesis uses the concept of the “Polanyian double movement” to explain this paradox (Polanyi, 2001). The post-reform period marked by the deepening of the market economy, rise in land grabs, financialization of land, and agrarian distress caused various social dislocations in Tamil Nadu (Vijayabaskar & Menon, 2018; Reddy & Mishra, 2009; Nagaraj, 2008). However, a simultaneous process of counter-movements emerged, demanding state welfare measures to alleviate the effects of market-led social dislocations.

The other important concern addressed in the thesis is the distributional aspects of the economic transformation in Tamil Nadu. The trends in inequality were analysed using the NSSO data on household consumer expenditure from 1993-94 to 2011-12. The analysis was divided into two periods: 1993-94 to 2004-05 and 2004-05 to 2011-12. Inequality studies usually focus on disparities along the lines of caste and gender. Studies that discuss class dimensions of inequality at the State level are limited (Sreeraj & Vakulabharanam, 2015; Biswas, 2020). The thesis investigates the trends and patterns in inequality using a Marxist class framework suggested by Vakulabharanam (2010) (see chapter 4). The Gini coefficient of inequality is decomposed into within and between components using the decomposition method suggested by Yitzhaki (1994). Overall, rural, and urban inequality in Tamil Nadu increased between 1993-94 and 2004-05 and declined thereafter. However, at the all-India level, inequality increased in both periods. The rise in rural inequality in the first period was due to an increase in between-class inequality. In the second period, in

which rural inequality declined, it was because of a reduction in between and within-class components. The contribution share of the between-class component declined from 20 to 15 per cent in the second period, indicating that the disparity between the classes in terms of MPCE had reduced (see chapter 5).

Further, during the first period, the MPCE of the rural working classes (agricultural and non-agricultural workers) stagnated at a near-zero growth rate. On the other hand, large farmers, rural professionals, and absentee landlords experienced above the State average growth rate in MPCE, resulting in a rise in inequality levels.

However, in the second period, marginal farmers, agricultural workers, and non-agricultural workers that constitute about 65 per cent of the rural population witnessed more than 6 per cent per annum growth rate in MPCE. In contrast, the large farmers, rural professionals, and absentee landlords experienced below the State average rate of growth in consumption. Thus, explaining the decline in inequality levels.

Interestingly, rural inequality in Tamil Nadu declined between 2004-05 and 2011-12, a period when the reduction in the structural gap was also stark. The Kuznets turning point coincided with declining inequality in the State. However, as mentioned earlier, the diversification of labour from agriculture was mainly into informal employment in the non-farm sector. Therefore, the decline in rural inequality in the second period is puzzling.

The thesis offers three explanations for the decline in rural inequality between 2004-05 and 2011-12 based on insights from existing literature – the rise in agricultural wages, an increase in non-farm employment opportunities, and the role of the state in the reproduction of rural households. During the second period, the agricultural wages for men and women grew at 5 and 7 per cent per annum, respectively (Usami, 2011). The

agricultural wages rose due to the tightening of the labour market because of the increased availability of non-farm employment opportunities. Studies showed that the implementation of MGNREGS led to an increase in agricultural wages, especially for women workers in Tamil Nadu (Jeyaranjan, 2011; Bonner et al., 2012).

The thesis found an increase in occupation diversification among rural households in Tamil Nadu. The analysis was based on data from the NSSO employment and unemployment surveys by categorising the households into pure agricultural households, diversified households, and pure non-agricultural households. In 2017-18, the share of pure non-agricultural households was more than 50 per cent (see chapter 3). In other words, most households in rural Tamil Nadu relied only on the non-agricultural sector for employment, marking the emergence of a “new rurality” in Tamil Nadu (Mandela S & Niyati, 2020). Along similar lines, Harriss and Jeyaranjan (2016) characterised the rural economy of Tamil Nadu as “post agrarian”. Therefore, the non-farm employment in combination with the MGNREGS caused the tightening of labour markets, pushing up the rural wages and improving the terms of employment (Heyer, 2012).

The state played a significant role in the reproduction of rural households during the second period by offering employment (MGNREGS), food grains (PDS), and public services (education, health, housing) (Srinivasan, 2015; Kalaiyarasan & Vijayabaskar, 2021). By doing so, the state had to some extent, reduced the dependence of the rural proletariat on large landowners. The competitive electoral politics and sustained collective action of people demanding effective delivery of public services propelled the state to provide welfare measures (Subramanian, 1999; Srinivasan, 2015). The state welfare provisions mitigate the perils of market-led social dislocations but do not transform the

system of capital accumulation. It may instead reinforce the conditions for accumulation (Chatterjee, 2008).

The thesis contributes to the literature on economic transformation and inequality, especially at a sub-national/regional level. The study highlighted the specificities of Tamil Nadu economy that distinguish it from the rest of India, thus, emphasising the need for regional analysis. It found a stark reduction in the structural gap with a declining contribution of the agriculture sector to the total output and employment. However, the concerning feature of this change is the lack of creation of decent employment for those exiting agriculture. Despite this, the thesis found a declining trend in inequality between 2004-05 and 2011-12, explained by the critical role played by the state in facilitating the reproduction of rural households through various welfare schemes and services. However, the long-run sustainability of this model is uncertain if the productive capabilities of the labour are not fully utilised through the generation of decent employment.

Appendix

Tale A1: Population of Tamil Nadu

Tamil Nadu	Number of Persons (Millions)			Percentage Share		
Census Years	Rural	Urban	Total	Rural	Urban	Total
1991	36.8	19.1	55.9	65.8%	34.2%	100.0%
2001	34.9	27.5	62.4	56.0%	44.0%	100.0%
2011	37.2	34.9	72.1	51.6%	48.4%	100.0%
2021*	36.1	40.3	76.4	47.2%	52.8%	100.0%

Source: Census of India 1991, 2001, and 2011.

Note: * Report of the Technical Group on Population Projections, November 2019.

Table A2: Occupational Diversification among Rural Households in India in 2017-18, (in per cent)

State	Pure Agricultural HH	Diversified HH	Pure Non-Agricultural HH	Total
CHANDIGARH	0.4	3.9	95.7	100
GOA	5.7	14.1	80.1	100
PUDUCHERRY	14.8	5.3	80.0	100
DAMAN & DIU	7.1	18.6	74.3	100
A & N ISLANDS	15.8	15.2	69.0	100
DELHI	31.7	0.0	68.3	100
KERALA	16.7	16.5	66.8	100
TRIPURA	27.9	11.6	60.5	100
PUNJAB	32.8	12.0	55.2	100
LAKSHADWEEP	10.2	34.8	55.0	100
NAGALAND	40.8	6.1	53.1	100
HARYANA	31.6	15.9	52.5	100
TAMIL NADU	29.0	20.4	50.6	100
BIHAR	44.1	6.2	49.7	100
D & N HAVELI	10.2	42.0	47.8	100
ARUNACHAL	45.3	7.7	47.1	100
ASSAM	42.2	12.7	45.1	100
MANIPUR	38.5	17.7	43.8	100
JHARKHAND	47.0	9.3	43.7	100
WEST BENGAL	42.0	15.7	42.3	100
JAMMU & KASHMIR	22.4	36.2	41.4	100
UTTARANCHAL	47.1	13.5	39.3	100
ODISHA	47.5	13.4	39.1	100
SIKKIM	42.8	20.4	36.8	100
ALL INDIA	47.6	15.9	36.6	100
UTTAR PRADESH	50.8	14.1	35.1	100
RAJASTHAN	42.7	24.8	32.6	100
MEGHALAYA	47.9	20.4	31.7	100
TELANGANA	55.4	13.1	31.5	100
MIZORAM	54.7	15.5	29.8	100
ANDHRA PRADESH	51.9	20.4	27.7	100
GUJARAT	54.9	18.5	26.6	100
KARNATAKA	55.3	19.2	25.6	100
HIMACHAL	31.4	43.2	25.4	100
MADHYA PRADESH	62.8	13.7	23.5	100
MAHARASHTRA	59.4	20.7	20.0	100
CHHATTISGARH	63.0	21.7	15.3	100

Source: Calculated using PLFS 2017-18

Table A3: State-wise Inequality in India

States	Gini Coefficient		
	1993-94	2004-05	2011-12
India	0.326	0.363	0.375
A&N Islands	0.338	0.374	0.379
Andhra Pradesh	0.312	0.345	0.333
Arunachal	0.316	0.275	0.386
Assam	0.216	0.240	0.267
Bihar	0.253	0.237	0.249
Chandigarh	0.465	0.369	0.474
Chhattisgarh	NA	0.374	0.341
D & N Haveli	0.283	0.392	0.415
Daman & Diu	0.238	0.262	0.240
Delhi	0.396	0.336	0.370
Goa	0.299	0.373	0.289
Gujarat	0.279	0.334	0.324
Haryana	0.311	0.355	0.350
Himachal Pradesh	0.325	0.328	0.354
Jammu & Kashmir	0.270	0.260	0.293
Jharkhand	NA	0.314	0.330
Karnataka	0.310	0.361	0.433
Kerala	0.316	0.393	0.444
Lakshadweep	0.281	0.360	0.340
Madhya Pradesh	0.315	0.350	0.358
Maharashtra	0.376	0.393	0.378
Manipur	0.155	0.170	0.212
Meghalaya	0.293	0.213	0.244
Mizoram	0.198	0.253	0.302
Nagaland	0.178	0.258	0.248
Orissa	0.282	0.324	0.314
Pondicherry	0.304	0.336	0.293
Punjab	0.285	0.351	0.324
Rajasthan	0.281	0.303	0.299
Sikkim	0.234	0.287	0.246
Tamil Nadu	0.344	0.379	0.345
Tripura	0.257	0.280	0.255
Uttar Pradesh	0.302	0.327	0.337
Uttarakhand	NA	0.315	0.351
West Bengal	0.308	0.353	0.360

Source: Calculated using NSSO CES rounds (50, 61, and 68)

Note: Uniform Recall Period (URP) consumption distribution is used for the analysis

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Inequality Trends in Rural Tamil Nadu between 1993–1994 and 2011–2012: A Class Analysis

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<http://journals.sagepub.com/home/jhd>**Nelson Mandela S.¹**

Abstract

This article examines the trends in inequality in rural Tamil Nadu between 1993–1994 and 2011–2012 based on consumer expenditure data of the National Sample Survey Office (NSSO). Using “class” as an analytical category in broad Marxian sense, it offers a class perspective to understand inequality by grouping rural households into 11 classes. The article argues that the increase in rural inequality in Tamil Nadu between 1993–1994 and 2004–2005 is partly because of an increase in inequality between the classes, while the inequality within classes remained constant. Thereafter between 2004–2005 and 2011–2012, rural inequality declined following a decrease in the inequality between classes. The article contextualizes and explains these results in the light of other empirical studies.

Keywords

Inequality, class, Tamil Nadu, rural change, urbanization

Introduction

The problem of inequality in India has attracted a lot of scholarly interest. Most of these studies discuss inequality at the all India level (Basole & Basu, 2015; Himanshu, 2018; Motiram & Vakulabharanam, 2012; Vakulabharanam, 2010). National narratives, though important, flatten regional variations. Kohli (2012) argues that there is a substantial difference in the redistributive capacities of the governments across the Indian states. The regional political economy and its role in shaping the policies of the state play a crucial role in the distributional outcome. There are only a few studies on understanding inequality at the state/regional level. Therefore, this article examines inequality trends at the state level, in the rural part of Tamil Nadu.

Tamil Nadu is considered as a development model for its ability to combine high economic growth with improvements in human development levels (Vijayabaskar, 2017). Particularly since the 1980s, the state achieved substantial reduction in poverty (Kalaiyaran, 2014). It is, therefore, interesting to

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analyse the trends in inequality in a state hailed for its social welfare policies and higher human development levels.

The state has been witnessing a high economic growth since the 1980s. The net state domestic product (NSDP) grew at an annual average growth rate of 6.7 per cent between the years 1981–1982 and 2012–2013. The high growth is accompanied by fluctuating inequality levels, changes in the sectoral composition of the NSDP, shifts in the structure of employment and occupational diversification of rural households amidst rapid urbanization process. This article attempts to extend the understating of the distributional dynamics in Tamil Nadu.

Objective and Methodology

The objective of this article is to study the trends in inequality in rural Tamil Nadu in the last couple of decades using the available data. It further investigates the inequality along class lines using the class schema suggested by Vakulabharanam (2010) in the Indian context. Specifically, rural households are grouped into various classes based on landownership and their position in the labour processes. The results of such analysis are contextualized and explained in the light of other empirical studies.

The National Sample Survey Office (NSSO) data on consumer expenditure and employment are used for the analysis. The data on monthly per capita consumer expenditure (MPCE) are obtained from the NSSO's consumer expenditure survey (CES) rounds 50, 61 and 68 pertaining to the years 1993–1994, 2004–2005 and 2011–2012. The employment data are from the employment and unemployment survey (EUS) rounds 50, 61 and 68. Further, the data on NSDP for Tamil Nadu from the Economic and Political Weekly research foundation are also used.

Tamil Nadu: Major Processes

Urbanization

Tamil Nadu is one of the most urbanized state among the major states of India with 48 per cent of its population living in the urban area (Census of India, 2011). Tamil Nadu witnessed a sharp decline in the rural population throughout the period of analysis. The share of the rural population fell from 64.8 per cent in 1993–1994 to 61.5 per cent in 2004–2005 and further decreased to 55.4 per cent in 2011–2012. Concurrently, the urban population increased from 35.2 per cent in 1993–1994 to 38.5 per cent in 2004–2005 and increased sharply to 44.6 per cent by 2011–2012 (NSSO CES rounds 50, 61 and 68).¹

Tamil Nadu economy is characterized by strong rural–urban linkages. It has perhaps witnessed *in situ* urbanization; the urban in Tamil Nadu is highly dispersed for historical reasons. The state has a large number of towns per unit area which are widely spread. It also has a better composition of small, medium and large towns (Rukmani, 1996). There are various factors underlying these features.

Tamil Nadu historically had a better spread and region-specific irrigation system. The Thanjavur belt “valley” area has canal irrigation, the Kongu Nadu region specialized in well irrigation and the “plain” areas in tank irrigation. This spatial specific method of irrigation laid the foundations for the cultivation of location-specific crop production. The “valley” is specialized in paddy production, the “plains” in the cultivation of coarse cereals and later in groundnut and cotton and the Kongu region in intensive cash cropping (Baker, 1984).

Rukmani (1996) argues that Tamil Nadu has a higher dispersal of towns vis-à-vis West Bengal and Maharashtra. The underlying factors for this, she contends, are as follows: higher level of modernization

in agricultural production and its spread across districts, and higher level of productivity across the districts and a higher level of spatial specialization in crop production across the regions. With space-specific crop production, the possibility for the emergence of towns to trade or process that crop is high.

In the case of Maharashtra, though it has a relatively higher regional specialization in crop production, the emergence of “agro-based” towns was not feasible because of the low productivity. Although West Bengal has a higher productivity in agriculture, it did not witness space-specific specialization in crop production. Two-thirds of its cropped area is under paddy cultivation. This reduces the scope for the emergence of a higher number of “agro-based” towns across its districts (Rukmani, 1996).

The industrial composition of Tamil Nadu has a mix of organized sector, unorganized sector and household-based production sector. In particular, the unorganized and the household sectors have a better spatial spread across the districts of Tamil Nadu. In addition to this, the high dispersal of the resource base, the nature of the primate city in each region and the state policies, particularly in terms of the location of industries and development of infrastructure (better road network and so on), are important factors responsible for the higher spread of urbanization in Tamil Nadu.

Shift Away from Agricultural Employment

In Tamil Nadu, the percentage share of rural workers employed in agriculture has been declining over the period from 70.4 per cent in 1993–1994 to 65.3 per cent in 2004–2005 and it declined further to 51.2 per cent in 2011–2012. Accordingly, the share of non-farm sector employment in total rural employment has been on the rise from 29.6 per cent in 1993–1994 to 34.7 per cent in 2004–2005 and to 48.8 per cent in 2011–2012. Increase in the construction sector employment has contributed substantially to the increase in the non-farm employment. Table 1 indicates that the non-farm sector is increasingly playing a prominent role in the dynamics of rural change in Tamil Nadu.

Table 1. Share of Farm and Non-farm Employment in Rural Tamil Nadu

Rural Tamil Nadu Sector	Employment Share %		
	1993–1994	2004–2005	2011–2012
Agriculture and allied activities	70.4	65.3	51.2
Non-farm	29.6	34.7	48.8

Source: Calculated from various rounds of NSSO EUS.

The analysis of the rural economy using the categories such as farm/non-farm or the household-type categories as defined by the NSSO proves useful in describing the rural economy to a great detail. But these categories are wanting in terms of its ability to explain changes in the rural economy. To understand the changes in the rural economy and the dynamics associated with these changes, this article uses class as category of analysis.

Defining Class Schema

In Marxist political economy, classes are defined on the basis of production, distribution and appropriation of surplus value. Basically, there are two types of classes, one surplus value producing classes (workers) and another, surplus appropriating classes (capitalists). There are other classes which provide

the conditions for the production and appropriation of surplus value and in return receive a part of the surplus value (Sreeraj & Vakulabharanam, 2015). Following this broad conception of class, Vakulabharanam (2010) suggested a class schema for India and analysed the NSSO household-level data on consumer expenditure. I employ a similar class schema for rural Tamil Nadu and investigate the class dimensions of changes in inequality. The NSSO CES provides data on type of household, landholdings, occupations (recorded using national classification of occupations [NCO]) and industry of work (recorded using national industrial classification [NIC]). These data are used to classify rural households into various classes.

Distribution of land in Tamil Nadu is highly skewed and there was no significant redistribution of land (Government of Tamil Nadu, 2011). The ownership and control of land is still a determining factor of the class dynamics in rural Tamil Nadu. Therefore, those households which are self-employed in agriculture are classified into large, middle, small and marginal farmer classes based on their extent of landownership. Although the names of the classes used here are similar to the land size classes of the Agricultural Census, the land size for each class is defined differently from the Census. Moreover, additional weight is given for irrigated land.²

The NSSO consumer expenditure data categorizes the rural households into five different household types on the basis of the sources of income of a household in the last 365 days preceding the date of the survey. The types of households are as follows: (a) self-employed in agriculture, (b) agricultural labour, (c) self-employed in non-agriculture, (d) other labour and (e) others. The first two household types constitute of members who are primarily dependant on agriculture sector for their income and the rest three types of households depend primarily on non-agriculture sector.

The households dependent on agriculture sector are categorized into five distinct classes. Among the type of households who are “self-employed in agriculture,” those who own more than 10 acres of land are classified as “large farmers”; those who own more than 5 acres and less than 10 acres are “middle farmers”; those who own between 2 acres and 5 acres are classified as “small farmers”; and those who own less than 2 acres are categorized as “marginal/tenant farmers.” Here, “tenant farmers” refers to those who leased in some land and operate less than 2 acres of land. The households which are identified as “agricultural labour” type in the survey are termed as “agricultural worker” here.

The households dependent on non-agricultural sector are categorized into six classes. Households which own more than half an acre of land and which are identified as “self-employed in non-agriculture” type are termed as “absentee landlords + self-employed in non-agriculture” type. The rest of the “self-employed in non-agriculture” type of households are categorized as “non-agriculture self-employed” class. Among the households which belong to “other” types, those who own more than half an acre of land are identified as “absentee landlord + others” class. Using the NCO codes, the class of “rural professionals” are identified from the “other labour” type of households. The rest of the “other labour” type of households are considered as a class of “non-agriculture workers”. Those households which cannot be placed under any of these classes due to lack of sufficient information are categorized as “rural unclassified.” The classes defined here are exclusive categories which do not overlap.

Changes in Class Composition: Proletarianization without Polarization

Table 2 shows that the population share of large, middle and small farmer classes in total rural population has been declining throughout the period. The agricultural workers population share remained constant in the first period and declined sharply in the second period from 40.9 per cent in 2004–2005 to 35.5 per cent in 2011–2012. The non-agricultural workers population share has been increasing throughout the

Table 2. Class-wise Population and Land Ownership Share in Rural Tamil Nadu

Rural Tamil Nadu	1993–1994		2004–2005		2011–2012	
Class	Population Share %	Land Share %	Population Share %	Land Share %	Population Share %	Land Share %
Large farmer	3.5	34.3	2.2	26.9	1.8	23.9
Middle farmer	5.7	20.8	4.4	21.0	4.1	20.9
Small farmer	9.5	16.7	8.4	19.4	7.0	18.6
Marginal farmer/tenant	4.0	2.3	3.6	2.0	4.4	2.1
Agricultural worker	40.8	9.8	40.9	13.1	35.5	13.1
Ab. LL + non-ag. self-empl ^a	3.1	6.5	3.2	7.2	2.9	10.8
Non-ag. self-empl ^b	10.5	0.3	11.4	0.4	12.4	0.8
Ab. LL + others ^c	1.7	3.1	1.6	3.5	0.7	1.5
Non-agricultural workers	14.2	4.0	17.8	4.8	24.6	6.5
Rural professional	2.7	2.1	1.8	1.6	2.5	1.6
Rural unclassified	4.5	0.1	4.6	0.1	4.2	0.1

Source: Calculated from various rounds of NSSO CES.

Notes: ^a Absentee landlord + non-agriculture self-employed.

^b Non-agriculture self-employed.

^c Absentee landlord + others (for definition of classes, refer the section *Defining Class Schema*).

period from 14.2 per cent in 1993–1994 to 17.8 per cent in 2004–2005 and then increased sharply to 24.6 per cent in 2011–2012. The population share of agricultural and non-agricultural workers together witnessed a definitive increase over the period from 55 per cent in 1993–1994 to 60.1 per cent in 2011–2012, indicating a process of proletarianization in rural Tamil Nadu. At the same time, there is no increase in the population share of large farmers. The analysis of changes in the land concentration may throw light on the process of polarization. The percentage share of land held by the large farmers declined from 34.3 per cent in 1993–1994 to 23.9 per cent by 2011–2012. The share of land held by the middle farmer remained constant and that of marginal/tenant farmer increased marginally between 1993–1994 and 2004–2005 and remained almost the same thereafter. The land share of small farmers increased in the first period and declined slightly in the second period. Thus, there is some evidence for proletarianization, but not for polarization in rural Tamil Nadu.

The class of absentee landlords who are self-employed in non-agriculture has witnessed an increase in their share of land from 6.5 per cent in 1993–1994 to 7.2 per cent in 2004–2005 and to 10.8 per cent in 2011–2012. It is puzzling to see that the absentee landlords' share of land has gone up during the period of very low agricultural growth (between 1993–1994 and 2004–2005) as well as during the period of high agricultural growth between 2004–2005 and 2011–2012. The population share of the absentee landlord class was lower than that of the large farmers in 1993–1994, and by 2004–2005, their population share has become more than that of the large farmers; the same trend continued in 2011–2012 as well. This may hint at the increasingly significant role played by the absentee landlord class in the rural economy. Nevertheless, the share of land held by the large farmers is substantially higher than that is held by the absentee landlord even in 2011–2012.

The population share of both the non-agriculture workers and the non-agriculture self-employed class has increased throughout the period of analysis. The increase in the non-farm employment opportunities may possibly mean that many in the rural area are able to find employment outside the traditional oppressive structure of the village.

Trends in Inequality

The overall rural inequality is decomposed into inter-class and intra-class inequality using the method developed by Shlomo Yitzhaki (1994). For a detailed explanation, refer Vakulabharanam (2010), Wolff and Zacharias (2009) and Zacharias and Vakulabharanam (2011). The inter-class inequality shows the Gini coefficient of inequality “between” the (previously defined) rural classes and the intra-class inequality shows the inequality among the members “within” a particular class.

Table 3 offers class-wise decomposition results of inequality in rural Tamil Nadu. The Gini coefficient measuring the rural consumption inequality in Tamil Nadu increased from a Gini 0.312 in 1993–1994 to 0.322 in 2004–2005. In the first period from 1993–1994 to 2004–2005, the increase in rural inequality is due to the increase in inter-class inequality. The inter-class component of the Gini increased from 0.059 to 0.069 in the first period, while the intra-class Gini remained constant at 0.253. In the second period from 2004–2005 to 2011–2012, the inter-class component of the Gini declined from 0.069 to 0.047, while the intra-class component increased from 0.253 to 0.255. As a result, the overall rural inequality declined to 0.301.

Table 3. Decomposition Result: Class-wise Inequality in Rural Tamil Nadu

Rural Tamil Nadu	1993–1994		2004–2005		2011–2012	
Class	Gini	Contribution Share (%)	Gini	Contribution Share (%)	Gini	Contribution Share (%)
Intra-class	0.253	81.0	0.253	78.7	0.255	84.5
Inter-class	0.059	19.0	0.069	21.3	0.047	15.5
Rural Tamil Nadu	0.312	100.0	0.322	100.0	0.301	100.0

Source: Calculated from various rounds of NSSO CES.

Consumption Growth among Various Classes

Table 4 shows the consumer expenditure growth for various rural classes between the years 1993–1994, 2004–2005 and 2011–2012. In the first period (1993–1994 to 2004–2005), the mean MPCE in rural Tamil Nadu marginally increased from ₹946 to ₹1,048 (at 2011–2012 prices). It grew at an annual average growth rate of a mere 1 per cent. In the second period (2004–2005 to 2011–2012), the mean MPCE grew at a higher rate of 6.2 per cent per annum. It is to be noted that the agriculture and allied sector NSDP grew at 0.6 per cent per annum in the first period between 1993–1994 and 2004–2005. The same sector experienced a higher growth of 5.9 per cent per annum in the second period between 2004–2005 and 2011–2012.

In Tamil Nadu, the agricultural and non-agricultural worker classes together constitute about 60 per cent of rural population. Their consumption grew at a very low rate of 0.7 per cent and 0.2 per cent, respectively. The relative position of both the agricultural and non-agricultural worker classes worsened in the first period. The mean consumption ratio, defined as the mean consumption of a class divided by the mean consumption of the rural population, declined for the agricultural workers from the already lowest 0.77 to 0.74 between 1993–1994 and 2004–2005. In the same period, the mean consumption ratio for the non-agricultural workers declined from 1.05 to 0.96. Consequently, the inter-class inequality increased in this period.

In the second period, the agricultural and non-agricultural worker mean consumption grew at a much faster rate of 6.5 per cent and 7.3 per cent, respectively. Their relative position in terms of consumer

Table 4. Real MPCE at 2011–2012 Prices for Various Classes in Rural Tamil Nadu

Rural Tamil Nadu	Mean Consumption Ratio			Annual Average Growth Rate of MPCE (at 2011–2012 prices)	
	1993–1994	2004–2005	2011–2012	1993–1994 to 2004–2005 (%)	2004–2005 to 2011–2012 (%)
Class					
Large farmer	1.37	1.46	1.26	1.6	3.4
Middle farmer	1.30	1.09	1.45	–0.7	13.0
Small farmer	0.98	1.10	1.01	2.2	4.6
Marginal farmer/tenant	0.88	1.07	1.15	3.2	7.7
Agricultural worker	0.77	0.74	0.75	0.7	6.5
Absentee LL + non-ag. self-emp.	1.34	1.33	1.56	0.9	9.7
Non-ag. self-employed	1.09	1.23	1.09	2.3	3.8
Absentee LL + others	1.20	1.39	1.39	2.6	6.2
Non-agricultural workers	1.05	0.96	1.02	0.2	7.3
Rural professional	2.05	2.86	1.71	5.0	–2.0
Rural unclassified	1.30	1.21	1.16	0.3	5.4
Rural Tamil Nadu	946	1,048	1,505	1.0	6.2

Source: Calculated from various rounds of NSSO CES.

expenditure increased as well. The mean consumption ratio for agricultural workers increased from 0.74 in 2004–2005 to 0.75 in 2011–2012. For the non-agricultural workers, the mean consumption ratio increased from 0.96 in 2004–2005 to 1.02 in 2011–2012. Accordingly, the inter-class inequality declined in this period.

In 1993–1994 and 2004–2005, barring the rural professional class, it is the large farmers who had the highest average consumer expenditure at ₹1,298 and ₹1,529 (at 2011–2012 prices), respectively. But in the year 2011–2012, after excluding the rural professionals, it is the absentee landlord class that has recorded the highest average consumer expenditure at ₹2,345. As we have noted earlier, the share of land held by the absentee landlord class has also gone up while that held by the large farmer has declined over the period of analysis. There may be significant implications of this on the rural economy.

Discussion

The revival of the growth in the agriculture and allied activities sector combined with an increase in agricultural wages and a set of state welfare policies led to a decline in rural inequality in Tamil Nadu between 2004–2005 and 2011–2012. Usami (2011) shows that the agricultural wages grew at 5 per cent per annum for males and at 6.7 per cent per annum for females between 2005–2006 and 2010–2011. Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) could be one of the reasons for the faster growth of wages for the female workers. Jeyaranjan (2011) through his field study in the Cauvery delta region shows that the provision of employment under MGNREGS led to a 100 per cent hike in the agricultural wages for the women workers and a shortening of the working day. It provided the possibility of doing multiple jobs in a day which lead to an increase in the income of the workers. It offered to the agricultural labourers who predominantly hail from scheduled castes an employment opportunity relatively independent of the oppressive production relations in agriculture and caste hierarchy. Harriss, Jeyaranjan and Nagaraj (2010) suggest that the agricultural wages were driven higher due to the tightening of the labour market as the availability of the non-farm employment increased.

Tamil Nadu is characterized by an efficiently functioning public distribution system (PDS) which is accessible for a vast majority of the rural population (Drèze & Sen, 2013). The quality of the grain, lesser diversion rate, better accountability of the system through supervision by the state and by the collective action of the people, the better spread of the PDS centres geographically and an efficient institutional mechanism resulted in a more effective PDS in Tamil Nadu (Khera, 2011; Srinivasan, 2015). The political environment of populist and competitive party politics compels the successive governments to provide better social welfare policies including the PDS (Harriss, 2001; Subramanian, 1999).

The PDS played a crucial role in ensuring the food security of the poorest of the rural poor particularly in the second period of the analysis (2004–2005 to 2011–2012). Tamil Nadu government offered rice at ₹2 per kg since 2005 which was later reduced to ₹1 per kg of rice. Since 2011, Tamil Nadu government is offering every month 35 kg of rice free of cost to Antyodaya Anna Yojana card holders and 20 kg of rice free of cost to others.

The state plays a crucial role in the reproduction of the rural households more so in the second period of analysis. Jeyaranjan (2011) argues that the intervention of the state in the rural scenario as a provider of employment through MGNREGS and food through PDS has affected the control of the traditional dominant classes over the working people. The poor no more rely on the grains offered by the landowning classes for their food security. This has severely affected the local power structures. He, thus, contends that the PDS and MGNREGS have much wider and deeper implications for social changes in the rural Tamil Nadu. Heyer (2010) argues that the PDS and MGNREGS contributed substantially to the increase in real income of the Dalit households. Harriss et al. (2010) make a similar argument that the PDS and other public services such as drinking water, roads, electricity, healthcare and education provided by the state along with the MGNREGS have improved the living conditions of the rural poor. Vijayabaskar (2011) also shows that the MGNREGS and PDS play an important role in the coping strategies of labour in the Tiruppur region.

To conclude, overall, the growth in agriculture sector and agricultural wages, and the increase in the non-farm employment opportunities, combined with the state welfare policies are the factors that possibly explain the reduction in rural inequality during 2004–2005 and 2011–2012.

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Notes

1. The NSSO 68th round is based on the population projections of the 2001 census, hence the difference with the 2011 census urban population percentage.
2. Land is heterogeneous. For that reason, an acre of irrigated land is considered as equivalent to two acres of unirrigated land based on the differences in the yield. For instance, if a household owns one acre of irrigated land and two acres of unirrigated land, then the land owned by that household is four standard acres.

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Structural Transformation and the New Rurality in Tamil Nadu

S. Nelson Mandela and S. Niyati*

The paper analyses the latest periodic labour force survey data on employment, and National Sample Survey Office (NSSO) data on employment and unemployment and argues that there is an emergence of new rurality in Tamil Nadu. This development is invariably linked to the process of structural change, urbanisation and the inequality trends. The paper finds that the 'pure non-agricultural households' (the households where all the employed members of the household are engaged in non-agricultural work) are more than 50 per cent of the rural households. This remarkable break from the primary dependence of rural people on the agriculture sector for employment and livelihood, we argue, implies the emergence of new rurality in Tamil Nadu. The study finds that certain characteristics of the household like education levels, social group and age playing an important role in increasing the likelihood of the households to be 'pure non-agricultural' households. The paper suggests that the decline in inequality is associated with a reduction in 'structural gap' and the associated occupational diversification of rural households. The argument on the emergence of new rurality is a departure from the rural-urban dualism of earlier scholarship on this question.

Keywords: *Structural transformation, Tamil Nadu, Inequality, Occupational diversification, Urbanisation, Rural households*

I. INTRODUCTION

The paper explores the dynamics of structural transformation and its linkages with the rural and urban sectors of Tamil Nadu. It argues that there is an emergence of new rurality – a hybridisation of rural and urban spaces in Tamil Nadu. The paper finds that for the first time, more than 50 per cent of the households even in the rural area depends only on the non-agricultural sector for livelihood. We argue that this marks the emergence of new rurality in Tamil Nadu.

Tamil Nadu is the most urbanised State in India with about 48 per cent of the population residing in urban areas. The State also has a very high town density. Purushothaman and Patil (2017) observe that the urbanisation process has both proximate and distant drivers. For example, Tamil Nadu accounts for about 45 per

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cent of the automobile exports from India. Similarly, the demand for consumption in the urban agglomerations further drives the economy in peri-urban areas.

The growth of urban agglomeration and the urbanisation process is associated with the structural transformation of the economy. The objectives of the paper are to analyse the changes in rural and urban population from 1991 to 2011 census. Second, it provides a narrative of the urbanisation process and connects it to the emergence of the new rurality. Third, the new rurality is explained by the complementary process – structural transformation, occupation diversification, and the rural-urban gap (inequality). The paper analyses the structural changes in the Tamil Nadu economy using the National Sample Survey Office (NSSO) Employment and Unemployment Survey (EUS) data, Periodic Labour Force Survey (PLFS) data and Net State Domestic Product (NSDP) data.

Major findings of the paper are, firstly, the structural gap (defined as the difference between the percentage share of agricultural employment in total employment and agriculture sectors share in NSDP) in Tamil Nadu economy is reducing since 2004-05. Secondly, Tamil Nadu is undergoing a rapid process of urbanisation. Thirdly, more than 50 per cent of the rural households in Tamil Nadu rely only on non-agricultural employment, suggesting an emergence of new rurality. And finally, the reduction in the structural gap since 2004-05 is accompanied by a reduction in inequality in Tamil Nadu.

II. URBANISATION PROCESS IN TAMIL NADU

Tamil Nadu is the most urbanised State among the major States in India¹. According to the Census of India (2011), 48 per cent of its population live in the urban area. Table 1 presents the population of Tamil Nadu for the census years 1991, 2001 and 2011.

Table 1
Population of Tamil Nadu, population in millions, share in per cent

<i>Tamil Nadu</i>	<i>Population</i>			<i>Percentage Share</i>		
<i>Census Years</i>	<i>Rural</i>	<i>Urban</i>	<i>Total</i>	<i>Rural</i>	<i>Urban</i>	<i>Total</i>
1991	36.8	19.1	55.9	65.8%	34.2%	100.0%
2001	34.9	27.5	62.4	56.0%	44.0%	100.0%
2011	37.2	34.9	72.1	51.6%	48.4%	100.0%

Source: Census of India 1991, 2001, and 2011.

In the year 1991, the total population of Tamil Nadu was 55.9 million, with 36.8 million rural and 19.1 million urban population with the respective population share of 65.8 per cent and 34.2 per cent. The census of 2001 indicated an increase in

the population, and it stood at 62.4 million. At the same time, the rural population declined to 34.9 million, while the urban population increased to 27.5 million. The share of the rural and urban population in 2001 was 56 per cent and 44 per cent respectively. The total population increased further to 72.1 million in the year 2011, while the rural population grew to 37.2 million, and the urban population increased to 34.9 million. The share of the rural population was 51.6 per cent, and the share of the urban population was 48.4 per cent.

Another essential feature of the urbanisation process is the presence of strong urban-rural linkages. Tamil Nadu has a higher number of towns per unit area which is spread across the State. The urban-rural ties are strengthened by the existence of a better mix of large, medium, and small towns. The State had perhaps witnessed *in situ* urbanisation. One of the factors underlying the wider spread of urbanisation is the historical evolution of the irrigation system in the State. The State has three region-specific irrigation systems. The Tanjavur 'valley' region has canal irrigation. The important irrigation system in Coimbatore region is well irrigation. The northern 'plains' region has tank irrigation. These space-specific forms of irrigation system have led to space-specific crop production. Paddy has been the main crop in Tanjavur region. The Coimbatore region was specialised in intensive cash crop cultivation. And the plains specialised in the production of coarse cereals, cotton and groundnuts. The space-specific crop production has laid the foundations for the emergence of many agro-based towns as the scope for the trade and processing of these varieties of crops increased (Rukmani, 1994; Nelson, 2018).

The industrial sector in Tamil Nadu has a better composition of organised, unorganised and household level production sectors. The location of the unorganised sector and the household level production units are widely spread across the State. The higher spread of urban in the State is also aided by the better spread of the natural resource base, the state policy in terms of the location of large industries, better transport, infrastructure, and connectivity, and "the nature of the primate city in each region" (Nelson, 2018: 3).

III. STRUCTURAL TRANSFORMATION OF TAMIL NADU ECONOMY

Timmer (2009) offers a useful and straightforward method to capture the structural change in the economy. He identifies the following four characteristic features of the structural transformation. First, the declining share of agriculture in Gross Domestic Product (GDP) and employment; second, the rural to urban migration fuelling the process of urbanisation; third, the emergence of a modern industrial and service economy; fourth, is the process of the demographic transition from high rates of births and deaths to low rates of births and deaths. And he also ascertains that the

process of structural transformation will ultimately lead to an economy, where the agricultural sector is no different from other sectors at least in terms of capital and labour productivity.

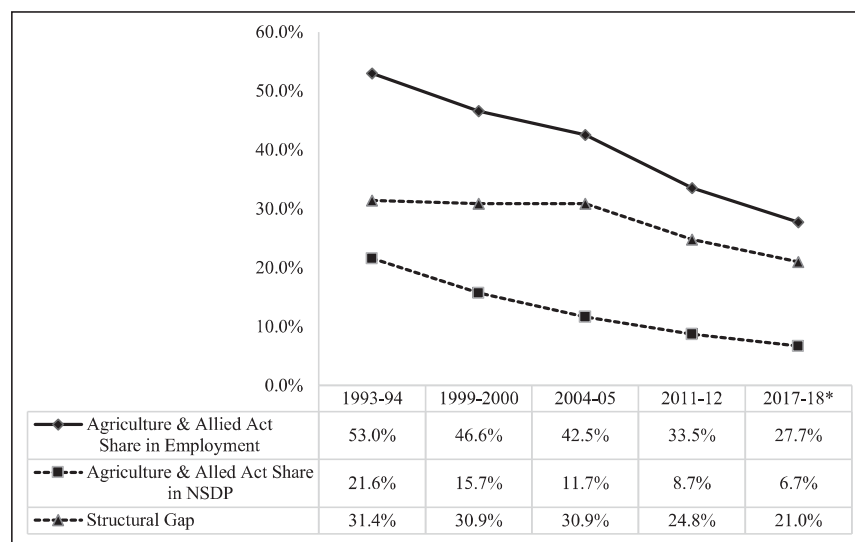
In the initial stages of the structural transformation, the economy is characterised by a considerable gap between the percentage share of agriculture in employment and the percentage share of agriculture in GDP. The 'structural gap', defined as the difference between the percentage share of agriculture in employment and its share in NSDP, widens further when the economy grows faster initially as was evident in the case of many OECD countries. It happens because the share of agriculture in GDP falls at a faster pace than the share of agriculture in employment. At early stages, when the economy grows at a quicker rate, the industrial and service sector with higher productivity grows much faster than agriculture resulting in a rapid decline of the share of agriculture in GDP. In contrast, the share of agriculture in employment declines relatively slow. Moreover, the pace of decline in the share of agriculture in total employment depends primarily on the labour intensity of the industrial and service sector (Timmer, 2009).

A turning point in the structural transformation is reached when the 'structural gap' begins to reduce, as the labour productivity differentials between agriculture and other sectors start to diminish. In other words, the rate of decline of the share of agriculture in employment becomes faster than the rate of decline of its share in GDP (Timmer, 2009). The next section presents the analysis of the structural change in the overall economy of Tamil Nadu.

1. Structural Change in the Tamil Nadu Economy

During the period of economic liberalisation, the structural gap in the Tamil Nadu economy has been declining. The decline was at a slower phase between 1993-94 and 2004-05. After that, the economy witnessed a sharp decrease in the structural gap between 2004-05 and 2011-12; and also between 2011-12 and 2017-18. It emerges from the analysis of the NSDP data for Tamil Nadu that the share of agriculture in NSDP has declined rapidly, while the share of agriculture in employment declined rather slowly between the period 1993-94 and 2004-05. The slow decline in agricultural employment share is due to the sluggish growth in the output and the employment of the manufacturing sector, which contrary to the international experience, did not pull the labour out of agriculture into the modern manufacturing sector. In this period the Tamil Nadu economy was characterised by a low growth in agriculture; the other areas within the industry grew moderately, and the service sector witnessed a phenomenal growth. As a consequence, the share of agriculture in NSDP dwindled. Since 2004-05 there is a sharp decline in the share of agricultural employment.

Figure 1
Structural Change in Tamil Nadu Economy, Sectoral Share in per cent, Structural Gap in per cent



Source: Calculated from various NSSO EUS rounds, *Periodic Labour Force Survey 2017-18 (PLFS 2019) and the EPWRF data on NSDP

Figure 1 shows the changes in the percentage contribution share of agriculture to total employment and its share in NSDP for the Tamil Nadu economy. The employment figures capture those who are usually employed in principal or subsidiary status. The share of agricultural employment in total employment declined throughout the period from 53 per cent in 1993-94 to 42.5 per cent in 2004-05 and further fell sharply to 33.5 per cent in 2011-12. In the year 2017-18, the agricultural employment share is 27.7 per cent. The share of agriculture to NSDP being 21.6 per cent in 1993-94 is reduced to a mere 6.7 per cent by 2017-18. As explained earlier, this is on account of sluggish growth in agriculture, high growth in the service sector and moderate growth in the industry sector, except the manufacturing. The 'structural gap' has begun to reduce over the period 1993-94 and 2017-18 from 31.4 per cent to 21 per cent respectively.

At the all India level Binswanger-Mkhize (2012) argue that India is still far away from structural convergence where the share of agricultural gross domestic product and its employment share start to converge. Binswanger-Mkhize (2013) characterises the structural transformation in India as "stunted". Binswanger-Mkhize and D'souza (2015) have also argued that the structural convergence has begun in six states in India, including Tamil Nadu. The factors driving these changes in the Tamil Nadu can be a growth in urban industry and services in addition to the increase in the rural non-farm economy (RNFE). This paper focuses on the changes fuelled by the growth of the

RNFE. The next section presents the trends and levels of the changes in the RNFE and throws light on the various possible factors behind the expansion of the RNFE.

2. Factors Driving the Structural Change

Table 2 shows the percentage share of the three sectors, namely, agriculture and allied activities, industry, and services in total rural employment in usual status while taking the principal and subsidiary status into account. Table 2 illustrates that the percentage share of agricultural work had declined, and that of industry and service employment had increased for Tamil Nadu and India, throughout the period. Though Tamil Nadu shares the all India trend, the levels are significantly different. By the year 2017-18, India still has about 60 per cent of its rural workers employed in agriculture sector whereas, in Tamil Nadu, it is only 42.5 per cent. Tamil Nadu also has much higher employment in industry at 33.3 per cent than all India at 20.8 per cent. The State has 24.2 per cent of the workers employed in the service sector and the same figure for all India is 19.4 per cent.

Table 2
Employment Share of Three Broad Sectors in Total Rural Employment
according to Usual Status, in per cent

Sectors	1993-94		2004-05		2011-12		2017-18	
	TN	India	TN	India	TN	India	TN	India
Agriculture & allied activities	70.3 (78.4)	78.3 (86.0)	65.6 (73.9)	73.0 (83.4)	51.2 (50.6)	64.1 (74.9)	42.5 (51.0)	59.4 (73.2)
Industry	15.8 (14.0)	10.2 (8.5)	20.1 (16.6)	13.7 (10.1)	31.2 (39.5)	20.4 (16.7)	33.3 (32.9)	20.8 (13.7)
Services	13.9 (7.6)	11.5 (5.5)	14.3 (9.5)	13.3 (6.5)	17.6 (9.9)	15.5 (8.3)	24.2 (16.2)	19.4 (13.1)
Non-Agriculture	29.7 (21.6)	21.7 (14.0)	34.4 (26.1)	27.0 (16.6)	48.8 (49.4)	35.9 (25.0)	57.5 (49.0)	40.6 (26.8)

Note: Figures within brackets indicate the sector-wise share of female employment in total rural female employment.

Source: Calculated from NSSO EUS (rounds 50, 61, and 68) and PLFS (2019)

The agriculture employment in rural Tamil Nadu declined from 70.4 per cent in 1993-94 to 65.3 per cent in 2004-05. It further fell sharply to 42.5 per cent in 2017-18. Correspondingly, the share of non-agricultural employment increased from 29.6 per cent in 1993-94 to 34.7 per cent in 2004-05 and further to 57.5 per cent in 2017-18. The rural non-farm sector emerged to be the largest employer in Tamil Nadu. That is not the case at the all India level.

However, this is not the only way in which the situation in Tamil Nadu is different from the all India level. Table 2 (figures in bracket) shows the sector-wise distribution

of female employment for Tamil Nadu and all India. At all India level, in 2017-18, a very high proportion, that is, 73.2 per cent of the rural female workers are employed in the agriculture sector, followed by 13.7 per cent in industry and 13.1 per cent in services. Abraham (2013) shows that the pace of shift from agricultural employment to non-agricultural employment for female labour has been languid in India between 1983 to 2011-12. The story of the movement of labour out of agriculture into the non-farm sector applies only to the rural male labour at the all India level. In sharp contrast, only 51 per cent of the rural female workers in Tamil Nadu are engaged in the agriculture sector. And 33 and 16 per cent of the female agricultural workers in the State are employed in industry and service sector respectively. The movement of labour out of agriculture is accurate for both the male and female rural labour in Tamil Nadu. Tamil Nadu also has a higher work participation rate for rural female workers than the all India level. The figures for Tamil Nadu and all India are 29.4 and 17.5 per cent respectively in 2017-18. The share of rural female workers engaged in non-agricultural work is 49 per cent in Tamil Nadu, which is almost double that of the figure for all India that is 27 per cent. Therefore, in term of gender and employment, the situation in Tamil Nadu is significantly different from that of all India. The implication of these differences for rural development in Tamil Nadu is an interesting aspect which needs further analysis.

One can see from table 2 presented above that there is a movement of rural labour (both male and female) away from the farm and into the non-farm sector. It also shows that there have been substantial improvements in the employment share of the industry sector. But it is of utmost importance to understand the nature of this industry employment by further disaggregating this sector. Table 3 presents the detailed sector-wise employment share of those who are usually employed in principal status or subsidiary status in rural Tamil Nadu.

Table 3
Employment Share of Various Sectors in Total Rural Employment
in Tamil Nadu According to Usual Status, in per cent

<i>Industry-wise</i>	<i>1993-94</i>	<i>2004-05</i>	<i>2011-12</i>	<i>2017-18</i>
Agriculture & allied	70.4	65.3	51.2	42.5
Mining & Quarry	0.4	0.3	0.5	0.3
Manufacturing	12.9	14.0	14.6	14.3
Electricity, Water	0.2	0.1	0.6	0.8
Construction	2.3	5.7	15.5	17.9
Trade, Hotel	4.8	6.4	6.8	9.6
Transport	2.0	2.8	4.0	5.9
Fin Intermediaries, Business	0.8	0.8	0.9	1.0
Rest of the Services	6.2	4.7	5.9	7.7

Source: Calculated from NSSO EUS (Rounds 50, 61, and 68) and PLFS (2019)

Table 3 shows that the increase in the employment share of the industry sector is primarily due to the rise in construction employment. The employment share of the construction sector increased from a mere 2.3 per cent in 1993-94 to 5.7 per cent in 2004-05 and after that increased rapidly to 15.5 per cent in 2011-12. It was around 18 per cent in 2017-18. The employment share of the construction sector at the all India level in 2017-18 was 12.2 per cent. The gender-disaggregated figures bring the contrast between the Tamil Nadu and the all India situation in the construction employment. In the year 2017-18, for Tamil Nadu, the proportion of rural male construction workers in total rural male workers is 17 per cent, and the proportion of rural female construction workers in total rural female workers is 20 per cent. The corresponding figures for all India are 14.5 per cent and 5.3 per cent respectively. Once again, it is evident that female employment situation in Tamil Nadu is drastically different from the all India story.

Contrary to the popular belief that the most of the increase in rural construction employment is fuelled by urban construction sites and commuting to the urban areas for work, Mahajan and Nagaraj (2017) show that the rural construction workers are primarily employed in rural residential construction. They gave two possible explanations; first, a fall in the price-income ratio in the construction sector that could be because of a decline in cement price. Second, the rise in agricultural wages between 2004-05 and 2011-12. This is also corroborated by the census data on housing. The percentage of *pucca* houses in rural Tamil Nadu increased from 47 per cent in 2001 to 60 per cent in 2011. The construction sector absorbs a significant proportion of the surplus-labour moving out of agriculture. As many scholars pointed out, construction sector employment lacks any social security. Moreover, doubts are raised about the sustainability of higher employment generation in the construction sector in the long run.

In Tamil Nadu, employment growth in rural manufacturing has been very modest, it increased from 12.9 per cent in 1993-94 to 14 per cent in 2004-05 and increased only to a mere 14 per cent in 2017-18. However, the manufacturing employment share in the State is higher than the all India level of 8.0 per cent. At the all India level in the year 2017-18, 7.6 per cent of the rural male workers and 8.1 per cent of rural female workers are employed in the manufacturing sector. The corresponding figures for Tamil Nadu are 15 per cent and 13 per cent respectively.

The increase in the service sector employment during the period of analysis has come from the rise in the employment share of trade, hotel services sector from 4.8 per cent in 1993-94 to 6.4 per cent in 2004-05 and further to 9.6 per cent in 2017-18. The transport sector employment share also rose from 2 per cent in 1993-94 to 2.8 per cent in 2004-05 and further to 6 per cent in 2017-18.

The preceding had discussed the changes in the structure of employment at the economy (macro) level. The next section would explain the changes in the structure of employment and the diversification at the household level.

IV. OCCUPATIONAL DIVERSIFICATION AMONG RURAL HOUSEHOLDS

The implications of occupational diversification for rural development and wellbeing of the rural populace are myriad. Ellis (1998) eloquently summarises various aspects of diversification of rural households in the developing countries. He writes,

“Diversification may occur both as a deliberate household strategy [Stark, 1991] or as an involuntary response to crisis [Davies, 1996]. It is found both to diminish [Adams, 1994] and to accentuate [Evans and Ngau, 1991] rural inequality. It can act both as a safety valve for the rural poor [Zoomers and Kleinpenning, 1996] and as a means of accumulation for the rural rich [Hart, 1994]. It can benefit farm investment and productivity [Carter, 1997] or impoverish agriculture by withdrawing critical resources [Low, 1986]” (Ellis, 1998, pp.2).

As stated above the possible effects of diversification vary in many ways across space and time. There is no monotonic relationship between agrarian growth and the diversification of the rural economy (Chandrasekhar 1993).

For the current analysis, the rural households are classified into three broad occupational categories; namely, pure agricultural households (HH), diversified HH and pure non-agriculture HH using the National Industrial Classification (NIC) codes given in the unit level NSSO EUS data. If all the employed members of a household work only in the agricultural sector, then that household is categorised as pure agricultural HH. A pure non-agricultural HH is one where all the working members of the household are employed only in the non-agricultural sector. A diversified HH has some members engaged in the agricultural sector and others in the non-agricultural sector. Table 4 shows the changes in the proportion of households falling under these occupational categories for Tamil Nadu and India over the period 1993-94 to 2011-12.

Table 4
Distribution of Rural Households by Occupational Diversification in Tamil Nadu, in per cent

Rural	1993-94			2004-05			2011-12			2017-18		
	Pure Ag HH	Diver-sified HH	Pure Non-Ag HH	Pure Ag HH	Diver-sified HH	Pure Non-Ag HH	Pure Ag HH	Diver-sified HH	Pure Non-Ag HH	Pure Ag HH	Diver-sified HH	Pure Non-Ag HH
Tamil Nadu	57.8	17.7	24.5	53.1	17.7	29.2	38.9	22.7	38.5	31.0	18.3	50.7
India	67.3	14.3	18.5	59.9	17.2	22.9	52.5	15.5	32.0	48.8	13.6	37.6

Source: Calculated from NSSO EUS (Rounds 50, 61, and 68) and PLFS (2019)

As shown in table 4, in rural Tamil Nadu, the percentage share of households who depend only on the agricultural employment, i.e., the 'pure agricultural households' declined from 57.8 per cent in 1993-94 to 53.1 per cent in 2004-05 and further to 38.9 per cent in 2011-12. It was around 31 per cent in 2017-18. The 'diversified households' had remained constant at 17.7 per cent in 1993-94 and 2004-05. It increased to 22.7 per cent in 2011-12 and again fell to 18 per cent in 2017-18. The 'pure non-agricultural households' had increased from 24.5 per cent in 1993-94 to 29.2 per cent in 2004-05 and further to 50.7 per cent in 2017-18. This, in fact, marks the emergence of new rurality where the non-agriculture sector provides more employment than the agricultural sector to the rural households in Tamil Nadu. Similar to the findings of this paper, Harriss and Jeyaranjan (2016) characterise the Tamil Nadu economy as 'post agrarian'. They come to this conclusion from their village studies and also from the review of several village studies conducted by various scholars.

In contrast to the Tamil Nadu situation, still, about 49 per cent of rural households in India are 'pure agricultural households' who depend only on the agriculture sector for employment. And the proportion of rural households who depend only on the non-agriculture sector for employment is 37.6 per cent in 2017-18.

1. Variations among Social Groups, Education Level, Regions

Further, it is important to note that the declining dependence on agriculture sector for employment in rural Tamil Nadu is not a common story rather it varied across regions, social groups and education level of the head of the household.

Table 5
Distribution of Rural Households by Occupation Diversifications
across NSS Regions in Tamil Nadu in 2017-18, in per cent

<i>NSS Region</i>	<i>Pure Ag HH</i>	<i>Diversified HH</i>	<i>Pure Non-Ag HH</i>	<i>Total</i>
Coastal Northern	34.1	10.8	55.0	100.0
Coastal	32.6	28.7	38.8	100.0
Southern	33.4	13.1	53.4	100.0
Inland	23.7	22.2	54.2	100.0
Total	31.0	18.2	50.7	100.0

Source: Calculated from PLFS (2019)

It is noted from table 5 that except for the coastal region (38.8 per cent), all other regions have more than 50 per cent of the rural households depending entirely on non-agricultural employment. The dependence on non-agricultural employment is highest in the Coastal Northern region of Tamil Nadu with about 55 per cent of pure non-agriculture HHs. The Coastal Northern region comprises districts like, Chennai,

Thiruvallur, and Kancheepuram, which attracted a lot of ICT (Information and Communication Technologies) based industries. These areas also experienced a further expansion in automobile and other large-scale manufacturing industries. Tamil Nadu contributes about 45 per cent of the total automobile exports in India (GOT, 2019).

Table 6 presents the occupational diversification among various social groups. The 'Others' and Other Backward Classes (OBCs) have predominantly moved out of agricultural employment. In the year 2017-18, the proportion of 'pure non-agricultural households' among the 'Others' and OBCs are 72.5 per cent and 53.5 per cent respectively. While for the Scheduled Castes (SCs) and Scheduled Tribes (STs), the corresponding figures are 45 per cent and 29 per cent respectively.

Table 6
Distribution of Rural Households by Occupational Diversification
across Social Groups in Tamil Nadu in 2017-18, in per cent

<i>Social Group</i>	<i>Pure Ag HH</i>	<i>Diversified HH</i>	<i>Pure Non-Ag HH</i>	<i>Total</i>
ST	52.2	19.0	28.9	100.0
SC	33.1	21.8	45.2	100.0
OBC	29.7	16.8	53.5	100.0
Others	17.8	9.7	72.5	100.0
Total	31.0	18.2	50.7	100.0

Source: Calculated from PLFS (2019)

Among the ST and SC households, 19 per cent and 22 per cent respectively are diversified households while 17 per cent of the OBC and only 10 per cent of 'others' are diversified households. A considerable proportion of SCs and STs belong to the 'pure agricultural households' that is 52 per cent and 33 per cent respectively. Therefore, during the times of agrarian distress, the people from these two social groups will be affected the most.

Table 7
Distribution of Rural Households by Occupational Diversification and the Education Level
of the Head of the Household (HoH) in Tamil Nadu in 2017-18, in per cent

<i>Education of HoH</i>	<i>Pure Ag HH</i>	<i>Diversified HH</i>	<i>Pure Non-Ag HH</i>	<i>Total</i>
Without formal schooling	36.1	24.9	39.0	100.0
Up to middle school	32.7	17.2	50.1	100.0
Secondary	22.8	14.1	63.1	100.0
Higher secondary	24.5	7.9	67.5	100.0
Above higher secondary	10.4	8.8	80.8	100.0
Total	31.0	18.2	50.7	100.0

Source: Calculated from PLFS (2019)

Table 7 shows that 36 per cent of the households with the head of the household (HoH) who do not have any formal schooling are pure agricultural households. While 63, 68, and 81 per cent of the households with the education level of the HoH being secondary, higher secondary and above higher secondary respectively are pure non-agriculture households. Higher the educational levels of the HoH, higher the possibility of that household being a pure non-agricultural household.

Table 8:
Distribution of Rural Households by Occupational Diversification and Age of the Head of the Household (HoH) in Tamil Nadu in 2017-18, in per cent

<i>Age Cohort of HOH</i>	<i>Pure Ag HH</i>	<i>Diversified HH</i>	<i>Pure Non-Ag HH</i>	<i>Total</i>
15 to 29	27.7	5.6	66.7	100.0
30 to 44	28.7	9.3	62.1	100.0
45 to 59	30.8	24.9	44.4	100.0
60 and above	35.8	22.4	41.9	100.0
Total	31.0	18.2	50.7	100.0

Source: Calculated from PLFS (2019)

Table 8 shows that the younger the head of the households, the higher chances of them being pure non-agricultural households. About 67 and 62 per cent of the households with the age of the HoH between 15 to 29 and 30 to 44 respectively are pure non-agriculture households. Whereas 31 per cent and 36 per cent of the households with the age of the HoH falling between 45 to 59, and 60 and above respectively are pure agricultural households.

Table 9
Distribution of Rural Households by Occupational Diversification and the Industry of work of the HoH, in per cent

<i>Industry of Work</i>	<i>Pure Ag HH</i>	<i>Diversified HH</i>	<i>Pure Non-Ag HH</i>	<i>Total HH</i>
Non-Workers	7.2	2.9	13.7	9.8
Agriculture and Allied Activities	92.8	67.3	0.0	41.0
Mining and Quarrying	0.0	0.1	0.6	0.3
Manufacturing	0.0	4.9	21.9	12.0
Electricity and Water	0.0	1.2	1.6	1.0
Construction	0.0	10.5	25.1	14.6
Trade, Hotel	0.0	3.7	16.4	9.0
Transport and Storage	0.0	4.5	8.3	5.0
Financial Intermediaries, Business	0.0	0.0	1.8	0.9
Rest of the Services	0.0	4.9	10.5	6.2
Total	100.0	100.0	100.0	100.0

Source: Calculated from PLFS (2019)

Table 9 presents the industry of work for each category of households, namely, pure agricultural household, diversified household and pure non-agricultural household. Among the pure agricultural HH 7.2 per cent have the head of the households who do not work in any industry, the rest 92.8 per cent are in agriculture.

Among the diversified HH, 67 per cent of the head of the household work in the agriculture sector, 10 per cent in construction and 5 per cent in manufacturing. About 25.1 per cent of the head of the household from pure non-agriculture household work in the construction sector and 22 per cent work in manufacturing followed by 16.4 per cent in trade and 8 per cent in transportation-storage, while 14 per cent are non-workers.

2. Multinomial Logistic Regression

A multinomial logit model is set up to understand the characteristics of the three types of households and predict the odds of a particular household to be under any of the three types given its characteristics. The description of each variable is provided in table 10. The sample number of rural households in Tamil Nadu for 2017-18 survey was 3136.

Table 10
Description of Multinomial Logit Model for Rural Tamil Nadu (2017-18)

<i>Type of Household</i>	<i>Dependent Variable</i>
Pure Agricultural Household	Base Category
Diversified Household	
Pure Non-Agricultural Household	
<i>Independent Variables</i>	
Age of HoH	Continuous Variable
HH Size	Continuous Variable
NSS Region_Dummy	Categorical Variable
1	(Base: Coastal Region)
2	Southern
3	Inland
4	Coastal Northern
Social Group	Categorical Variable
1	(Base: Scheduled Tribe)
2	Scheduled Caste
3	Other Backward Classes
9	Others
Sex of HH	Categorical Variable
1	(Base: Male)
2	Female
Education of HoH	Categorical Variable
1	(Base: No Formal Schooling)
2	Upto Middle School
3	Secondary
4	Higher Secondary
5	Graduation and above

The estimates from the model are provided in table 11. Around 70 per cent of the variations in the dependent variable was explained by the independent variables in the model. Other diagnostic tests were also run using the STATA software in-built diagnostic test command.

Table 11
Multinomial Logistic Regression Results for Rural Tamil Nadu, 2017-18

<i>Type of Household</i>		<i>Coefficient</i>
<i>1: Pure Agricultural Household</i>		
Age of HoH		-0.015* (0.004)
HH Size		-0.349* (0.049)
<i>NSS Region_Dummy (Base:1)</i>		
2		-0.406* (0.173)
3		-1.207* (0.164)
4		-0.948* (0.154)
Social Group	(Base: Scheduled Tribe)	
2	Scheduled Caste	-0.489 (0.367)
3	Other Backward Classes	-0.274 (0.362)
9	Others	-1.429* (0.692)
<i>Sex of HH (Base: Male)</i>		
2	Female	-0.060 (0.186)
<i>Education of HoH (Base: No Formal Schooling)</i>		
2	Upto Middle School	0.224 (0.135)
3	Secondary	0.393 (0.234)
4	Higher Secondary	0.468 (0.338)
5	Graduation and above	-0.340 (0.367)
Constant	_cons	3.385* (0.483)
<i>2: Base Outcome (Diversified Household)</i>		
<i>3: Pure Non-Agricultural Household</i>		
Age of HoH		-0.033* (0.004)

<i>Type of Household</i>		<i>Coefficient</i>
HH Size		-0.259* (0.039)
NSS Region_Dummy (Base:1)		
2		-0.336* (0.166)
3		-0.625* (0.148)
4		-1.218* (0.149)
Social Group	(Base: Scheduled Tribe)	
2	Scheduled Caste	0.721 (0.383)
3	Other Backward Classes	1.227* (0.379)
9	Others	1.396* (0.579)
Sex of HH (Base: Male)		
2	Female	0.523* (0.174)
Education of HoH (Base: No Formal Schooling)		
2	Upto Middle School	0.481* (0.128)
3	Secondary	0.918* (0.218)
4	Higher Secondary	1.202* (0.306)
5	Graduation and above	1.550* (0.290)
Constant	_cons	2.604* (0.490)

Source: Calculated from PLFS (2019)

It can be noted that the relative odds of a rural household in Tamil Nadu being a pure-agricultural household decreases with the increasing age of the HoH. This result is unique, as it means, that older the HoH such households are part of the diversified household. It could be because the younger persons in that particular household engage more in non-agricultural employment. Also, the result shows that the relative odds of being a pure-agricultural household declines as we move to the Southern, Inland, and Coastal Northern regions of Tamil Nadu. Thus, indicating the hybridisation of rural and urban spaces. The odds of being a pure-agricultural household declines if the household belongs to the “others” social group.

The odds of a household being a pure non-agricultural household decreases with the increasing age of the HoH. Younger the person more is the probability of being a pure non-agricultural household. Larger the size of the household more is the probability of diversified occupational groups among the members. The social group of the household plays an instrumental role in offering the social network facilitating the shift to urban spaces. It is evident from the result that the other backward classes and others were more able to shift to non-agricultural work. The most critical factor that decided the possibility of a household being a pure non-agricultural household was the education level of the HoH. The higher the education level of HoH, the greater the likelihood of that household being a pure non-agricultural household.

The process of structural transformation and urbanisation has implications for inequality levels. The next section presents an analysis of the rural-urban inequality in Tamil Nadu.

V. RURAL-URBAN INEQUALITY

In the early stages of economic development, Kuznets (1955) suggested that the transition from agriculture dominated economy to the industry-based economy would result in increasing inequality and later as the agricultural employment substantially declines, the inequality would reduce. Kuznets thus identified an inverted 'U' relationship between inequality and income which is associated with the process of structural change specific to the history of economic development in the USA, UK, and Japan etc. Many other countries experienced a similar story of economic development and inequality and some countries exhibited a different relationship. The important argument of Kuznets is not that the same inverted 'U' sort of curve would apply to all, instead, he argued that the essence of inequality is primarily determined by the nature of structural changes which constitute the process of economic growth and development (Galbraith, 2010).

The overall, rural and urban inequality in Tamil Nadu increased between 1993-94 and 2004-05 and declined between 2004-05 and 2011-12². The overall Gini coefficient was 0.344 in 1993-94, which increased to 0.379 in 2004-05 and decreased to 0.345 in 2011-12. Correspondingly, the rural Gini slightly increased from 0.312 in 1993-94 to 0.322 in 2004-05 and declined to 0.301 in 2011-12. Following a similar trend, the urban Gini increased from 0.348 in 1993-94 to 0.361 in 2004-05 and declined to 0.338 in 2011-12. The overlapping index for the rural is greater than one throughout the period that means the rural sector is polarised into two strata, one with a lower mean and another with a higher mean than the mean consumption of the population.

Table 12
Decomposition Results: Rural-Urban Inequality in Tamil Nadu

Sector	1993-94					2004-05					2011-12				
	Con- sumption Share %	Gini	Overlap Index	Contri- bution	%	Con- sumption Share %	Gini	Overlap Index	Contri- bution	%	Con- sumption Share %	Gini	Overlap Index	Contri- bution	%
Overall	0.344	0.344	1.022	0.344	100	0.344	0.344	1.022	0.344	100	0.344	0.344	1.022	0.344	100
Rural	55.2	0.312	1.022	0.176	51.3	47.2	0.322	1.024	0.156	41.1	44.0	0.301	1.018	0.135	39.1
Urban	44.8	0.348	0.834	0.130	37.8	52.8	0.361	0.752	0.143	37.9	56.0	0.338	0.838	0.159	46.0
Within				0.306	89.1				0.299	79.0				0.294	85.1
Between				0.037	10.9				0.079	21.0				0.052	14.9

Source: Calculated from NSSO CES (Rounds 50, 61, and 68)

The within-component of the Gini coefficient declined continuously between 1993-94 and 2011-12. The between-component of the Gini coefficient increased during 1993-94 and 2004-05 and slightly decreased between 2004-05 and 2011-12. The contribution share of the between component increased from 10.9 per cent in 1993-94 to 21 percent in 2004-05 and it declined to 14.9 per cent 2011-12³. Table 12 presents these figures in detail.

The contribution share of the rural inequality to the overall inequality was 51.3% in 1993-94, 41.1% in 2004-05, which declined to 39.1% in 2011-12. The urban contribution share to the overall inequality was 37.8% in 1993-94, it remained almost constant at 37.9% in 2004-05, and it increased sharply to 46% in 2011-12. The contribution share of the rural inequality to the overall inequality was higher than the urban contribution share until 2004-05, after which the urban contributes the most to the overall inequality. This points to the rising significance of the urban region in the inequality dynamics of Tamil Nadu. This is due to the rapidly unfolding urbanisation process in Tamil Nadu.

Table 13 presents the mean consumption ratio of urban to rural over time. The urban mean consumer expenditure has remained higher than the rural mean consumer expenditure throughout the period. The ratio of urban to rural mean consumer expenditure increased from 1.49 in 1993-94 to 1.79 in 2004-05, and it declined to 1.58 in 2011-12. This explains the trends in inter-sector inequality which increased between 1993-94 and 2004-05 and declined thereafter.

Table 13
Mean consumption ratio (Urban /Rural)in Tamil Nadu

<i>Survey Year</i>	<i>Mean Ratio (Urban/Rural)</i>
1993-94	1.49
2004-05	1.79
2011-12	1.58

Source: Calculated from NSSO CES (Rounds 50, 61, and 68)

The fall in inequality level between 2004-05 and 2011-12, we suggest, is associated with a reduction in the 'structural gap' in the Tamil Nadu economy during the same period. This is also the period in which there was a significant expansion of the rural non-farm sector.

VI. CONCLUSIONS

The paper finds an emergence of new rurality in Tamil Nadu, wherein, more than 50 per cent of the rural households depends entirely on non-agricultural employment. The paper identifies specific processes at macro-level and household

level that drive the emergence of new rurality. The explanations are premised on three broad narratives - the structural transformation of the economy, occupational diversification of households, and urbanisation process with its implications on rural-urban inequality.

A significant increase in the share of the urban population can be noted between 1991 and 2011 census years. In 2011, 48 per cent of Tamil Nadu's population was urbanised. The growing urbanisation also paralleled with a declining structural gap in the economy. The structural gap fell from 31.4 per cent in 1993-94 to 21 per cent in 2017-18 with a sharp decline beginning from 2004-05. The role of the rural non-farm sector in this regard is paramount. Around 58 per cent of the rural working population in Tamil Nadu depends on non-agricultural work, the same figure for India is 40 per cent. It is also interesting that the female work participation in the non-farm sector is quite high in rural Tamil Nadu. More than 49 per cent of the rural women workers depend on non-farm work, while at all India level, even today, 73 per cent engage entirely on agricultural work. However, it is necessary to note that construction played a crucial role in employing the surplus working population from the rural sector. The construction sector is plagued by various issues concerning the social security of the labour involved. Thus, the sustainability of this process is debatable.

Apart from the macro-level structural changes in employment, the paper analysed a few household-specific characteristics to understand this 'new rurality'. Multinomial logistic regression was employed to identify these features. It was found that the likelihood of the households being a pure non-agricultural household rises with higher educational attainments, being part of upper social groups (other backward classes and others), and younger age of the head of the household. The analysis also showed that households located in the regions proximate to urban industrial centres had a higher probability of being pure non-agricultural household.

The other interesting aspect that was analysed in the study was the trends in the rural-urban inequality using NSSO consumer expenditure surveys between 1993-94 and 2011-12. It was found that the contribution share of urban sector inequality to the total inequality in Tamil Nadu has increased over time. However, the overall inequality fell between 2004-05 and 2011-12. And, we suggest that such a trend is associated with the reduction in the structural gap, and a significant increase in occupational diversification among the rural households.

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Notes

1. The history of urbanisation in Tamil Nadu goes way back in time to the early Christian era. For an elaborate exposition refer Vijayabaskar et al. (2011).
2. The data for consumer expenditure is available only till 2011-12. Thus, the analysis was conducted till that period.
3. The Gini coefficient was decomposed using the method suggested by Yitzhaki (1994). For a detailed explanation of the method see Zacharias and Vakulabharanam (2011).

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