

Small and Marginal Farmer Crisis in (United) Andhra Pradesh (1981-2014)

A Dissertation Submitted to the University of Hyderabad in Partial Fulfillment of the
Requirements for the Award of

DOCTOR OF PHILOSOPHY

IN

ECONOMICS

By

EMMADI NAVEEN KUMAR

[09SEPH02]

Supervisor

PROF. R.V.RAMANAMURTHY



**SCHOOL OF ECONOMICS
UNIVERSITY OF HYDERABAD
HYDERABAD 500046
May 2021**



DECLARATION

I hereby declare that the work embodied in the present dissertation entitled “**Small and Marginal Farmer Crisis in (United) Andhra Pradesh (1981-2014)**” carried out under the supervision of **Prof. R. V. Ramanamurthy**, School of Economics, for the award of Doctor of Philosophy in Economics from University of Hyderabad, is an original work of mine, and to the best of my knowledge no part of this dissertation has been submitted for the award of any research degree or diploma at any University.

Place: Hyderabad

(Emmadi Naveen Kumar)

Date: 12/05/2021

Reg. No. 09SEPH02



CERTIFICATE

**School of Economics
University of Hyderabad
Hyderabad - 500046**

May 12, 2021

This is to certify that **Emmadi Naveen Kumar** has carried out the research work embodied in the present dissertation entitled “**Small and Marginal Farmer Crisis in (United) Andhra Pradesh (1981-2014)** ” in partial fulfillment of the requirements for the award of Doctor of Philosophy degree in Economics. This dissertation is an independent work and does not constitute part of any material submitted for any research degree here or elsewhere.

(Prof. R.V. Ramanamurthy)

Research Supervisor

**(Prof. R.V.Ramanamurthy)
Dean
School of Economics**

CERTIFICATE

(For Ph.D. Thesis)

This is to certify that the thesis entitled “**Small and Marginal Farmer Crisis in (United) Andhra Pradesh (1981-2014)**” submitted by Mr. Emmadi Naveen Kumar bearing Regd. No. 09SEPH02 in partial fulfillment of the requirements for the award of Doctor of Philosophy in Economics is a bonafide work carried out by him under my supervision and guidance.

The thesis is free from plagiarism and has not been submitted previously in part or in full to this or any other University or Institution for the award of any degree or diploma.

A. Published in the following Publication:

1. “Declining Profitability of Paddy in Andhra Pradesh: An Inter-regional Study of Costs and Returns” is published in the book “Agrarian Crisis in India: The Way out” edited by Prof.K.Suman Chandra, Dr.V.SureshBabu and Dr.Pradip Kumar Nath (ISBN:9789332700321), Academic Foundation, New Delhi
2. “Agrarian Crisis: Farmers’ Suicides in Warangal District” through Cambridge Scholars Publishing, UK. (ISBN(13): 978-1-4438-4040-8)

B. Presented Research Papers in the following Conferences: National/International

1. “Small Farmer Economy and their Crisis in Rural Andhra Pradesh: A Study in Three Villages” in the National Seminar on Economic Growth and Marginalised Groups: A Search for Inclusive Policy (24th-25th March 2014)
2. The Paper presented at the First Annual Conference of Agricultural Economics and Agri-business at University of London is saved as the proceedings of the conference: **ISBN: 978-0-9869581-3-7: Library & Archive Canada.**

Further, the student has passed the following courses towards the fulfillment of course work requirement for Ph.D. was exempted from doing course work on the basis of the following courses passed during his M.Phil. Programme and the M.Phil. Degree was awarded.

Course Code	Course Title	Credit	Pass/Fail
SE600	Advanced Economic Theory	4	Pass
SE601	Social Accounting and Database	4	Pass
SE602	Research Methodology	4	Pass
SE620	Study Area	4	Pass

Prof. R.V.Ramanamurthy
Supervisor

Dean,
School of Economics,
University of Hyderabad,
Hyderabad- 500 046.

Dedicated

to my beloved parents

Mr. & Mrs. Emmadi Das and Sumithra

ACKNOWLEDGEMENTS

“No one who achieves success does so without the help of others. The wise and confident acknowledge this help with gratitude.” – Alfred N.W.

I express my respect, special regards and heartfelt thanks to my supervisor, Prof. R. V. Ramanamurthy, and the Dean of School of Economics, University of Hyderabad, for his kind supervision, valuable suggestions, unfailing interest and constant encouragement throughout my work without which the completion of this dissertation would have been a remote possibility.

My heartfelt thanks to my teachers Prof. G. Omkarnath, Dean, Prof. Naresh Kumar Sharma, Prof. J. Manohar Rao, Dr. G. Sridevi, Prof. R.Vijay, Prof. K. Laxminarayana, , Dr. P. Goyari, Dr. G. Vijay, Prof. Debashis Acharya, Dr. K. Ramachandra Rao, Dr. Prajna Paramita Mishra for their support and help in completing this research work.

I duly acknowledge the co-operation of our office staff Mr. Adinarayana, Mr. Nagarajan, Mr.Venkatesh and Mr. Basha. I am also thankful to the librarian and staff of the IGML (UOH), CESS, NIRD, for making available all the required resources for the study.

I am extremely grateful to Prof. K. Suman Chandra, NIRD, for his help provided to me during this work.

I extend my deep love and affection to my parents, my father Mr. Emmadi Das and my mother Mrs. Emmadi Sumithra, for giving me this wonderful life and supported me in every single second of it. Words fall short to express my indebtedness to my family members who always stood by me and put trust in me. They are my constant source of inspiration. I thank my wife Sravanthi, and my kids Akul and Ayush for giving me moral support. I also thank my entire family members, friends and School of Economics, UoH, scholars, (Mr. Ch. Sudhakar, Mrs. Srilatha, Mr.E. Srinivas, Mr. E. Satish, Mr. E. Sravan, Mrs.Elisha, Mrs.Sumalatha, Mrs. Annapoorna, Praneeth, Karthika, Teja, Mary Kezia, Sai Charan, Rohit Charan, Nihasra, Sahasra, Vamshi Krishna, Abhishek Reddy, Mukkaram, Sailaja, Satyanarayana, Swaminath, Dr.S.Harinath, Suman.D, Dr.Trilok, Dr. Sreeram.G, IndrapalYadav, Navika Harshe, Mrs. Jayashree, Ms. Rahmath Jahan and Mr. IVK Raju) who extended their love and affection in my life.

Table of contents

S. no.	CHAPTERS	Page no.
1.	Introduction	1
1.1	Introduction	1
1.2	Agrarian Structure and its Historical Evolution in India	2
1.2.1	Permanent Settlement	2
1.2.2	Ryotwari System	3
1.2.3	Mahalwari System	3
1.2.4	Post-Independence Period	4
1.3	Emergence of Capitalists relations of Production	4
1.4	Petty Commodity Producers/ Peasants	5
1.5	Crisis of Food	9
1.5.1	Peasants and small farmers do not benefit from higher prices	11
1.6	Agrarian Crisis in India (Suicides/ Indebtedness)	11
1.6.1	Agrarian Crisis in Andhra Pradesh	13
1.7	Research Problem	15
1.8	Objectives	16
1.9	Hypothesis	17
1.10	Methodology	17
1.11	Chapterization	17
2.	Literature Review: Macro Trends	18
2.1	Agricultural Policy and Trends in Indian Agriculture Sector	18
2.2	Farm Distress	18
2.3	Agrarian Structure	19
2.4	Situation in Andhra Pradesh and Telangana	20
2.5	Land Reforms	26
2.5.1	Abolition of Intermediaries	26
2.6	Tenancy Reforms	27
2.7	Ceiling on Landholdings and Distribution of Surplus Land	28
2.8	Consolidation of Holdings	28
2.9	Green Revolution	29
2.10	Green revolution and Small Farms	30
2.11	Public Investment in Agriculture	30
2.12	Theories on Public Investment	31
2.13	Credit Subsidy Price Policy	33
2.13.1	Scale	33
2.13.2	Comparison with Public Expenditures and Investments	36
2.13.3	Income Support	37
2.14	Trends and Performance (Pre reform, post reform, growth rates)	40
2.15	Growth of Agriculture in India: A temporal and spatial analysis	40
2.15.1	Agriculture and the Economy in India	41

2.16	Growth of Agriculture sector in comparison to other sectors of the economy	44
2.17	Trends in the area and production of crops in India	45
2.18	Changing pattern of production and availability of food grains in India	48
2.19	Growth and share of Agriculture in India's trade	52
2.20	Summary	56
3.	Trends in Agrarian Structure, Production and Institutions	58
3.1	Introduction	58
3.1.1	Agrarian Structure: History and Antecedents	59
3.2	Total Workforce & Its Composition	62
3.3	Occupational/Sectoral Profile of the Workers – Structural Change	64
3.3.1	Age-wise Distribution and Sectoral Transition	64
3.4	Institutional Change in Indian Agriculture	66
3.5	Land Reforms and Agricultural Development: Retrospect and Prospect	67
3.5.1	Relaxation of Ceiling Laws	69
3.5.2	Agricultural Tenancy an Inefficient Institution	69
3.5.3	Poor Peoples' Access to the Land-Lease Market	71
3.5.4	Contract Farming	73
3.6	Land Reforms	76
3.7	Importance of Agrarian structure	78
3.7.1	Agrarian Structure, Poverty, and Inequality	78
3.7.2	Agrarian Structure, Education, and Migration	79
3.7.3	Agrarian Structure, Rural Investment, and Land Markets	79
3.8	Trends in Agricultural Production and Productivity: An Inter-State Comparison	80
3.8.1	Agricultural Policies in post-Independence Era (1947 to 1960)	81
3.8.2	Crop Diversification at all-India Level	82
3.8.3	Inter-State Comparison of Growth of Major Crops in India over Different Sub	84
3.8.4	Periods	
3.9	Emerging Trends and Patterns of India's Agricultural Workforce: Evidence from the Census	84
3.10	Summary	85
4.	Rise of Small and Marginal Farmers Village Level Analysis	87
4.1	Socio-Economic Description of Sample Villages	87
4.1.1	Achampeta, (Yeldurti mandal), Medak district	87
4.1.2	Pulimaddi, (NandyalMandal, Kurnool District)	89
4.1.3	Kalavapamula, (Vuyyuru mandal, Krishna District)	91
4.2	Sample Size	93
4.3	Methodology	94
4.4	Ownership	94
4.4.1	Operational Holdings	95
4.5	Production and Market Surplus	96
4.6	Credit	105
4.7	Employment	109
4.8	Production Costs and Returns	113
4.9	Descriptive Statistics of the Sample	118
4.10	Diversification and Incomes	133

4.10.1	Agricultural Incomes	135
4.10.2	Non-Agricultural Incomes	136
4.10.3	Comparison in sample villages	138
4.11	State Welfare	141
4.12	Summary	147
5.	Summary and Conclusions	149
5.1	Conclusion	149
5.2	Summary	157
	Bibliography	170
	Appendix	176

Chapter 1: Introduction

1.1 Introduction:

Indian farming has been going through a period of serious crisis. There are many manifestations of this agrarian crisis¹, one of the terrible features being the unabated suicides of farmers – colossal tragedy that began three decades ago. This has motivated a lot of scholars to focus on understanding the crisis. The first state to draw country-wide attention through a spate of farmers' suicides is Andhra Pradesh. Farmers' suicides are merely manifestations of the deeper malice of the agrarian crisis, arising from a variety of factors, including growing marginalization of the agricultural structure, increasing land fragility and water resources, and sustainable cropping practices, all of them have intensified the public support systems neglect as a consequence of the economic reform phase.

The quick population growth, the partition of land holdings and the changed family structure in rural India from joint to family units have made the size of the holdings smaller and smaller. The region constrained by marginal farmers in the Indian horticulture area has increased, however not by relative holdings. Then again, there has been a small decline in both the quantity of enormous holdings (10 hectares and above and the district worked by huge holders. This indicates that small and marginal farmers will dominate Indian agribusiness later on, making it harder to apply current agrarian innovation. The increase in the quantity of marginal holdings less than one hectare, without a proportionate increase in the region worked by them is a prominent element of the primary change in horticulture. Soon, this inclination is likewise liable to continue. Given the segment design, the extent that one can see, small holdings will remain with us and their steadiness will offer ascent to various difficulties in applying new farming innovation to Indian horticulture.

Taking into account by far most of farmers (small and marginal) and their frail asset status, the inquiry is how to make these homestead / family units feasible? How are these farmers capable to increase their general farming returns? In India, small and marginal farmers are generally low

¹ An agrarian crisis is a viability crisis of the producer, while it is different from an agricultural crisis, which is a crisis of production and productivity. These two may be related sometimes, but not necessary. As we have seen in the past two decades, there is no great agricultural crisis as much as there is an agrarian crisis, which manifest in terms of growing indebtedness and falling returns on farming.

regarding capital. This is all the more so in bone-dry and semi-dry territories, where, owing to the absence of satisfactory development potential, for example, water system, farmers are compelled to utilize the assets accessible without sustainability concerns. Their destitution is additionally compounded as a result. These asset helpless farmers can't rise above the 'Destitution Trap'² because of social, political, innovative and monetary constraints, even in a good circumstance where offices, for example, water system, HYVs, manures and bank advances for capital are accessible.

The aim of this thesis is to study the how small are the agricultural holdings in the Andhra Pradesh in the recent period, what is the nature of agricultural markets, vulnerability of farming, diversification, and credit market accessibility of farmers in general and small and marginal farmers in particular in the State of Andhra Pradesh.

1.2 Agrarian Structure and its Historical Evolution in India

A perplexing area income organization conspire was basically in the pre-British Moghul Empire in which the Jagirdars or Zamindars, the rulers' representatives, acquired pay straightforwardly from the farmers in this framework. The organization was touchy to laborer conditions during seasons of dry spell and hopelessness and impartial down income. This framework went through exceptional changes during the British time frame. The British have executed three sorts of income regulatory structures: Permanent Settlement first presented in quite a while in Bengal, Ryotwari and Mahalwari.

1.2.1 Permanent Settlement:

Somewhere else, Zamindars and Diwans procured income for the Mughal rulers in Bengal and different regions in India. The *Diwan* had administrative authority over Zamindars to guarantee that the income assortment capacities were neither careless nor unreasonably severe.' After the Plassey War with the British in 1765, they were allowed *divani* by the Moghul Emperor. In duty administration, this basic change occurred. Since the British had no gifted administrators, they needed to depend on degenerate local authorities. The landholders along these lines felt unregulated and hence abuse was 'unchecked by any worry for expected benefits

²Rathi, A. (2015). *Policy Paralysis and Problems in Agriculture Sector: Sugarcane Issue: Case Study of Western Uttar Pradesh* (Doctoral dissertation, TISS).

or neighborhood government assistance' and in 1770, there was a crushed famine. Subsequently, the then Governor-General, Warren Hastings, instituted a plan of five yearly inspections and transitory duties on farmers. Those named as duty farmers started absconding as much as possible during the inspection times. As a result, this collection of income demonstrated devastating. Cornwallis in the end instituted another assessment conspire in 1793, which was known as the Permanent Settlement. A few pieces of North India began functioning in this settlement.

1.2.2 Ryotwari System:

In Madras in 1792 and in Bombay in 1817-18, the Ryotwari technique was first executed. The individual cultivators (rayats or ryots) were known as proprietors under this plan of their land. Ryots were entitled by methods for one or the other blessing or deal to sub-let, home loan and move their property. The Ryot not just turned into the proprietors of the land in this plan, however land itself turned into an adaptable property. For a brief period of time, the settlement of these lands was completed and the public authority saved the rights for itself due to improve the settlements so there no exact guide was set out. In the vast majority of the South Indian states, include Assam, Madhya Pradesh, and, Maharashtra this framework is predominant. Around 38% of the all out developed region was represented by the Ryotwari conspire³.The Mahalwari framework was another significant land settlement framework that was introduced.

1.2.3 Mahalwari System:

Land allocation became extremely unequal in the areas of Mahalwari and Ryotwari because land became transferable property under these systems compared to permanent settlement areas, it was also progressive. At the same time, however, due to excess demand for income and consequent indebtedness, this jointly led to the alienation of large-scale land to non-agricultural cash lenders. Consequently, between landowners and wealthy peasants, and agricultural tenants and workers, rural society was deeply split. In 1924–25, the Royal Commission on Agriculture also confirmed this. It found that in Bombay, 12 percent of the growers maintained 86 percent of the cultivated area. By 1939, within the state of Punjab, 2 % of landowners owned 38 % of cultivated land in the geographical area, the same issue was

³ Ibid, P. 20

registered. Rural society was much more hierarchical within the Zamindari areas, and distribution of land was much more different compared to the Ryotwari regions. Early citizenship acts to assess occupancy rights for raiyats were implemented in the areas of Zamindari (Bengal Tenancy Act 1855; Bengali Rent Act, 1859) and attempted to limit sub-tenant rents with little success. Other significant laws, such as the 1920 Central Provinces Act, the 1926 Agra Tenancy Act, and the 1928 Bengal Act, sought to provide tenants with relief from restrictions on improving rents and the provision of tenure rights. Since then in the year 1937 at the time it came to power in several provinces, the government Congress passed many rent reform laws to restore the promise it produced in its election manifesto. It is known that core acts of the region unit are the State Residency Act of 1936, UP Residency Act 1937 and Bombay Residency Act 1938. There are the Most of these acts is aimed at granting tenants transferred privileges, lowering interest rates on tenant loans, removing Begar (Bonded Labor) and laying down the reasons for the eviction of the tenant, etc.⁴

1.2.4 Post Independence Period

Post-Independence period has witnessed abolition of Intermediaries around 1956. However, more radical reforms like Land Ceilings and Land Redistribution had failed miserably that were attempted in 1970s. Lipton (2005) described the failure of the land redistribution in India as failure to allocate enough budget resources for land acquisition. The Green Revolution and the spread of irrigation in the next four decades made large and medium farmers benefit and exit the farming. The agrarian structure progressively became marginalized through subdivision of plots. There is also some sale /purchase at the bottom. Instead of concentration of land, the larger phenomenon in India has been marginalization. And agriculture has progressively become more and more commercialized.

1.3 Emergence of Capitalists relations of Production

In the literature, peasant economy is extensively analyzed in the Marxist literature on agrarian transition in a very rigorous and historically realistic framework. Marx suggested that capitalist relations have to grow in every sector and in every region, including agriculture, where

⁴ Bhalla, op.cit., pp. 22-23

subsistence farming will give way to commercial farming, in which many small peasants may lose their land. Marx traced this from the English experiences that gave rise to a capitalist farmer in the 16th century England. He narrates the historical events of rise of agricultural prices in 14th century, Enclosures by the landlords, displacement of small peasants, Black Death and its consequences of collapse of tenancy, and eventual emergence of middle level tenant farmer as the capitalist farmer leasing in land, hiring the wage labour and earning a profit from the trade. Marx predicted that small farmers would be forced to quit agriculture in the long run to become proletarians (Das Capital, Vol 3, 1956).

1.3.1 Will the peasant disappear?

However, contrary to Marx's predication, small farmers all over the world continued to exist, despite facing severe crisis. Frederick Engels, in his essay on *Peasant Question in France and Germany* 1896, noted that a small but substantial portion of small peasantry which tenaciously survived ruthlessly destructive competitive conditions in 19th century Europe. Later, Karl Kautsky analysed the small farmers even more deeply in his *Die Agrarfrage* or *The Agrarian Question* in German context in 1903. Kautsky's is the first comprehensive work, conceptually and empirically on the question of persistence of small peasants in Germany, written in 1894. Kautsky concluded that agrarian transition does not mean total elimination of small and marginal peasantry from agriculture, who tend to survive through self-exploitation and starvation, as a means to avoid joining the unemployed reserve army. Their formal subsumption into capitalist accumulation process enables extraction of surplus value from their family labour, hence these are proletarians in disguise.

1.4 Petty Commodity Producers/ Peasants

When small subsistence farmers are transformed into commercial farmers, who produce for market, using family labour and yet fail to do profitable farming are often referred to as Petty Commodity Producers (PCP) in literature (Harriss-White 2012). Petty Commodity Production denotes the existence of a substantial class of small farmers involved in agricultural production primarily using family labour with subsistence as the objective. Penetration of market, generalized commodity production, increased consumption levels and inadequate opportunities

in the non-agricultural sector often compel the PCP households to cling to the small parcels of land, while participating in the market. The interesting character of the PCP is its ability to persist in the face of worsening conditions of production under pressure of destructive market forces, rent seeking agencies and adverse terms of trade. Marx, while observing the agrarian transition in England that displaced free peasantry through twin processes of primitive accumulation and differentiation, sufficiently cautioned against mechanical anticipation and repetition of such experiences. Kautsky⁵ in his classic piece on agrarian transition also vividly described the ability of PCP households to survive under extreme competition through over-exploitation of family labour and self-starvation

Though PCP is formally subsumed under capital, in practice it is subsidized through family labour and enables transfer of surplus to owners of capital. So it has a great component of wage work. Since there is surplus left after accounting for family labour plus raw materials and machinery it maintains the production.

During the planning era, the issue of agrarian restrictions on capitalist growth was well-debated. It was inferred that during the mid-sixties, when there was no discernible agrarian excess, the improvement of the cutting edge area encountered a crisis of aggregation. The worsening stockpile deficiency in the food grain yield of the economy spoke to an inflationary boundary to development⁶. Through a technological method called the Green Revolution, the Indian State solved the problem to some extent. In request to give the entrepreneur area the imperative market excess, underlying measures have been intended to guarantee some essential benefit for farmers and an increase in profitability for the area. In the neoliberal time frame, there are propensities to pull out intervention structures involving appropriations and other spending that expect to make a crisis for small makers⁷.

The long debate on mode of production in India in the seventies has brought out several dimensions at micro as well as macro level historical condition⁸. Characterization of small

⁵Kautsky, K. (1988). *The agrarian question* (Vol. 2). Unwin Hyman publishers

⁶Ashok Mitra (1977) argued that the kulak class prevails over the public policy through influencing agricultural price policy which kept the terms of trade to shift in favour of agricultural, affecting the industrial accumulation.

⁷Shiva, V. (1991). *The violence of the green revolution: third world agriculture, ecology and politics*. Zed Books.

⁸The issue of agrarian transition and mode of production in India was debated vigorously in various issues of *Economic and Political Weekly* and *Social Scientist* in 1970s. Characterisation about the mode of production in Indian agriculture got pegged

peasantry proved to be a challenge for the scholars in the field. The possibility of the uni-linear development of history from one age, defined by Marx in the feeling of the English setting, won in the well-known imagination of change, though indeed, within Europe itself, such a development starting with one age then onto the next was so fluctuated after some time and space.

As Sanyal (2007) pointed out, there is little space left to consider the changes in late capitalism's transformation for all the surplus labour in informal sector, as the modern sector is highly capital intensive. Unable to provide transformative outcomes in incomes, modern governments in liberal governments are forced to give welfare transfers. As explained by the Italian Marxist Antonio Gramsci, who ruling classes reproduce their hegemony by 'state-civil society' over the masses.

Partha Chatterjee (2004) in the Indian context analysed this very aptly, by acknowledging Gramsci's model of state-civil society like profoundly helpful. A small level of the populace in created nations is affluent 'civil' society; an overwhelming part of the populace that doesn't possess property lies in what he decided to term "political society" outside common society. One who does not have all rights to citizenship, yet has the privilege to establishment, is political society. Vagrants, road sellers, metropolitan ghetto occupants, landless poor, dalits who can develop allotted land, and so on, establish this political society (Chatterjee, 2004). Their methods for endurance may not generally have lawful rights; however the state may disparage them by securing their generally undecided lawful life. The administration of political culture is, for him the key to the legislative issues of a developing third-world state like India. Serious vote based legislative issues gives some degree to arrange incremental gains for the political gathering. Chatterjee additionally contends that the state, as in the West, utilizes diverse legislative innovations involving the populace, produced in different projects by measurements called 'development.' This is likewise subsidized by international capital through the financing of different non-administrative associations (NGOs) which supplement *governmentality*⁹. By

between two positions, i.e., dominantly pre-capitalist and semi-feudal with emerging capitalist relations at one end [Patnaik (1973), Bhadhuri (1976)] and dominantly capitalist relations with persisting subtle semi-feudal relations [Rudra (1978), Desai, A R (1984)]. There were other equally compelling views that capitalist relations had already entered under the colonial rule [Upadhyay (1988), Gunder (1996), Banaji (1975)], while some others held the opposite view that colonial rule introduced feudal relations and blunted growth of production forces by unequal exchange and drain of surplus against formation of potential capitalist relations [Chandra (1984), Prasad (1987)]. The debate, as stated by Alice Thorner (1982), remained inconclusive from the diverse positions taken by the Marxist political economists and the practitioners.

⁹Governmentality is Foucaultian term which refers to a process of dividing populations into groups which are amenable for statistical measurement, using Census and other methods, and fixing governmental programs to the targeted groups and thereby

extending the Chatterjee argument, it can be suggested that Sections of agriculture landed with the higher caste exit that was the last sturdy section of state policy, the recently inward little and marginal farmers. from the lower castes belong to political society, unable to stake development claims, instead satisfied with welfare profit in NREGA terms, housing.

What is India's trajectory of agrarian transition and its future? Answering this question, Byres (1981) identified at least six separate routes, such as the French, English, Russian, German, American routes, and Japanese, for the transition to capitalism, and cautioned against stereotyping all of them in the same way for replication elsewhere. The route of change is mainly characterised by unique historical, political and social circumstances. Apart from the folly of historical materialism, the Marxist strategy of strength lies in the systemic and moral study of culture and capitalism.

One major dimension which political economy scholars often missed to factor the state and its role in capitalist development. State plays a major role in deciding taxation policy, income distribution, development of market surplus, inflation control, technological development etc. In post-colonial countries, state is vested with a development agenda, did lot more than under *laisses faire* societies. Introduction of Green Revolution, expansion of bank credit, land reforms, marketing infrastructure, minimum support prices, procurement and so which has far reaching implications in transforming village economies and agriculture. It has taken measures which protected small peasants on one hand while capitalist development weakened their position in the market on the other. Thus the double movement has preserved and destroyed peasant existence. Economic reforms introduced in 1991 have substantially reduced the scope of the state in intervening into the markets and provide price-subsidy support as it did. While state support in terms of market interventions has reduced it would be hasty to conclude on withdrawal of the state. The welfare dimension of public spending is aimed at mitigating the crisis of poverty.

gaining a biopower over the groups, the participation of members in the program gives the state a positive power over the population besides the sovereign power it already has. This power over groups is a discursive power which keeps them fractured.

1.5 Crisis of Food

There is an overwhelming view that countries like India are facing viability crisis in farming even before its population attained a reasonable level of food consumption. On the contrary, the food consumption is declining [Bajppai and Saraya 2018]. The food deficiency has been accused by certain specialists exclusively on agro-powers, increasing world demand and a worldwide temperature alteration. Yet, this crisis is additionally truth be told, the result of quite a long while of ruinous strategies that have debilitated homegrown food creation. A virtual war against small makers was pursued by Exchange progression. It has been forced to the farmers on the world market that they have to produce transnational corporations' (TNCs) cash crops and purchase food [McMichael 2003].

In the course of the last 20-30 years, nations have been pushed by the World Bank, the Worldwide Money related Asset (IMF) and, a lot later, the WTO to diminish their interests in food creation and to lessen their financing to farmers and limited scope farmers. However, the biggest food producers on the planet are small farmers.

Enormous international contributors have additionally demonstrated an absence of interest in food creation. From 1980 (USD 20 billion) in 2007 (USD 100 billion), advancement collaboration from developing nations to created nations has increased. Notwithstanding, in a similar period, funding for agribusiness diminished from \$17 billion to \$3 billion. And the vast majority of these assets were conceivably not for food creation subject to workers.

State-oversaw food savings have been deemed unnecessarily expensive under neo-liberal approaches, and governments were forced to be reduced and privatised under underlying processes of reform. Bulog, an Indonesian state-owned company established to manage cradle stocks, was privatised in 1998, for example, under the International Monetary Fund's strategy package. State marketing sheets have been annulled under WTO stress in light of the fact that they are against the 'free trade concept'. According to WTO arrangements, nations have likewise been needed to 'change' their farming business sectors: diminish import obligations (which are a major income misfortune for importing governments!) and acknowledge imports, despite the fact that they needn't bother with them, for in any event 5% of their internal utilization.

Simultaneously, TNCs continued to utilize their dumping overflow markets, making utilization of a wide range of immediate and indirect fare sponsorships. Simultaneously, public governments have battled to adjust their business sectors and to defend farmers and purchasers against unforeseen cost increases.

Neo-liberal approaches likewise dissolved the capacity of nations to take care of themselves. “Following fourteen years of North America Free Trade Agreements (NAFTA), Mexico experienced a significant crisis, likewise called ‘tortilla crisis’ Mexico has gotten reliant on imports of US maize and 30% of its maize is right now imported from an exporting nation”. Presently the rising volumes of U.S. maize have abruptly been redirected to agro-fuel creation, the amounts accessible on the Mexican business sectors have diminished, and triggering value rises¹⁰.

According to the FAO, West Africa's food deficit grew through 81 percent in the year 1995 & 2004. Over a similar period, sugar imports by 83 percent, grain imports increased 102 percent, poultry by 500 percent, and dairy products by 152 percent. In any event, the zone has the power, according to the IFAD, to supply adequate quantities of food (2007).

As the insecurity of the country rises, advancement continues all through the world: the European Union is pushing ACP nations to go into alleged Economic Partnership Agreements (EPAs) with the end goal of liberalizing the agrarian area, with predictable unfavorable consequences for food creation.

To supply the local market, Indonesian farmers delivered enough Soya in the year 1992. A huge piece of the everyday diet in the archipelago is soya-based tofu and 'tempeh'. The nation opened its fringes to food imports, adopting the doctrine of neo-liberal, enabling modest US soy to enter the market. It has annihilated public revenue. Presently, In Indonesia, 60 per cent of the soy consumption is imported. “The record cost of US soy last January triggered a public crisis when the cost of ‘tempeh’ and tofu (‘meat of poor people’) multiplied in half a month”.

¹⁰Santos, R. (2007). Agrofuels.

1.5.1 Peasants & small farmers don't benefit from higher prices:

Even if speculators and major traders profit from the current recession, most peasants and farmers do not benefit from higher prices. Food is produced, but it is often used for harvesting: it is already supplied to the borrower, the plant input company, or directly to the trader or processing device. While the prices of certain cereals for farmers have increased, this is moderate compared to global demand rises and rises levied on customers. Higher prices typically favour businesses and other intermediaries that buy and sell goods from farmers at high prices, as food comes from domestic producers on the market. This is even clearer if the products are sourced from the international market: transnational companies control the market. It shall define the rates at which the products are purchased from the original country and the prices at which they are offered from the importing country. While costs have increased for producers in some situations, the majority of the raise is refunded by others. In the milk and meat sectors, producers are still seeing their prices dropping because of higher production costs, whereas market prices are shooting up.

Stock breeders are in distress due to increasing feed prices, despite some modest price rises at the farm level, and cereal producers face rapid increases in the price of oil-based fertilisers. Compared to what buyers pay, farmers offer their produce at an incredibly low price. The Spanish Coordination of Farmers' Unions (COAG) has calculated in Europe that customers in Spain pay up to 600% more for their input than a food supplier gets. Similar figures are also available for other countries where production, transport and retail costs are largely determined by consumer prices.

1.6 Agrarian Crisis in India (Suicides/ Indebtedness)

“Indian agriculture is heading for a crisis as food output stagnates and millions of poor farmers struggle with high debt and crop failures, Economic growth averaging 9% a year, fuelled by manufacturing and services, has masked the crisis in the countryside, ‘Green Revolution’ of the 1960s that made India self-sufficient in food. While the contribution of manufacturing and services is laudable, it is still the farm sector that provides the largest employment in the subcontinent,” (M.S. Swaminathan),

Until this point, India's 1.1 billion individuals around 66 percent for their positions depend on agribusiness and are disregarded in the euphoria of a rising economy. By and by, Indian agribusiness, a detainee of the rainstorm's likes, has recently been in decrease and is raising at not actually a fourth of the overall economy's speed. The yearly per capita creation of food grains diminished to 186 kilograms in 2006 from 207 kilograms (455 pounds) in 1995. During the 1980s, the speed of agrarian advancement in the past half-decade tumbled from 5 percent to under 2 percent. All the while, after yield dissatisfactions constrained numerous to sell plots put something aside for a very long time, a huge number of obligation ridden farmers have finished it all.

On 19, 1986, the principal authoritatively recorded homestead self destruction in Maharashtra was that of Sahebrao Karpe. Even following 32 years, farmers in Maharashtra submit suicides in huge numbers (Jadhav, 2019). Maharashtra is as of now the biggest self destruction inclined district for farmers in India (Public Wrongdoing Records Agency, 2015). The monetary parts of Indian farmers have not been essentially modified.

Manjunath and Ramappa (2017) led a review on the suicides of farmers all over India. They found that from one viewpoint, little and peripheral farmers are cheated by merchants and then again, agents have charged extreme credit loan costs in light of which farmers were not really ready to reimburse. The dominant part (58 percent) of overview respondents had a place with the class of BPL (Beneath Neediness Line).

In 2006, a multi-billion-dollar welfare drive was launched by the government, promising 100 days of work in the fight against rural poverty for every rural family. Be that as it may, just about 3% of families who joined were given 100 days of work and many were given uniquely around fourteen days of business. The information came from a six-month internal program review which referred to broad instances of low execution reserves being pay off, inefficiency and abuse. The public authority has consistently said it needs India's monetary development to be more inclusive. However, the circulation framework has fallen because of "enormous development" in the organization. It was completed as an orchestra by researchers, strategy creators, state horticulture divisions, marketing organisations and farmers of the start of the Green Revolution at the time. While the public authority is spearheading the foundation of extraordinary monetary zones for industry in the Chinese style, the opportunity has come to

establish unusual agricultural zones to enhance agrarian production and reduce rural and metropolitan India's widening income gaps. Administrative and infrastructure backing and market access should be advanced by the public authority, while simultaneously promoting "technology and tools" are provided by scientists and agricultural think tanks. (M.S. Swaminathan).

1.6.1 Agrarian Crisis in Andhra Pradesh

The agrarian crisis in Andhra Pradesh was specifically investigated by Chandrasekhar and Ghosh (2004). They found that there was a shortage of yield, insufficient marketing facilities, a drop in bank credit, seed supply issues, higher fertilizer prices, and lack of distinct prospects for non-agricultural financial benefit. Due to increased production costs, farmers (marginal and small) have been committing to suicides in Andhra Pradesh state.

The Indian farmers misery can be traced to the coming of innovation, loss of local knowledge, at the height of the Green Revolution, and capital-intensive farming, with poor institutional support to face the market vagaries. This misery has been exacerbated by the rise of 'financial progress' and the globalisation of trade. The discriminatory principles of the worldwide multilateral trading system have discouraged global and home-grown costs and denied sufficient profitable costs to Indian farmers. Poor farmers are pushed between high input costs and low returns. In this tricky situation, the credit received from formal or informal banking structures cannot rescue him. Trapped in an awful trap of duty, many farmers have turned to self-destruction.

The Structural Adjustment Program (SAP) of 1991 specifically updated India's globalisation process. The Indian economy has been radically revamped based on this strategy and the World Bank, International Monetary Fund and World Trade Organization guidelines. The fare import strategy has been changed; the import and customs obligations of numerous products have been essentially decreased or completely diminished so they can be imported with no constraints. In order to empower the private sector to dominate, the public authority has begun to reduce its use in horticulture and industrial areas. The change in the public dissemination framework has really influenced the stock of food grains for poor people at funded

rates. The farming area has been influenced by all such initiatives. Agrarian Sector's difficulties and results

Individuals' fights against uncommon monetary zones, stagnation in agribusiness, importation of food grains, and inescapable self destruction of farmers in various pieces of the nation, include Nandigram in WestBengal, In the horticultural area, all are frameworks of simmering discontent. The image of "incredible India" and "shining India" is what is featured today on the public stage. As a nation with extremely high monetary development, a country with the largest number of very wealthy people in Asia, and a nation with widely acclaimed information innovation, we are also catching wind of India. However we don't have the sense of hearing anything with agriculture related to difficult problems. It appears to be that the individuals who rule us don't stress over this issue; they most likely don't have any desire to. However, it is not, at this point conceivable to advantageously neglect this issue.

Fifteen years of financial advancement have antagonistically influenced Indian agribusiness. The emotional decrease in the pace of development of food grains is the main appearance of this. The rate of development of agrarian production has increased steadily over the long term and has been higher than the rate of population growth. In the 1980s, agrarian growth grew by about four percent per year. In terms of food, India has therefore become independent and has started sending out wheat and rice. Be that as it may, after the start of growth, the speed of development decreased to two percent over the 10-year time period. According to the mid-term evaluation of the Tenth Five Year Plan (2002-07), over the period 2002-05, the rate of GDP development in agriculture and related areas for each year was just one percent. As a result, the supply of food grains per capita decreased; the population growth rate was higher than that of food grains, and India began to import food grains at a price much higher than that of the home-grown industry.

Furthermore, unemployment in the horticultural area rose during the transformation era as agribusiness was not beneficial due to the decline in the cost of agricultural goods. As a result, the amount of citizens residing in the vital region and the field of growth has declined and rural companies have decreased. The annual occupation growth rate in rural areas decreased by 2.07 percent in 1987-1984 from a simple 0.66 percent in 1993-2000, corresponding to the hour of

progression, estimated by National Sample Survey. The farmers, yet additionally the Dalits and clans, who are vigorously reliant on farming, have gotten jobless.

1.7 Research Problem

Andhra Pradesh's agrarian economy has significant provincial inequalities. To a huge degree, the beginning phase of the state's green change was restricted to the rich South Beach front Andhra resource and avoided the semi-prepared and downpour dealt with North Waterfront Andhra areas, North and South Telangana, and Rayalaseema. Rehearsals have appeared as farmers in dry districts adopting high-esteem crops in the current period of the spread of the green upheaval, integrating them with business sectors that provide more significant returns from agribusiness. Farmers with a low asset base have been compelled to make investments at high danger, including those identified with groundwater creation. Horticulture inequalities have additionally appeared as aberrations in weakness; these geological viewpoints are likewise spoken to by farmer's suicides in the state.

During the 1980s (1986-87) the primary spray of farmers' suicides occurred, and in later years there were a few incidents. This is the subsequent spray that turned into an intermittent marvel from 1997 onwards, and there were 4,403 farmers' suicides in the state somewhere in the 1998 & 2006 range. As per May 2004 and 10 November 2005 alone, there were 1068 farmers' suicides and there were 277 extra wanting passings, so weavers in a tantamount range of time (Kumar 2005). The commission additionally uncovers the manner in which the state was shaken by the disclosure that their kidneys were sold by 26 Guntur zone obligation ridden farmers.

In order to break down the next reasons for suicides, there have been different examinations in the state zeroed in on example investigations of casualties' families. To explain the embodiment of the pressure variables behind suicides, a couple of them are examined here. A People's Tribunal heard testimony in 1998 from investigators from 60 farming family units from five locations in the state (RSC 1998). Generally (42) of the 60 recorded their reliance on water system wells or bore wells in which a critical segment of their assets were invested. Water deficiencies detailed by 33 of them were the significant purpose behind their harvest disappointment that caused the suicides. Just one comprehensive bank advance was made of the

21 that revealed substantial progress in investing in bore wells or deepening bore wells or in wells, while the rest registered unusually high interest rates from informal private sources.

Likewise the absence of satisfactory institutional credit for sufficient public investment in the farming area, which should be the foundation of the Indian economy, has prompted the agrarian era's unbearable circumstance. The agrarian economy is distinct and dependent as in the rest of India on territorial contrasts in Andhra Pradesh. In addition, the state's green insurgency was limited to asset-rich territories and avoided enormous dry land regions, a large portion of which were located in the districts of Rayalaseema and Telangana, thus growing local and social inequalities. In addition, enormous changes in agribusiness occurred in Andhra Pradesh, which was the precursor of the neo-liberal changes strongly introduced by the previous government regarding the shrinking government position and the increased introduction of the farming network to the business sectors. It has been contended that these changes would drive the agrarian area, and especially the dryland areas, into crisis. The crisis communicated in the suicides of farmers in an extraordinary way (Revathi 1998; Choudary 2002; Vidyasagar and Chandra 2004; Reddy and Rao 1998; AWARE 1998). Andhra Pradesh was a leading state in the prevalence of suicides among farmers. Cotton farmers submitted the main period of self destruction during the 1980s (1986-87). The subsequent stage began in the Prakasam area during the nineties (1997-98), starting with the Warangal locale, however spread with suicides by cotton farmers to some different regions of northern Telangana.

Therefore, this study aims to study the problem of the precarity of the farmers in general and small & marginal farmers in particular, by drawing field level observations. The period of the data collection is during the years 2013-14.

1.8 Objectives

1. To study the formation process of small and marginal holdings in (united) Andhra Pradesh State.
2. To examine nature of agricultural markets in which small and marginal farmers are operating.
3. To examine the nature and quantum of economic vulnerability of small and marginal farmers in agriculture.

4. To examine diversification of small and marginal farmers.
5. To examine the credit market accessibility of small farmers.
6. To examine the coping mechanism

1.9 Hypotheses

1. Market prices do not cover the full cost of cultivation of small and marginal farm households.
2. Small and marginal farm household's productivity is lesser than medium and big farms.
3. Small and marginal farm households' access to formal credit is less than informal credit.
4. Farm income of small and marginal households does not provide basic income.
5. Small and marginal farm households receive less employment in agriculture
6. Small and marginal farm households depend on non-farm activities to supplement their farm incomes

1.10 Methodology

The study would draw its data from secondary sources such as *Census of India*, *Agricultural Abstract*, *Report on Principal Crops*, *NSS*, *National Income Statistics*, etc. More importantly in three villages, namely Achampet, Pulimaddi and Kalavapamula, 458 households in the Andhra Pradesh regions, would be the primary evidence. The state was bifurcated into Telangana and Andhra Pradesh following the study. The sample is about 40 percent of the population selected for all castes in the villages on a random stratified basis. Likewise, an ethnographic record of the towns, the verifiable and financial foundation of the various classes and their portability with quantitative data was done in the examination. The field work done in the year 2013, where data collection is carried out with the help of the structured questionnaire. Simple descriptive statistics of the sample is provided, while much of the analysis uses simple weighted averages and proportions.

1.11 Chapterization

The thesis is organized into five chapters covering Introduction, Survey of Literature and Description of Trends in Agriculture, Institutional Structures and Changes, Field Work Analysis and Conclusions.

Chapter 2:

Literature Review: Macro Trends

2.1 Agricultural Policy and Trends in Indian Agriculture Sector

2.2 Farm Distress

A major political issue in the Indian countryside has been the farmers' suicides spread through in different states, such as Karnataka, Punjab Maharashtra, and Andhra Pradesh agrarian distress. Many literatures on the analysis of the suicides of farmers have been confined to the immediate reasons. Nevertheless, it would oversimplify the complex situation to neglect the agrarian crisis as an economic condition function alone. "Suicide is an individual phenomenon the causes of which are essentially social in nature" Durkheim (1952). At the micro stage, there are many variables in a rural set-up, such as gender relations and class and caste systems.

Agrarian suicides occur in an economic and socio-social context, rather than in isolation. As of late, the upsurge in homestead suicides in India has occurred in various contexts. Self-destruction could be an individual demonstration, yet the context could be intricate, so different perspectives must be examined. This examination attempts to do something very similar. In the examination, be that as it may, economic determinism of suicides beats other orders. In the instances of farmers' suicides, Andhra Pradesh (AP) positioned top. In excess of 400 laborers in the state submitted suicides in a limited ability to focus under two months, among May and July 2004 (Sridhar, V. 2006). These grievous suicides were even capable by the traditionally agrarian well-off locale. The condition was considerably more intense in a seriously dry spell prone region like Mahabubnagar. It was anything but an unexpected improvement of this phenomenon; however there was a critical dislocation of vocation options, prompting a situation of desperation and weakness among the laborers. It turned out to be evident that in self-destruction cases, the arrangement of strategies released by economic liberalization in the nation assumed a significant job. Developing obligation, conditions of dry spell, stale business, declining consumption levels, expanded migration, all variables have on the whole annihilated the lives of laborers. Roughly 27 farm suicides were accounted for in the Mahabubnagar area during a similar period in May and July 2004.

In 1991, after India decided to reform its economy, there was a popular decline in the economic status of rustic individuals. “Liberalisation, Privatisation and Globalisation (LPG) process could not benefit the rural India. In other words, global market is making inroads in remote corners of rural AP badly affecting their employment, income and consumption pattern” (Patterns of Development in India). A deceleration of agricultural development has had a significant influence on the quality of living in rural areas. Profits and expenses are incompatible with consumption expenditures higher than income for most of the all farmers groups i.e., small, semi-medium and marginal (Ratna Reddy, V and Galab, S 2006). The liberalisation policies in the agricultural sector have accentuated the crisis in an unevenly developed state, and hopeless farmers are left to 'survive the fittest' situation out of helplessness. In a macro-level political economy, agrarian suicides have to be contextualised by the changing political regimes of the post-colonial Indian state.

2.3 Agrarian Structure

In recent decades, India's agricultural system has undergone a process of reducing the scale of farms and increasing the marginalisation of holdings. The proportion of marginal holdings increased during the period, 1960-61 to 2007-08 (39 percent to 72 percent). In 2007-08, the proportion of medium land holdings decreased (38 percent to 12 percent), the amount of controlled land through marginal farmers increased dramatically (6.9 percent to 23 percent) & the region under smallholdings increased significantly (12.3 percent to 21 percent) to account for 42 percent of operated land holdings for both marginal and small holdings. In the other side, there has been a sharp fall in the field operated by medium-sized holdings (from 31.2 percent in 1960-61 to 23 percent in 2007-08) and by broad holdings (31.2 percent in 1960-61 to 23 percent in 2007-08) (29.0 percent to 12.0 percent). All the states in the country have witnessed the process of marginalisation of holdings; though the extent of marginalization differs from state to state. The share of marginal holdings is over 75 per cent in the states namely Assam, Bihar, Kerala, Odisha, Tamil Pradesh and West Bengal, (Singh, 2013).

The above changes in India's agrarian structure have far-reaching consequences for agricultural growth and the alleviation of poverty. One of the major factors contributing to rural poverty is the small land base of Indian farmers. The NSS data analysis has exposed that rural poverty leads to land ownership. Poverty among sub-marginal farmers was estimated at 20.0% in

2004-05, 15.2% among landless farmers, 22.0% among landless farmers, 18.1% among marginal farmers, 14.8% among small farmers, and 9.8% among medium and large farmers. At the state level, the correlation coefficient between the proportion of marginal holdings and rural poverty was 0.41, whereas the proportion of marginal and small holdings and the proportion of rural poverty were 0.46 (Singh, 2013).

2.4 Situation in Andhra Pradesh and Telangana

After the large-scale financial reforms introduced in the Indian economy in the mid-1990s and the improvements in multilateral trade demands made after the GATT deals and the WTO foundation, India's agribusiness entered the stage of globalisation and growth. It is anticipated that the combined impact of changes in homegrown systems and changes in foreign exchange would cause a much more remarkable integration of the Indian economy with the rest of the world, a condition which would carry tremendous benefits to Indian farmers. The reforms updated to date, however, have not generated the usual gains for Indian farmers. The transition period is already ongoing and it is expected that the benefits for Indian agribusiness will be substantial and substantial until the change plans are completed and the arranged adjustments are implemented in letter and spirit. In request to understand the normal gains from exchange advancement, aside from enhancements to infrastructure, Indian farming would need to turn out to be more serious. Anyway a wellspring of concern has been the ongoing lull in development in Indian agribusiness, both underway and in yield profitability. With the exception of changing this pattern, in the wake of globalisation, India will most likely be unable to accept the open doors that could be made available to it. However, reversing this pattern would entail action on a variety of fronts, the most significant of which is reversing the downward trend of public spending in agriculture and expanding the inclusion of the water infrastructure in a much larger developing area.

The article “Why do farmers commit suicide the case of Andhra Pradesh” by V. Sridhar (2006), examines the neglect of agriculture sector by the state owing to its reformist policies as a cause for the present distress. He starts with saying that the consensus among the psychiatrists and social scientists is that a substantial dislocation of livelihoods drives a community to despair

and eventually to suicide. Although the suicide phenomenon is profoundly personal and individual, the confluence of variables dictates suicidal behaviour. These are in two domains: one is external to the internal domain-related factors operating at the level of the individual and the other, suggesting that suicidal behaviour is determined by a larger social process. It places emphasis on broader society level changes as being responsible for deaths by suicide. The reasoning is that individuals unable to cope with the social churn, in which they find themselves, resort to suicide and of course, this is accentuated when such a churn is also accompanied by widespread economic distress.

A study by Vamsi on Immersizing Growth: Globalization and Agrarian Change from 1985 to 2000 in Telangana, South India. V (2005), analyses the impact of different government policies and agricultural globalisation in the era of globalisation on cropping patterns, distribution patterns, and the impact of different input uses in dry land agriculture. By studying agriculture in South India's Telangana region between 1985 and 2000, he attempted to raise several questions about growth rates, commercialization, distribution patterns, and the supply peasant farmers response related to agricultural globalisation policies. In order to examine the effect of globalisation in Telangana, he conducted growth computations for agriculture in that area between 1970 and 2000 and calculated an econometric supply response model for Telangana farmers to map distributional changes based on the National Sample Survey (NSS) data between 1985 and 2000 using non-parametric regression techniques. This observational research ends in two puzzling results for the investigator, one in the supply reaction arena and the other in the distributional arena. Second, the region under cultivation and production of those crops grew steadily as market-oriented crop prices decreased between 1991 and 2000 (during the phase of globalisation). Second, the average exponential growth rate of real agricultural production in the Telangana area of South India was over 4 percent between 1985 and 2000.

It is larger than any of the developing world during the same time, even though the bulk of the agricultural population has endured significant revenue/consumption losses, unfortunately reflected in the suicides of more than a thousand farmers. Finally, the author of this study concludes that globalisation, together with local informal financing activities that demand that the tragic mysteries be clarified as collateral by some very non-food crops, caused the drop in non-food output rates. The policy implications were also addressed in this report.

A research by Vamsi.V (2005) on Immersizing Growth: Globalization and Agrarian Reform in Telangana, South India, analyses the influence of various government policies and agricultural globalisation in the era of globalisation on cropping trends, distribution patterns, and effects of different input uses in dry land agriculture. Via his agricultural studies in the Telangana area of South India from 1985 to 2000, he attempted to pose a number of questions pertaining to agricultural globalisation policies on growth rates, distribution trends, marketing and farmers' supply responses. In order to examine the effect of globalisation in Telangana, he conducted growth computations for agriculture in that area between 1970 and 2000 and calculated an econometric supply response model for Telangana farmers to map distributional changes based on the National Sample Survey (NSS) data between 1985 and 2000 using non-parametric regression techniques. For the investigator, this methodological study ends in two puzzling results, one in the arena of supply reaction and the other in the distributional arena. Second, the region under cultivation and production of these crops grew steadily as market-oriented crop prices declined between 1991 and 2000 (during the period of globalisation). Second, between 1985 and 2000, the average exponential growth rate of real agricultural production in South India's Telangana area was over 4 trillion. Over the same era, it is greater than much of the developing world, even though the bulk of the agricultural community has experienced substantial declines in revenue/consumption, sadly expressed in more than a thousand farmers' suicides. Finally, in this report, the author concludes that globalisation, coupled with local informal financing operations requiring these very non-food crops as leverage, helps explain the tragic mysteries by reducing non-food export prices caused by globalisation. The policy ramifications have also been addressed in this article.

Chandrasekhar Rao¹¹ (2003) in his paper “Liberalization and suicides of farmer in India”, From a macroeconomic perspective, it examines the phenomenon of farmers' suicides in the country against of domestic and commercial liberalisation the background by studying the changes in cotton crop cultivation and finding the link between suicides and liberalisation. A number of farmers' suicides were recorded in the former prosperous states of Andhra Pradesh and Punjab, followed by Maharashtra, Karnataka and Gujarat. The phenomenon is widespread and cannot be rejected as events that are isolated or one off. It is possible to trace these suicides

¹¹Rao, N. C. (2003). Liberalisation and Suicides of Farmers in India. *Indian Journal of Agricultural Economics*, 58(3), 395.

back to the mid-80s. The victims' majority were from the small farmers age group and dry land and cotton growers. Tenant-cum-owner cultivators are at least one-third of them. The main and causative factor that social and psychological factors are precipitating in nature has emerged as crop failure and indebtedness. More than 50 per cent of the farmers did not receive the expected prices and revenue. Since 1989-90, the export of cotton has been liberalised and has continued ever since. In 1994, imports were completely liberalised by being placed under an open general licence (OGL). This has led to the percolation in the cotton farmer's country of price uncertainty on the international market.

He also points out that in the first year of the 1990s, farm harvest prices nearly doubled in Andhra Pradesh, Punjab, Karnataka, and Gujarat. When prices rose in anticipation of enormous profit, failure of chemical control, rising rental values of land depleting hybrid groundwater popularisation, rice in cash wages, increase in fertiliser, power, diesel and interest rates contributed to the large increases in cultivation costs, a large number of farmers entered cotton cultivation. After 1994-95, farm harvest prices began to decline. In cotton cultivation, there is a crisis, also in the mid-eighties. A sharp drop in absolute productivity, market instability due to trade liberalisation and rice prices due to domestic liberalisation, credit declines and non-farm workers have exacerbated the crisis. The cotton farmers seem to be the net losers in the liberalisation process.

Parthasarthy, G & Shameem (1998)¹² in their study on "Suicides of Cotton Farmers in Andhra Pradesh: An explanatory study" tried to examine the reasons for suicides. Their in-depth research found that the following variables, such as lack of rainfall, lack of irrigation facilities, low yields, lead to disturbing distress for the farmer. The Telugu Daily News Paper, the Government of Andhra Pradesh and the Bureau of Economics and Statistics, Season and Crop Report and Economic Survey collected the required data from Vaartha. Their research was mainly on the suicides of cotton farmers in the Warangal district in late 1997. They verified that the rising indebtedness of the farmer to the money-lender cum dealer was the primary reason for the cotton farmer's strain after an exhaustive data analysis. Other related suicide-causing factors were also cited, such as unfavourable rainfall and low yields, unfavourable prices, the cultivation

¹²Shameem, G. P. (1998). Suicides of cotton farmers in Andhra Pradesh: An exploratory study. *Economic and Political Weekly*, 33(8), 720-726.

costs and, in particular, cash components, indiscriminate pesticide usage and high cultivation costs, the helplessness of appropriate credit institutions and commercial banks, and the the impact of cash lenders. They conclude that the increasing indebtedness of farmers to moneylender-cum traders is the primary reason for the cotton farmer's pressure. This does not clarify the suicides entirely, however. It is important to understand the social milieu where a person is isolated from family and community.

Revathi, E. (1998)¹³ failure to include irrigation was identified as a major factor in the tragedy in Andhra Pradesh in her article on 'Farmers' Suicides: Missing Issues'. The source of credit was the second missing point. Tenancy was another major issue. She noted that Telangana's AP district was the predecessor to many peasant movements. However, defeatist movements such as farmers' suicides were very fresh phenomena for the area. It was the politics and economics of a disadvantaged region that caused suicide deaths for decades, rather than sociological factors, such as the alienation of individuals from family and community.

A study on “Agricultural policy for the Nineties; Issues and Approaches” by Vyas V.S (1994)¹⁴ Data was obtained from CMIE, Economic surveys of 1992-93 and Respective Plan documents. He points out that the four significant shortcomings plaguing Indian farming are: low-esteem horticulture dominance, minimal effort advantage proportion, inefficient utilization of characteristic assets, and weakening in institutions of self improvement. According to him, the four factors are considered as major factors inhibiting sustainable agricultural growth. In Indian agriculture, per hectare value added is low in the production of most of the crops and mixes. This categorically suggests that the growth of income of farmer even in the case of high value crops (other than sugar) with a reasonable cropping intensity is meager. Second, the cost-benefit ratio is that resources such as fertiliser, irrigation water, etc. are ineffectively used. As a result, Indian agriculture has become high cost enterprise. The third disturbing feature is the degradation of the natural resource base of India. The resources are being used in such a manner that the sustainability of agricultural growth has been pushed to its threshold. Even though there are serious attempts to stop deforestation, the factors, which disturb agricultural land like degradation of the soil and fall in water levels, are going more or less unabated. The most serious

¹³Revathi, E (1998): 'Farmers Suicides: Missing Issues; Economic & political Weekly, May-1998.

¹⁴Vyas, V. S. (1994). Agricultural policies for the nineties: issues and approaches. *Economic and Political Weekly*, A54-A63.

handicap facing Indian agricultural is the erosion of farmer self-help institutions, formal as well as informal and their increasing dependence on inefficient urban biased and centralized bureaucracy. Actually, the country is bestowed with the soil and climate, which can enable to reach heights of productivity in a large variety of commodities. Hence, Vyas concludes that because of endowed natural factors, an alert and responsive peasant population and shared political and bureaucratic consensus on poverty alleviation is need of the hour.

After this theorization, he attempted to put the happening ground realities in the above framework. He continues to claim that the suicides in Andhra Pradesh have occurred in varying agro-climatic zones and the promotion of death toll was high among small, marginal and tenant cultivators. If it is accepted that the phenomenon of suicides is driven by dramatic changes in socio-economic conditions then the examining of what in the lives of peasants has changed so dramatically in the last two decades as to have pushed them to take their own lives. A single factor can't be recognized as causing suicides, and it turns out to be evident that a significant job has been played by the arrangement of approaches released in the most recent decade by financial advancement. Frequent droughts in Rayalaseema and Telangana regions are only one aspect of the problem. Soil erosion and unsustainable agricultural practises, rising input costs, wild volatility in farm production and prices, and growing indebtedness are other aspects of the problems. As the next cause of suicide is only symptomatic of the greater malaise that affects agriculture and its state practise, the author carefully notifies that indebtedness is also defined. He has concisely provided an account of how the process of liberalisation had a negative effect on agriculture. The state has moved back from its role as an agricultural promoter over the last 10-15 years, and has encouraged the entry of landed gentry. The freeing and marketization of agricultural products, relaxing the control over the terms on which peasants access farm inputs, reduction in subsidies on fertilizers, withdrawal of support of state for agriculture extension services, decline in public investments on infrastructure such as energy and irrigation, financial liberalization, which compel the government to favour at the cost of local farmers to WTO, have become nooses to the very same farmers by and large.

2.5 Land Reforms

By adopting the institutional way to deal with horticultural turn of events, the Indian Government needed to introduce land changes and consented to change rural creation ties in the open country and policymakers were determined to execute revolutionary land changes. Bearing in mind, a few states in the nation figured land change laws during the mid 1950s. The points of these laws were to eliminate obstructions to farming creation resulting from past rural frameworks and to destroy rural misuse and social inequality within the agrarian framework. The Report of the Congressional Committee on Agrarian Reforms, 1948, defined the more extensive guidelines. Therefore, the final point of the review was to deal cooperatively with the land of farmers (small and marginal) and to create a pleasant city for the managers. The farmers concerned would not be denied their rights to property by this type of joint helpful farming; they would obtain their particular portion of the yield in relation to their land. In 1959, the Congress The Working Committee's Nagpur meeting gave the landowners notice that their excess land would be confiscated. The consequence was that powers hostile to change were merged inside and outside the Congress party. Therefore, before the end of the third five-year plan, Congress had to hang tight for some energy for land changes. The usage of changes has by one way or another started in the area. The critical objectives of the land change law, created during the fifties, are five-crease:

- (i) Tenancy reforms conferment of ownership rights, security of tenure on comprising and tenants regulations of rent,
- (ii) Abolition of intermediary tenures,
- (iii) Consolidation of holdings,
- (iv) Ceiling on distribution and landholdings of surplus land, and
- (v) Updating and compilation of land records.

2.5.1: Abolition of Intermediaries

The mid-fifties saw the abolition of intermediary residences in post-independent India, such as Zamindars, Zagirdars, and Inams, and so on, about 40 percent of the region. With regard to minor residencies, a few exclusions were granted, For example, Those owned by the organisation of Inams and exacting and benevolent associations. The removal of this existing intermediary's net effect was that direct communication with the state was restricted to up to 20 million people. Also, remuneration worth 6,700 million was paid to previous intermediaries, half of which was dispersed towards the plan of five-year starts. In addition, significant private and

waste backwood zones were established under the public authority's jurisdiction. Another significant outcome of this current intermediary's cancelation was that the occupancy level diminished drastically and self-development turned into the dominant development method of the country. The opposite side of the coin was that through the launch of inhabitants in numerous zones of the nation, landlords with the conspiracy of nearby organization could continue the land for self-development. The achievement of the abrogation of Zamindari was generally founded on the intensity of the worker development.¹⁵ The intermediary abrogation, comparative with other resulting changes, was supposed to be accomplished all the more exhaustively and advantageously due to political convenience: with a minimum political cost. Who gained from the cancelation move made by this state? Farmers of the previous upper and center positions are the key. Afterward, at the political degree of the express, this portion turned into a politically obvious force. This is the part that claimed a huge segment of land that opposed the ceiling of the land harshly.¹⁶ The huge structure given to the former zamindars has been criticised.

2.6 Tenancy Reforms

(A) Regulations of Rents

In the occupancy laws executed in many states, there were two goals, specifically providing inhabitants with residency security and controlling the lease rates payable by them. Different states have set the greatest rental rates in an unexpected way. The levels were defined at not exceeding 1/4 to 1/5 of the gross created. While the law set the sum payable by the occupants at the rates expressed over the degree of rents and different conditions gave by the law were still set up, a long way from being appropriately upheld.

(B) Security of Tenure and Conferment of Ownership Rights on Tenants

The residency law insurance has 3 main targets: right off the bat, the expulsion isn't completed besides in consistence with the legitimate arrangements; also, for the situation of self-development, the land can be retained by the proprietor; and thirdly, for the situation of re-foundation, the occupant is guaranteed of the minimum land region endorsed. For the situation of

¹⁵Bhalla, op.cit., P. 27 22S.

¹⁶ K Ray, (1996) "Land System and its Reforms in India", Indian Journal of Agriculture Economics' 51 (1&2), pp.220-237

conferment of proprietorship rights, certain states have likewise missed the mark regarding the concurred public methodology. Despite the fact that the occupancy change couldn't see the foreseen achievement, information show that the size of the tenure had diminished in all states after 1953-54, for instance, the degree of the rented in all India diminished from 20.6% during 1953-54 to 6.5% during 2002-03.²³ The method of installment of the lease contrasts from state to state; it establishes cash in the extent of the creation.

2.7 Ceiling on Landholdings and Distribution of Surplus Land

The main 3rd objective of India's land modifications was the inconvenience of ceilings and the allocation of excess land. This was, unfortunately, the law, with little accomplishment. This is a result of the law's escape clauses and the complicity of the excess farmers with the administration of the neighbourhood. The law-imposing landholding limit fizzled hopelessly. For instance, rearranged land is assessed to represent fewer than two percent of the complete zone worked throughout the years after ceilings were executed¹⁷. A few states have made considerable steps in ceiling changes, for example, redistributing 17 percent of their operational region to Jammu and Kashmir, six percent to West Bengal, and five percent to Assam. The ceiling law lingers behind different states, with outrageous variations in the conveyance of land and properties portrayed by Indian rural territories.

2.8 Consolidation of Holdings

Consolidating land holdings was the fourth piece of the land change. The Union does not contribute to land circulation, but provides farmers with different advantages By bringing small and scattered holdings together. It includes all sizes of property, including large and small holdings. Because of the legacy of the Mahalwari system, this programme was successful in Haryana, Punjab, Uttar Pradesh and Maharashtra, and it was achieved through state-specific programmes. Although there are still no specific programmes in other countries, the framers spontaneously consolidated themselves through exchanges on the land market.

¹⁷ Ray, op.cit

2.9 Green Revolution

Nehru's death, the 'passing of the tall'¹⁸, also, a definitive change in India's horticultural strategy denoted the mid-sixties. Somewhere in the range of 1964 and 1967, The strategy was radically modified from a regulatory model to a technocratic one, led by the new horticulture priest, C. Subramaniam. There were 3 parts of this model: monetary value motivations to empower farmers to develop more; interests in framework to improve yields; and new hierarchical foundations to help the other two segments. At that point, the plan was enlarged by propels in farming advancement and the divulgence of High Yielding Assortment (HYV) seeds, the marvel seeds of the miracle seeds of Norman Bo.marvel seeds¹⁹.

All these modifications have translated into a somewhat different form of interference by the agricultural state. Value impetuses must be supplemented by value dependability and motivations for producers must be accommodated with purchaser government assistance (food costs having expansive monetary and political ramifications). This elaborate the foundation of two new organizations: the Rural Costs Commission (APC), which made reasonable value suggestions for farmers, and the Food Enterprise of India (FCI), which, at the suggested cost, purchased and sold the grains. The fortifying of Agrarian Survey Organizations, worldwide collaboration and the foundation of Country Increase Master Authorities have added to the Development System²⁰.

The most sensational change, nonetheless, was the immensely extended financial principles welcomed on by this strategy move. For the HYV unit, more costly seeds, more noteworthy amounts of oversaw (water system) and compound composts were required. To empower farmers to actualize the new innovation, the public authority needed to put resources into water system, give tremendous info sponsorships and spend scant unfamiliar trade on bringing in compound composts, which were urgent to the achievement of the new procedure. Without satisfactory incomes to help new monetary requests (the tax assessment from

¹⁸Kothari, R. (1970). *Politics in india*. Orient Blackswan.

¹⁹Varshney 1995Democracy, Development, and the Countryside: Urban-Rural Struggles in India. Cambridge Studies in Comparative Politics.By Ashutosh Varshney. Cambridge: Cambridge University Press, 1995. xi, 214 pp. \$54.95 (cloth). *The Journal of Asian Studies*, 56(1), 244-246.

²⁰*ibid*

agribusiness was politically unrealistic), the entirety of this implied shortfall financing and dangers to swelling. This prompted serious between regulatory battles, obviously, between the Service of Money (and the Arranging Commission) and the Service of Food and Horticulture, which were constrained by the last mentioned.²¹

The "New Agricultural Plan" success was quickly made apparent. In 1970-1971, food grain production rose from 74.2 million tonnes in 1966-67 to 108.4 million tonnes in 1970-71. By 1970-71, from 1.9 million hectares in 1966-67, the region under HYV seeds increased to 15.4 million hectares. In the irrigated belt, the latest technology caught farmers' imagination. A 'Green Movement' was underway²²

2.10 Green revolution and Small Farms:

A new age in Indian agriculture was heralded by green revolution in India that was started in the mid of 1960s. In water-assured areas, cultivation of high yielding seed varieties at recommended fertiliser dosages has been promoted. Initially, the new technology was beneficial to medium and large farmers in irrigated areas. Small holding farming, however, still benefited from the green revolution due to government assistance in accessing services.

2.11 Public Investment in Agriculture:

The growth of human society is one of the deciding factors for agriculture. The share of agriculture is downward from 30 percent in 1990-91 to 13.9 percent in 2013-14. The public investment is important factors to promote these sectors in recent years. Public investment in the agricultural sector has also encouraged private investment through what is known as crowding. The rate of total expenditure in agriculture, however, decreased from 2.43% in 1979-80 to a low of 0.59% in 1994-95 and then recovered with a modest increase to 1.28% in 2006-07-95²³. Economic policy is turning very sharply away from public spending in general and agriculture in particular. The transfer of money investment in current spending in the context of subsidies, the high level of expenditure incurred to sustain ongoing projects, the excessive delay in the completion of projects, Some of the factors behind the slower growth of public spending are the

²¹*ibid*

²²*ibid*

²³Mani, H., Bhalachandran, G., & Pandit, V. N. (2011). Public investment in Agricultural and GDP growth: Another look at the inter sectoral linkages and policy implications. *Working Paper*, (201).

relatively smaller allocation of irrigation, rural infrastructure and science, the lack of effective credit support and the lack of productive credit support. In overall investment, the share of public investment fell from 50% in the early 1980s to 20% in the 2000s. It is to be remembered that 90% of the private investment is made for on-farm growth by farmers. Investment growth rates have shown that, in the early 1980s and 1990s, public sector investment saw negative growth and growth of 15% in the 2000s²⁴. The growth rate of public and private spending in the 2000s was the highest overall. A secular decrease in public spending occurred until the 10th Five Year Plan period. During the 11th Five Year Plan era, there was a significant rise in public spending. This may not be necessary, however, and support for agricultural research remains at just 1% of the gross domestic product.

2.12 Theories on Public Investment:

Ramakumar (2012) analysed patterns in agricultural investment in the Republic of India from the 1950s to the 2000s²⁵ and suggested that it was completely necessary to extend total agricultural investment to a minimum of thirty-six p.c. of agricultural GDP, compared to a level of around twenty-one p.c. Giant and medium irrigation needs special attention, since irrigation is not strictly instrumental in raising yields.

There is an extended discussion in the Republic of India between policy makers and teachers on whether or not public investment is required in agriculture to expand the economic process. Dhawan and Yadav (1997)²⁶ evaluated public investment in agriculture and estimated that one rupee of government borrowings (from the market as well as from non-market sources such as the center) resulted in a very small but 1/3rd of a rupee increase in the output of public capital in agriculture. The bulk of government investment in Indian agriculture is aimed at growing the irrigation system.

²⁴Dev, S. M. (2012). A note on trends in public investment in India. *IGIDR Proceedings/Projects series PP-069-SMD2*, Indira Gandhi Institute of Development Research, Mumbai.

²⁵Ramakumar, R. (2012). Large-scale Investments in Agriculture in India. *IDS Bulletin*, 43, 92-103.

²⁶Dhawan, B. D., & Yadav, S. S. (1997). Public investment in Indian agriculture: trends and determinants. *Economic and Political Weekly*, 710-714.

In the time between the 1950s and 1990s, Gandhi (1996)²⁷ researched investment behaviour in Indian agriculture. In the period after 1980, significant changes were observed. There was a fall in 1992 in government spending, which grew almost continuously until the early 1980s. Private investment fluctuated dramatically between 1980 and 1986 and showed a certain decrease as well. Dev (2011) reported that agricultural investment growth rates showed that investment in the public sector showed that in the year 1980s and 1990s there is a negative growth whereas in the year 2000s it is 15 percent. Conversely, growth rates in private investment gradually grew from 2.5 percent in the 1980s to 4.1 percent in the 1990s and 5.2 percent in the 2000s. On the whole, the growth rate of private and public investment was the highest in the 2000s. The main aim of the study is to analyse the developments in Indian agriculture for public investment from 1980-81 to 2010-11. Second, the determinants of public investment in agriculture in India are discussed and the long-term effect of public investment on agricultural development is analysed.

In their study on public investment in form of infrastructure in agriculture, Mishra and Chand (1995)²⁸ are and will continue to be relevant for agricultural growth in their own right. In the same way that public investment is essential and desirable in major and minor irrigation systems, power supply systems, public investment in rural roads, input supply depots and market yards is also necessary and desirable, the former counted as agriculture investment and the latter for agriculture.

Rao (1994)²⁹ The Commission considered that the expansion of the domestic agricultural base by growing public investment in irrigation, studies and extension and social growth, such as education and skills training, is essential to maximising potential trade gains and to ensuring that these gains are widely shared by different regions and groups of farmers.

²⁷Gandhi, V. P. (1996). Investment Behavior in Indian Agriculture. *Indian journal of agricultural Economics*, 51(4), 543-559.

²⁸Mishra, S. N., & Chand, R. (1995). Public and private capital formation in Indian agriculture: Comments on complementarity hypothesis and others. *Economic and Political Weekly*, A64-A79.

²⁹Rao, N. C. (2002). Capital formation in Indian agriculture: A review. *Artha Vijnana*, 44(3-4), 225-252.

2.13 Credit, Subsidy, and Price Policy

2.13.1 Scale

Indian state introduced a market intervention strategy after mid 1960s, after realizing that agricultural development is precondition for overall growth to take off. It has introduced the Green Revolution coupled with free irrigation, subsidized fertilizers, minimum support prices, procurement linked public distribution system, besides extension help and subsidized bank credit. These measures, despite their biases, have pushed up the foodgrain production to escape an import dependence and famine conditions of colonial era (Thorat et al 2017).

In Table 2.4, a bird's eye view of the magnitude of significant agricultural subsidies can be seen. The subsidy represents the costs paid in each situation by the respective country (state or central). Fertiliser, credit, irrigation and seed security are direct subsidies, since the government offers policy heads to charge for those expenses. The power and price support subsidies are not official expenditure forms, but are approximate. It should be clarified that the central food subsidy does not account, in its entirety, for help expenditures for farm profits. Investment in the Public Distribution System (PDS), which provides discounts to customers, often includes nutritional subsidies. The market support subsidy is just a component of the food subsidy as well. This study measures market support subsidies since they are not individually listed in the official figures.

Subventions extend the century around the mid-2010s. With regard to constant rates, the numbers are not represented. It is not impossible to do so, but since the term continues for a total of 4 years, the floor would not shift. In 2017/18, with this caveat in view, the overall subsidy spending was about Rs. 235,500 crores. The costs linked to the loan waivers for the year 2017/18.2 are found in the last row in Table 2.4. This number could not be indicative of many state elections that year, as an annual average. Moreover, the amount represents the net spending of the state but not the direct budget. For duration of many years, expenditures from credit waivers are phased in.

Table 2.5 reiterates Table 2.4, which differentiates subsidies between federal and state government governments. With debt deductions, the majority of expenditures are state government incentives. Without credit exemptions, the net spending on subsidies is divided

nearly evenly between the Center and the States. The main central subsidy is the fertiliser subsidy, while much of the state's costs are compensated for through the energy subsidy.

In Table 2.4, the statistics correlate well with other reports that report subsidies for production spending. From Table 2.6, we will see this. Overall, it can be found that input subsidies are in the region of two lakh crores of rupees. Input subsidies alone, however, contribute to about 1.5 percent of GDP. Loan concessions and development incentives will carry the gross budget to about 2-2.25% of GDP.

Table 2.4: Expenditure on Major Agricultural Subsidies (Rs. Crores)

Name	Source	Year	Magnitude
Fertilizer	Union Budget	2017/18	70,000
Power	Dharmadhikari et.al (2018) based on Power Finance Corporation data	2015/16	91,000
Credit	Union Budget	2017/18	20,000
Irrigation	Central Water Commission (2017)	2013/14	17,500
Crop Insurance	Union Budget	2018/19	13,000
Price Support	Author's estimate	2014/15-2016/17	24,000
Total (without inflating to 2017/18 price levels)			2,35,500
Loan waivers	PRS Legislative Research https://www.prsindia.org/policy/discussion-papers/state-state-finances-2018-19	2017/18	1,22,200

Source: Compiled from the sources mentioned in the Table. The price support subsidies are the author's computations.

Table 2.5: The Division of Agricultural Subsidies between the Centre and the States (Rs. Crores)

Central Government Subsidies	Amount
Fertilizer	70,000
Credit	20,000
Crop Insurance	6,500
Price Support	24,000
Total	1,20,500
State Government Subsidies	
Power	91,000
Irrigation	17,500
Crop Insurance	6,500
Loan Waivers	1,22,200
Total	2,37,200

Source: Same as in Table 2.4

Table 2.6: Expenditures on Input Subsidies, Comparisons Across Studies

Study	Year	Amount (Rs. Crores)
Bathla, Thorat, Joshi and Yu (2017)	2013/14	1,90,000
Chand (2018)	2015/16	2,05,400
OECD (2018)	2014/16	1,81,000
Aggregate from Table 2	2017/18	1,98,500

Source: Same as in Table 2.4

2.13.2 Comparison with Public Expenditures and Investments

Recent studies examined trends in expenditure on irrigation and agriculture, public investment (mostly in major irrigation works) and subsidies for input³⁰. Such trends are based on state and central government expenditure information.

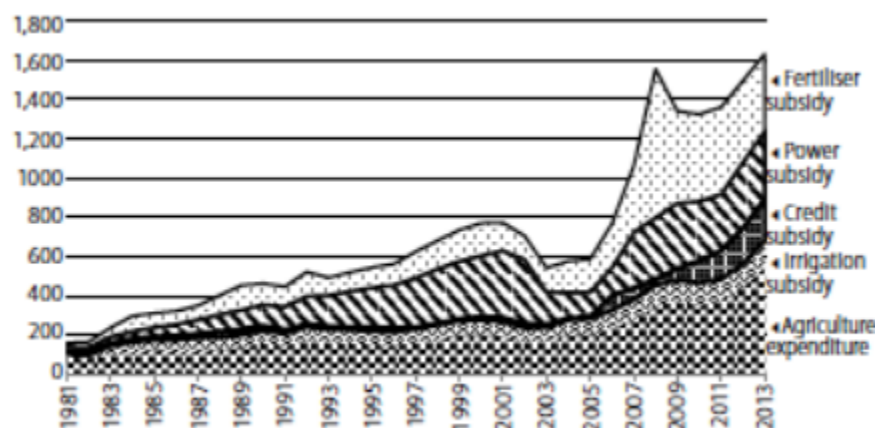


Figure 2.1: Agriculture Expenditure and Input Subsidies (Rupees Billion in 2004/05 prices)

Source: Bathla, Thorat, Joshi and Yu (2017)

From Figure 2.1, taken from the report, it is apparent that all input subsidies (fertiliser, energy, credit and irrigation) added together by 2013 exceeds farm spending by a factor of 2. It is evident from Figure 2.2 that input subsidies are approximately the same amount as public agricultural expenditure. Public expenditure in agriculture explicitly tests investment in broad irrigation systems, as published by the CSO.

³⁰ Bathla, S., S. Thorat, P. K. Joshi, B. Yu (2017), Where to Invest to Accelerate Agricultural Growth and Poverty Reduction, *Economic and Political Weekly*, LII, No. 29, 36-45.

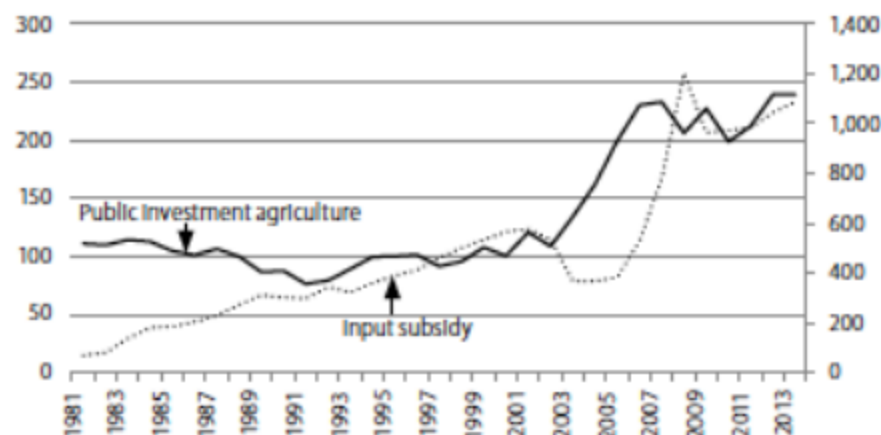


Figure 2.2: Input Subsidies and Public Investment (Rupees Billion)

Source: Bathla, Thorat, Joshi and Yu (2017)

A criticism of subsidies is illustrated in figures 2.1 and 2.2. In terms of public expenditure and investment, these subsidies reflect an opportunity cost that is critical for improving and maintaining agricultural productivity. But to what degree do they have income support for these input subsidies, which is arguably their main goal?

2.13.3 Income Support

In Table 2.7 for the mid-2010s, the figures for farm income per hectare and subsidies per hectare are given. The 2014 input subsidy (measured in 2004/05 prices) is approximately Rs. 7750 per hectare of sown area, normalised by land, and the price subsidy is Rs. 1050 rupees per hectare of sown area³¹ Chand (2017)³² estimates the total income of farmers for the same year at Rs. 597020 crores for the same year (in 2004/05 rates as well), that amount to Rs 42,644. Therefore, spending on farm subsidies accounts for up to 21 percent of average farm revenue. This suggests that subsidies to the agricultural sector have been substantial and removal will pose considerable hardship.

³¹ The total input subsidy is a little less than Rs. 1200 billion while net sown area is about 140 million hectares.

³² Ramesh Chand's (2017) estimate of the sectoral productivity gap is lower (3.12) because he compares the income per worker in non-agriculture to the income per cultivator in agriculture. The estimates in the text compute the income per worker in agriculture including cultivators and agricultural labor.

Table 2.7: Subsidy Expenditure as a Proportion of Farm Income

For 2014/15	In 2004/5 prices
Input Subsidy per hectare (Bathla et. al, 2017)	Rs. 7750
Price support subsidy per hectare (Author's Estimate)	Rs. 1050
Total subsidy income	Rs. 8800
Farm cultivator income per hectare (Chand, 2017)	Rs. 42,644
Subsidy income/Farm Income	21%

Source: Same as Table 2.4

According to the 2015-16 Agricultural Survey, the total size of an operational holding was only 1.08 hectares and about 68 percent of the holdings were marginal (i.e., less than 1 hectares). Agricultural income is scarce enough to be practically viable in order to purchase an estimate (of Rs. 42, 644) of these holdings. The All-India Rural Tendulkar poverty line for 2004/05 was Rs. 477 per capita per month. This suggests that farm profits for households with working holdings of less than 0.63 hectares would not be enough to maintain them out of poverty. Chand (2017) estimates farm income per cultivator to be Rs. 44, 000 (in 2004/5 prices) in 2015/16. Provided that subsidies for input and export costs account for 21 percent of farm income, such a 50 percent rise in subsidies will only increase farm income by around 10 percent, which would not substantially close the difference in sectoral productivity.

Subsidies are commonly seen as compensating for low farm yields, but it is not obvious that lagging farm incomes are responsible for low profitability. Rana, Chand and Saxena (2015)³³ Farm income in 2011/12 was seen to be as much as 70% higher than the cost of all contingent inputs (including hired labour). Although such profitability was extraordinary because of the exceptionally high farm prices that year, the profitability ratio ranged from 40 to 50 percent in the 1990s and mid-2000s. Most of the times, farm incomes are marginal or negative.

³³Chand, R., Saxena, R., & Rana, S. (2015). Estimates and analysis of farm income in India, 1983–84 to 2011–12. *Economic and Political Weekly*, 50(22), 139-145.

Although the recent decline in food prices has had a detrimental influence on profitability, it is not appropriate to overlook the narrow asset base, which remains a structural restriction for a significant part of the agricultural population. Land ownership remains so restricted for marginal and small farmers that farm incomes would stay poor, both in actual and relative terms, while subsidies have significantly improved (Thorat et al 2017).

Therefore, even a considerable rise in subsidies will have (a) marginal impacts on farm distress because small parcels of land are held by our farmers and (b) no influence on the relative productivity deficit because the gap is too wide, while spending on government farm subsidies is a significant component of farm revenue. Although subsidies are not too important to reduce farm income, there is no feasible potential road to sustainable farm income development. Systematic methods for change appear to be the principal frameworks for accelerated revenue development.

There is a need to state some certain caveats here. First of all, subsidies are not simple to measure, especially for power and irrigation.³⁴ In fact, because of the upward tendency in agricultural supply projections, energy subsidies are likely to be overestimated. Secondly, the farm income estimate is not determined solely from farm surveys but by combining details from multiple sources on gross value added, employed workers, working days and salaries. Third, government subsidy expenses can exaggerate or understate farmers' income support (e.g. when subsidies leak to unintended groups) (e.g., price supports as will be explained later). Fourth, the farm production and subsidy figures are sectoral aggregates (standardised property-based) and thus remain silent on the value of subsidy transfers for farmers in different areas, belonging to different land classes, planting different crops and holding differing quantities of irrigated land. Fifth, input subsidies which modify the producer's decisions and, consequently, a direct income analysis with and without subsidies is an approximation only. The aforementioned calculations indicate that these caveats mean the importance of net farm income subsidies (rather than to any particular farmer).

³⁴ "The estimates on irrigation and power input subsidies are based on the unit cost and usage in agriculture. Credit subsidies represent interest subsidies (estimated as the difference between commercial interest rates and the interest rate farmers receive) multiplied by the value of outstanding loans. Default subsidies could not be estimated because data were not available on nonperforming assets in commercial banks. The estimates on fertilizer subsidies are taken from the Fertilizer Association of India and divided into states using the average price and consumption." (Bathla, Joshi and Kumar, 2017).

A major criticism raised on these subsidies is that they distort resource allocation and result in productivity losses. The questions are therefore: how large productivity losses are and whether equity increases are appropriate to offset those losses; and (ii) how feasible are alternate subsidy mechanisms that remove or reduce those distortions? The answers to these questions rely on the context and may therefore vary from one kind of input subsidy to another.

2.14 Trends and Performance (Pre reform, post reform, growth rates)

In India, the New Economic Strategy was wanted to incorporate the international market with the economy. In request to quicken development in different areas of the economy, specifically the agrarian area, a more profound investigation of the means pointed toward bringing about primary changes is required. The cycle of monetary adjustments and the constant opening of Indian horticulture to the world's business sectors will almost certainly improve the trade conditions for agriculture, producing better incentives and a superior agrarian atmosphere. The financial change measure and the continuous opening up of Indian farming to international business sectors are probably going to change exchange conditions towards horticulture, generating better incentives and a superior atmosphere for agribusiness.

2.15 Growth of Agriculture in India: A temporal and spatial analysis

Growth has historically been a key component of inclusiveness in agriculture, and late experience suggests that higher GDP growth is likely to cause inflation to increase without the country's strong agricultural productivity, which would have a negative effect on higher growth initiatives. The Eleventh Plan, which sought to reverse the downturn in the rural turn of events during the Ninth and Tenth Plans, In 2010-11, food grain production reached another peak of 241.56million tonnes and agricultural growth is projected to be about 3.3 percent annually in the Eleventh Plan. Either way, satisfactory government efforts are needed in order to achieve somewhere in the range of 4 and 4.5 percent normal development in the horticultural area during the Twelfth Plan time frame. Given the importance of these issues, it is important for the 12th Plan to reorient programmes and policies to critically examine recent agricultural trends and the factors underlying slow agricultural growth.

2.15.1 Agriculture and the Economy in India

A model that includes 4 percent horticultural development was the subject of the eleventh Five Year Plan. This has been viewed as pivotal not just for the improvement of food and supplement security, yet in addition for the inclusive development and the executives of rural metropolitan holes. High development rates saw by India in the course of the most recent twenty years or so have generally profited and have likewise been recorded for the metropolitan and non-farming populace in India. At the point when we take a gander at the decadal normal development pace of rural GDP, we find that agrarian and associated areas' decadal GDP development rates have remained at or over 3 percent for the a long time from 1980-81 to 1999-2000 and have continued to increase for the a long time from 1980-81 to 1999-2000 (Table-2.8). In any case, at that point there was a huge deceleration in horticultural development, and in the following decade, the development rate decelerated to 2.4%.

Table 2.8: Agriculture and Total GDP performance in India during different decadal periods

	Agricultural GDP	Total GDP
	% annual average growth rate & (CV)	
1980/81 to 1991/92	3.8 (1.5)	5.2 (0.5)
1992/93 to 1999/00	3.8 (1.1)	6.3 (0.2)
2000/01 to 2009/10	2.4 (1.9)	7.2 (0.3)
	Trend growth rate (%)	
1980/81 to 1991/92	3	5.1
1992/93 to 1999/00	3.2	6.3
2000/01 to 2009/10	2.9	7.6

Source: National Accounts Statistics, CSO, Govt. of India, various years.

Note: CV denotes coefficient of variation

Not at all like the by and large monetary development design, has horticultural execution in India been very unstable. The coefficient of variety (CV) during the period 2000/01 to 2009/10 was 1.9 contrasted with 1.1 during the year 1992-1993 to 1999-2000. As shown in the CV in the country's overall GDP growth, it is much higher, indicating that high and maybe rising volatility is a real test for agribusiness that is likely to escalate due to environmental change in the coming years (Gulati and Ganguly, 2011). Table 2.9 presents the normal Agriculture and Allied development rate and complete GDP across the various times of the program. During the 5th, 6th, 7th and 8th Five Year Plans, India's rural area established more than focused growth rates, but during the ninth and tenth Plans missed the mark concerning development focused. The results show clearly that the rate of real rural GDP growth has decelerated in the post-change process (5.8percent in the 6th five-year plan to 2.5percent in the 10th plan), whereas non-farming GDP increased significantly from 5.4percent to 9.3percent over a comparable period of time. The gap between agribusiness and non-agrarian GDP, however, was dramatically filled in the post-change period. In contrast to the sixth Five Year Plan period (1.07), the development rate ratio of genuine rural GDP to add up to genuine non-agrarian GDP was the least during the tenth Five Year Plan period (0.27), suggesting a decline in rural development compared to non-horticultural GDP. The decrease in the rate of development was attributed to a drop in yield generation. Oil, jute, mesta, cotton, and sugarcane seeds. The lacking south-west storm confined the pace of farming development to simply 0.4 percent in 2009-10. Moderately great storm rainfall provoked the public authority to figure a 5.4% farming development rate during 2010-11 (Tripathy, 2011).

Despite the fact that there is a definite improvement in the development of the agrarian area during the Eleventh Plan, the development figure (Table 2.9) It indicates that the Eleventh Five-Year Plan was originally four years old, the horticultural and unified areas revealed a regular growth rate of 3.67 percent, relative to the agreement focus of 4 percent each year. The growth of agribusiness and the united region was 5.8 percent in the primary year of the arrangement (2007-08), which was negative (- 0.1 percent) in 2008-09, while a record 234.4 million tons of food creation was enlisted for the current year. The new projects dispatched during the Eleventh Plan, for example, the Rashtriya Krishi Vikas Yojna, and National Food Security Mission have majorly affected the advancement of food grains in the nation.

Table2.9: Plan-wise Annual average growth rate of Total GDP verses GDP from Agri & Allied activities in India.

Five Year Plan	Overall GDP growth rate	Agriculture and Allied sectors	Targeted GDP Agriculture growth rate
5th Plan(1974-79)	4.9	3.6	3.3
6th Plan(1980-85)	5.7	5.7	3.8
7th Plan(1985-90)	6	3.2	2.5
Annual Plan(1990-92)	3.4	1.3	-
8th Plan(1992-97)	6.7	4.7	3.1
9th Plan (1997-2002)	5.5	2.1	3.9
10th Plan(2002-07)	7.78	2.56	4
11th Plan(2007-12)			4
2007-08	9.8	5.8	-
2008-09	4.9	-0.1	-
2009-10	9.1	0.4	-
2010-11*	8.6	5.4	-
Average (2007-11)	8.1	3.7	-

Source:

Compiled from Economic Survey (Various Issues) and Ministry of Agriculture

* Advance Estimate of CSO

Note: Growth rates up to 2004-05 are at 1999-2000 prices and thereafter at 2004-05 prices

Since the pace of farming development started falling shy of focused development from the ninth plan arrangement onwards, Indian horticulture is at a junction. India needs a positive change in rural area, with 70% of the population living in rural area and 58% of the horticultural workforce in India. The National Development Council therefore adopted a 14-point objective in the eleventh Five Year Plan that similarly separates responsibilities between focal and state governments to achieve four percent horticultural development before the eleventh arrangement is completed. A total of Rs.25,000 crores from the Central Government has been allocated to the rural sector for the next four years.

2.16 Growth of Agriculture sector in comparison to other sectors of the economy

In India's rural and partnered regions, there are currently three main issues that are established. Genuine (GDP) and land efficiency development are slowing down, food insecurity among the poor is rising, and food inflation is rising and determined. They negatively affect financial and business development and make up for destitution decrease endeavors.³⁵

There has been an underlying change in the Indian economy in the course of recent many years. From 1999 to 2000, the creation of the Gross Domestic Product at consistent costs shows that the portion of agribusiness, including ranger service and fisheries, has declined as the development of the industrial and administration areas has far dominated the rural area. The portion of farming and the unified area's absolute GDP has diminished from

The supply of the industrial area increased from 23.7% in 1970-71 to 30.2% in 2009-10, from 44.3% in 1970-71 to 14.6% in 2009-10, and the administrative area increased substantially from 32% to 55.2% in a similar period.

The compound annual development rates reported in each of the three major financial areas are shown in Table 2.11 for each of the 15 big nations and for the years 1991-92 to 2009-10 in India. In the development meetings of Indian States in rural and related districts, as in the three major financial zones, the table outlines the tremendous local variety. The coefficient of variety in farming and the united area is the most noteworthy estimation of about 51.5 percent, in this manner accepting the theory that huge inter-state difference exists in the development of India's horticultural area. This shows huge underlying shifts in state economies and in the nation's provincial profile. During this period, West Bengal, Karnataka, Gujarat, and were perceived as high-development states, with the rest being moderate or moderately growing states. In their complete NSDPPP, these three states recorded a development pace of more than 6 percent.

³⁵Desai, B. M., D'souza, E., Mellor, J. W., Sharma, V. P., & Tamboli, P. (2011). Agricultural policy strategy, instruments and implementation: A review and the road ahead. *Economic and Political Weekly*, 42-50.

Table 2.11: Compound Annual Growth Rate of NSDP and its components during 1991-92 to 2009-10 (percent per annum). (at 1999-2000 constant prices)

STATES	(Agri. & Allied)	Secondary	Tertiary	Total NSDP
Andhra Pradesh	3.45	6.03	6.92	5.62
Assam	0.79	2.31	4.76	2.68
Bihar	2.9	5.02	5.65	4.38
Gujarat	2.97	8.13	7.89	6.61
Haryana	1.97	6.07	8.59	5.51
Karnataka	2.45	7.55	9.42	6.89
Kerala	-0.44	6.02	7.81	5.38
Madhya Pradesh	1.84	6.11	5.51	4.33
Maharashtra	2.76	3.99	7.42	5.54
Orissa	2.16	2.5	6.52	3.96
Punjab	2.17	5.58	6.6	4.47
Rajasthan	2.5	6.93	7.14	5.65
Tamil Nadu	0.33	4.79	7.95	5.43
Uttar Pradesh	2.3	4.3	4.45	3.61
West Bengal	3.84	5.74	8.91	6.69
India	2.72	6.18	7.77	5.91
<i>Mean</i>	1.1	1.6	1.4	1.2
<i>Std dev.</i>	2.2	5.5	7.1	5.2
<i>C.V. (%)</i>	51.5	29.4	20.3	22.7

Source: Compiled and computed from basic data on NSDP (at 1999-2000 constant prices) from CSO website.

During this period, the horticultural area encountered a low development rate in Tamil Nadu, Punjab, Haryana and Uttar Pradesh (under 3 percent). Thusly, the farming of the country endured because of the conventional rural zones, viz. Haryana, Punjab and Uttar Pradesh performed inadequately in the nation, while the move to more marketed horticulture was not adequate in states, for example, Bihar, West Bengal and Andhra Pradesh to make up for this stoppage.

2.17 Trends in the area and production of crops in India

Table 2.12 indicates that in recent years, the net cultivated area declined from 142.2 million hectares in Triennium Ending (TE) in 1993-94 to 140.8 million hectares in TE 2009-10 from 142.2 million hectares in Triennium Ending (TE) in 1993-94 to 140.8 million hectares in TE 2009-10, although the gross planted area rose from 184.8 million hectares to 194 million hectares during a similar span of time. The region covered by food grains and heartbeats stayed

comparatively stale at approximately 122 million hectares and 23 million hectares respectively, but the area covered by food grains fell from approximately 66.3 percent in TE 1993-94 to approximately 63.3 percent in TE 2009-10. The key washouts were coarse crops, with the output region falling from 33.6 million hectares in TE 1993-94 to 27.9 million hectares in TE 2009-10. In TE 1993-94, the portion of coarse oats drops from 18.1 percent to 14.8 percent in TE 2009-10. For development in all-out land. Food grain production has grown from 177.4 million tonnes in TE 1993-94 to 227.8 million tonnes in TE 2009-10, or more than 28 percent, during the last few years. Again, production of non-food grain rose from 720.7 million tonnes in TE 1993-94 to 1003.6 million tonnes, or more than 39.3% in TE 2009-10 alone, respectively. Cotton (> 100 percent increase), farm items (97 percent), sauces and flavours (66 percent) and wheat (97 percent) were the most prominent increases (39 percent). Heartbeats reported the lowest growth, from 12.7 million tonnes in the TE1993-94 period to 14. 6 million tones in TE 2009-10. Nevertheless, India is likely to generate a peak annual output of approximately 18 million tonnes in 2010-2011.

Table 2.12: Trend in the area and production of important crops in India

Crops	Area (mill.Hec)			Production (mill. tones)		
	TE 1993-94	TE 2009-10	Percentage Change (2009/10to 1991/92)	TE 1993-94	TE 2009-10	Percentage Change (2009/10to 1991/92)
Rice	42.3	43.8	3.55	75.9	95	25.16
Wheat	24.3	28.1	15.64	57.6	80	38.89
Coarse cereals	33.6	27.9	-16.96	31.1	38.2	22.83
Pulses	22.4	23	2.68	12.7	14.6	14.96
Food grains	122.6	122.8	0.16	177.4	227.8	28.41
Oilseeds	26	26.8	3.08	20.1	27.5	36.82
Sugarcane	3.6	4.6	27.78	237.2	303.7	28.04
Fruits & vegetables	8.3	13.6	63.86	95.6	188.7	97.38
Condiments & spices	2.3	2.6	13.04	2.5	4.15	66
Cotton #	7.5	9.7	29.33	10.6	24.1	127.36
Non-food grains*	292.9	302.9	3.41	720.7	1003.6	39.27
Net area sown	142.2	140.8	-0.98	-	-	-
Total cropped area	184.8	194	4.98	-	-	-

Source: Directorate of Economics and Statistics, Ministry of Agriculture, GOI

*Non-food grains= Oilseeds + Sugarcane + Fruits & Vegetables + Condiments & Spices + Cotton

#Cotton production is in million bales of 170 kg each.

The volume of non-food grain rose through the entire yield region of the nation from 25.8 percent in TE 1993-1994 to 29.5 percent in TE 2009-2010. The zone covered by oilseeds remained stable between TE 1993-1994 and TE 2009-2010. In the all-out edited area, the quantity of oilseeds decreased marginally from 14.8 percent in the mid-1990s to around 14.3 percent in TE 2009-2010. In the maximum yield area, which was below 4 percent in TE 1993-94, the extent of leafy food regions increased to over 5 percent in TE 2009-2010. It is evident from the above results that the examples of ground, sugarcane, cotton and other non-food crops ranged from TE 1993-1994 to TE 2009-2010.

It is obvious from the assessed accumulate yearly development rate figures (Table 2.13) that there are huge contrasts between the States over the period 1991-92 to 2009-10 in the development pace of creation of different harvests. At any rate 3 percent of the most extreme yearly build development rate in food grain creation during this period has not been shown by any of the significant harvest creation states. The most elevated development pace of about 2.65 percent every year in food grain creation was recorded by Haryana. All states aside from Andhra Pradesh, which recorded in excess of 4 percent of the build yearly development rate in the two yields, had the most noticeably terrible exhibit of the presentation of heartbeat and coarse oat development among food grains. In any case most states have a negative development rate or a development pace of under 2 percent for the situation of heartbeats and coarse oats. As more states are in the negative rundown of development rates, the beat situation is significantly graver than the coarse oats. For the situation of rice, just Punjab, Haryana, and Gujarat performed moderately well, recording a development pace of around 3 percent. For the situation of wheat, the customary territories of Punjab and Haryana performed inadequately. Non-conventional regions, for example, Gujarat and Maharashtra, then again, recorded a high development pace of around 4.65 and 3.39%, separately, for the situation of wheat. In this period, there is an enormous variety in oilseed development rates among non-foodgrains. Tamil Nadu recorded a high development pace of - 3.28 percent when Tamil Nadu recorded a negative development pace of - 3.28 percent.

For Maharashtra, 5.33 per cent was also assessed. In the development of cotton production in this period there is an uncommon pattern, the same number of non-customary states such as West Bengal and Orissa recorded an extremely high rate of development of about

34.5 and 23.3 individually in this period. None of the states have figured out how to surpass the 3 percent growth rate for the sugar stick situation.

Table 2.13: State-wise Compound Annual Growth rates of Production of Major Crops during 1991-92 to 2009-10. (In percent per annum)

STATES	Rice	Wheat	Coarse Cereals	Pulses	Food grains	Oil seed	Cotton	Sugar cane
A. Pradesh	1.31	0.65	4.42	4.98	2.15	-1.86	4.32	2.23
Assam	0.38	-3.08	0.04	0.84	0.31	-1.35	-1.02	-3.51
Bihar	-2.04	-0.33	0.83	-3.85	-1.15	-0.86	--	-1.75
Gujarat	3.04	4.65	0.18	-0.19	2.3	3.25	9.32	2.54
Haryana	3.88	2.64	3.08	-9.49	2.65	0.45	1.71	1.39
Karnataka	1.73	1.94	1.9	3.1	1.96	-1.77	-2.83	-0.49
Kerala	-4	--	-8.74	-8.51	-4.08	-12.4	-13.24	-2.78
Madhya Pradesh	10.82	0.39	-1.48	-0.39	-2.43	2.79	5.07	4.07
Maharashtra	0.65	3.39	-1.13	2.9	0.26	5.33	5.57	2.21
Orissa	0.71	-6.65	-3.26	-5.3	0.03	-7.18	23.32	-3.9
Punjab	2.91	1.33	0.63	-8.42	1.88	-7.17	0.42	-0.05
Rajasthan	1.02	2.22	3.62	-1.12	2.36	3.87	-2.79	-7.53
Tamil Nadu	-1.9	--	-1.34	-2.71	-1.81	-3.28	-6.26	1.33
Uttar Pradesh	0.82	1.5	-1.66	-1.67	0.84	-2.18	-6.72	0.97
West Bengal	1.89	2.82	1.46	-0.14	1.91	3.22	34.57	2.89
All-India	1.81	2.23	1.42	0.77	1.81	2.08	4.37	1.92

Source: Based on data compiled and computed from RBI website (www.rbi.org.in)

2.18 Changing pattern of production and availability of food grains in India.

Food grain output during 2010-11 was estimated at 241.56 million tonnes, compared to 218.11 million tonnes in the previous year. It is estimated that rice production would be 95.32 million tonnes, up from 89.09 million tonnes in the previous year. Wheat output is forecast to reach 85.93 million tonnes, an improvement of 80.8 million tonnes relative to the previous year. Coarse grains are forecast to yield 42.22 million tonnes, up from 33.55 million tonnes a year earlier. Production of sugarcane is projected to rise from 292.3 million tonnes in the previous year to 339.16 million tonnes (Fourth Preliminary Gauge) in 2010-11, up from 292.3 million tonnes in the preceding year. Food grains are delivered by practically all states. In the creation of

food grains, Punjab and Uttar Pradesh rank most elevated. For Punjab, Haryana food grain yield. It is apparent that, in the zone under development, yet additionally in the yield between states, there are gigantic contrasts. Since the mid-70s, the country has been making satisfactory oats to meet the populace's necessities. Per capita net accessibility has demonstrated an improvement throughout the most recent fifty years. In the course of the most recent fifty years, grain creation has increased colossally, in spite of the fact that the oat creation zone has not increased a lot. The biggest rice producing states are West Bengal, Andhra Pradesh and Uttar Pradesh. Punjab, Haryana and Uttar Pradesh are the nation's biggest makers of wheat; Maharashtra, Karnataka and Rajasthan mainly produce coarse oats. With a 25 percent portion of the worldwide heartbeat crate, India is the central member, with yearly creation of 18.01 million tons throughout the last triennium of 2010-11. Uttar Pradesh, Rajasthan, Madhya Pradesh, Karnataka, Maharashtra, and Andhra Pradesh are the main heartbeat-generating states, which together account for 75 percent of production. The wellspring of growth shifted at different times. The primary growth factor during 1951-67 was territorial extension; yield increase was the crucial segment of the post-All India Integrated Pulses Improvement Program (AICPIP) era (1967-2002). The output of public heartbeats grew with an annual rise of 1.7 percent from 10.6 million tonnes in 1980-1982 to 18.09 million tonnes in 2010-2011. The extent of heartbeats declined in overall food grain production in 2010-11, from 15.8 percent in 1951-55 to 7.4 percent anyway. Vegetable oils are mostly used when cooking in India. Groundnut, sesame, coconut and mustard oil are typically used in India. The production of oilseeds has improved over the past sixty years, but the increase is not sufficient to meet the need, so the country is still importing oil. In 1986, the Oilseeds and Pulses National Mission was established to zero in on the nation's output of oilseeds and to improve oil accessibility. The introduction of fresher oilseeds/oils to the Indian market was one important initiative. Over the past few years, sunflower, soybean, maize, safflower, rice wheat oils have been added, and recognition have been found.

Net food grain accessibility per capita per day has increased by 12.4 percent, from 395 grams in 1990 to 444 grams per day in 2010, amid a five-overlap rise in food production since the mid-1950s (GOI, 2011). The per capita accessibility pattern for different food grains, both in kilograms per year and in grams per day, is shown in table 3.8. from 1990 to 2009. This clearly demonstrates that food grain supply decreased from 172 kg per annum in 1990 to 162.1 kg per annum in 2009. Similarly, during this time for rice, wheat and overall oats, this figure has further

decreased. It is of concern that the gigantic improvement in the accessibility of food grains, the substantial decrease in the cost of oat products and the improvement in the admission of sponsored food grains The Targeted Public Distribution System did not contribute to the elimination of appetite or the reduction of nutritional deficiencies, particularly among poor gatherings. There has been a reformist decline in accessibility of heartbeats and per capita beat usage over the past few years, especially among the less fortunate portions of the population due to stale development and the increasing cost of heartbeats arising from it. Turning around this trend is fundamental. Vanaspati vegetable cooking oil, either fully or incompletely hydrogenated) is produced annually in India, accounting for 5% of absolute consumable oil. Despite the fact that perception of the threats posed by trans fats remains low, over the years, the use of Vanaspati has decreased as a proportion of the overall consumption of consumable oils.

Table 2.14: Per capita availability of Food grains in India from 1990 to 2010

Years	Rice	Wheat	Other cereals	Cereals	Gram	Pulses	Food- grains
(Kilograms per capita per year)							
1990	77.4	48.4	31.7	157.5	3.9	15	172.5
1995	80.3	63	23.7	167	5.4	13.8	180.8
2000	74.3	58.4	21.5	154.3	3.9	11.6	165.9
2005	64.7	56.3	21.7	142.7	3.9	11.5	154.2
2006	72.3	56.3	22.1	150.7	3.9	11.8	162.5
2007	70.8	57.6	20.3	148.7	4.3	12.9	161.6
2008	64	53	19.7	143.9	3.9	15.3	159.2
2009	68.8	56.5	23.3	148.6	4.7	13.5	162.1
2010	67.4	61.3	19.8	148.5	4.9	11.6	160.1
(Grams per capita per day)							
1990	212.1	132.6	86.8	431.5	10.7	41.1	472.6
1995	220	172.7	64.9	457.6	14.9	37.8	495.5
2000	203.7	160	59	422.7	10.8	31.8	454.4
2005	177.3	154.3	59.4	390.9	10.6	31.5	422.4
2006	198	154.3	60.5	412.8	10.7	32.5	445.3
2007	194	157.8	55.5	407.4	11.9	35.5	442.8
2008	175.4	145.1	54.1	394.2	10.6	41.8	436
2009	188.4	154.7	63.9	407	12.9	37	444
2010	184.8	167.9	54.3	407	13.5	31.6	438.6

Source: Department of Agriculture and Cooperation. Min. of Agriculture, Govt. of India

Profitability enhancements in enormous states, for example, UP, will significantly affect food grain accessibility in the nation. Since there is no such extension for transitory increases in the region under development, endeavors to increase profitability throughout the following decade should be given need. Some serious issues were achieved by the very accomplishment of the Green Revolution. Instead of constructing new capital resources for water system and force, numerous states have endeavored to increase creation by subsidizing inputs, for example, energy, water and manures. In addition to the imbalanced use of composts, unsustainable practises, such as extreme water use, have antagonistically influenced soil well-being and climate, particularly in the northern and northwestern parts of the nation's Green Revolution regions. Due to the spread of the Integrated Pest Management (IPM) approach and the growing sensitivity to the risks of pesticides, the accessibility of effective pesticides and the accumulation of pesticides in groceries remains a matter of concern, given the fact that the use of pesticides seems to have decreased. Green Revolution weakness is capable by numerous individuals of the previous high-producing states. In request to accomplish sustenance security, almost no consideration is paid to the accomplishment of integrated farming frameworks that will guarantee a sustainable, evergreen transformation which is fundamental for satisfactory dietary enhancement.

The territory under heartbeat development should be increased and profitability improved to make the beat of the country adequate. To improve the accessibility and reasonableness of heartbeats, a proactive system from specialists, organizers, strategy creators, augmentation laborers, market influences and farmers pointed at boosting land efficiency per unit, yet in addition at reducing creation costs is required. One factor which is liable for the stagnation in heartbeat creation is the absence of an ensured market. The forced on the farmers to sell their goods to intermediaries at a low value due to the serious issue of put away grain bother infestation and the lack of attendance of storerooms. Farmers do not benefit from the minimum cost of aid recorded without an acquisition instrument by the public authority. Likewise, the minimum help cost isn't covered by all heartbeat crops. Along these lines the beat acquisition strategy should be quickly reinforced and sensible support stocks should be developed to meet the contingencies. In request to urge farmers to invest more in the creation of heartbeats, reasonable market intervention and the advancement of post-gather innovation are additionally

important. Heartbeat dispersion through TPDS can improve beat admittance and help balance out the expense of heartbeats.

2.19 Growth and share of Agriculture in India's trade

In the wake of the second green upheaval, farm marketing and external trade in horticultural goods are becoming progressively important, improving the living standards of homestead households, and liberating India from yearning and turning need into history in the shortest period imaginable (GOI, 2007).

Three general classifications, such as prices of a) crude products, b) semi-crude products, c) cooked and ready-to-eat products, are included in India's agro-sends-out. Crude goods transported are essentially of low value, large volume form, whereas semi-handled goods are medium value and high value, but low volume and ready-to-eat items are of low volume sort.

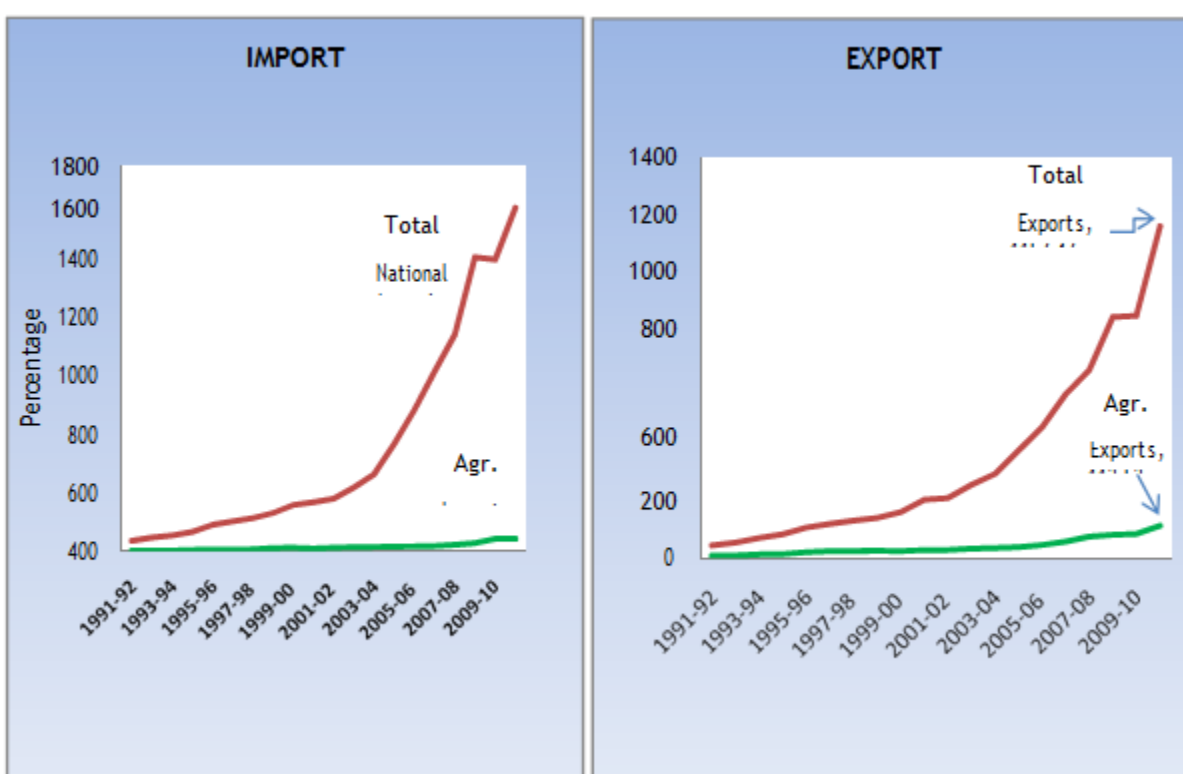


Figure 2.3: Trends of India's Agricultural import and export vis-à-vis Total national Import and export during 1991-92 to 2010-2011

Source: Agricultural Statistics at a glance-2011, www.agricoop.nic.in

Since the past, Homestead sends out from India have steadily increased and arrived at the 2010-11 estimate of Rs. 112521.8 crores, that around multiple times that of 1991-92. The agro-export estimate of the country's total exports ranged from 10 per cent to 20 per cent between 1991-92 and 2010-11.(Figure 2.3). India's agrarian fares are dependent upon certain constraints arising from conflicting homegrown arrangements identified with creation, stockpiling, appropriation, food security, pricing, and so forth Unwillingness to choose the fundamental minimum fare amounts renders Indian causes of supply questionable.

Contrasted and the international costs of mass items, for example, sugar, wheat, rice and so forth, higher homegrown costs make our fares economically less serious. There is a need to reinforce market intelligence and bring issues to light of item quality in the international market to support farming fares.

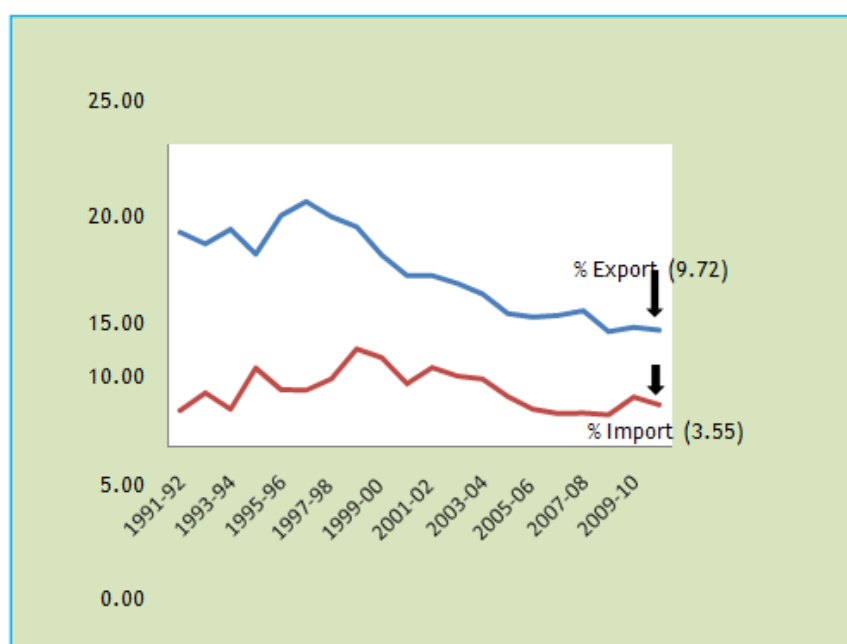


Figure 2.4: Percentage share of Agriculture to total export and import of India during (1991/92to2010/11)

Agri-imports make up just a small extent of a nation's all out imports. Agri-imports represented 2 to 4 percent of the nation's complete imports in the 1991-92 to 2009-10 period (Figure 2.4). Palatable oil, which accounts for over half of the estimated absolute agricultural imports, has recently become the single largest agricultural import. In 2010-11, As many as 51.7 percent of total rural imports were accounted for. Another thing that has accounted for about 12%

of absolute agri-imports is beats. Every one of the other farming and partnered items brought into the nation - grains, flavors, sugar, milk and milk items, chicken meat, and so forth - represents an extremely small extent of absolute horticultural imports, except for generally bigger imports of oats (for the most part wheat) in 1997-98, beats in 1996-97 and 1997-98 of a particular ware in some climatically strange years. Through the Commodity Boards formed for the reason, particularly the Spices Board, Tea Board, Coffee Board and Rubber Board, the Ministry of Commerce advanced the discovery, improvement and pricing of cardamom, tea, espresso and elastic. Furthermore, under the protection of the Ministry of Commerce, an Agriculture Produce Export Production Authority (APEDA) has been set up to advance the prices of green goods, both fresh and value added (GOI, 2001)³⁶. Furthermore, two bodies belonging to the Ministry of Agriculture, the National Cooperative Development Corporation (NCDC) and the National Federation of Agricultural Marketing Cooperatives, offer subordinate, authoritative assistance to promote crop cultivation (NAFED).

Table 2.15: Export of different agricultural commodities during the period 1991 and 2011
(Rs '000 crore)

Year	Agro & Allied	Rice	Wheat	Spices	Fruits & Vegetable	Processed Fruits and Juice etc.
1991-92	7.89	0.76	0.13	0.37	0.35	0.19
1992-93	9.08	0.98	0.01	0.39	0.31	0.23
1993-94	12.63	1.29	0	0.57	0.41	0.28
1994-95	13.27	1.21	0.04	0.61	0.44	0.36
1995-96	20.34	4.57	0.37	0.79	0.53	0.89
1996-97	24.36	3.17	0.7	1.2	0.58	1.09
1997-98	24.63	3.37	0	1.41	0.59	0.65
1998-99	25.39	6.28	0	1.63	0.54	0.71
1999-00	24.3	3.13	0	1.77	0.64	0.85
2000-01	27.29	2.93	0.42	1.62	0.84	1.32
2001-02	28.14	3.17	1.33	1.5	1.05	1.24
2002-03	32.47	5.83	1.76	1.66	1.19	1.48
2003-04	34.62	4.17	2.39	1.54	1.79	1.4
2004-05	38.08	6.77	1.46	1.88	1.79	1.28
2005-06	45.22	6.22	0.56	2.12	2.13	1.59
2006-07	57.39	7.04	0.04	3.16	0.12	1.84
2007-08	74.21	11.75	0	4.31	3.07	2.14
2008-09	80.65	11.16	0	6.34	4.52	3.18
2009-10	84.14	11.25	0	6.16	5.36	3.25
2010-11	112.52	10.8	0	7.85	4.85	3.58
Average	38.83	5.29	0.46	2.34	1.55	1.38
C.V.	73.56	67.99	131.22	91.43	104.45	72.67
CAGR (%)	12.87	13.59	-31.33	15.21	13.72	14.62

Source: Agricultural Statistics at a glance-2011, www.agricoop.nic.in and Handbook of statistics on Indian economy 2011, RBI, Govt of India.

India's main horticultural fares are oats (generally rice – in both the varieties Basmati and non-Basmati), flavors, cashews, oilcake/feast and tea, tobacco, espresso, foods grown from the ground, juice and marine items. Table 2.14 shows the pattern of fares of significant horticultural wares from 1991-92 to 2010-11. Complete agro-item sends out on normal were roughly Rs 38.8 thousand crores by and large. Among agrarian items, for example, rice, wheat, flavors, organic products and vegetables and prepared natural products and juices, the most traded thing has been rice. The greatest change is found for the situation of wheat, which is certified by the high estimation of the coefficient of variety assessed herein. Anyway the standard obvious from the huge coefficient of variety esteems was the instability of the fare of the relative multitude of articles. With the exception of wheat, which registered a strong negative growth rate, all products displayed a positive annual accumulated growth rate.

Huge primary changes have occurred in India's agrarian area in the type of a reduction in the portion of agribusiness in the nation's complete GDP from 44.3% in 1970-71 to 14.6% in 2009-10 and an increase in the administration area from 32% to 55.2% over a similar period, indicating a move from the conventional farming economy to the dominant assistance area. Likewise, the cropping design has also changed as the portion of food grain in the nation's entire edited region decreased in TE 1993-1994 about 66.3% to in TE 2009-2010 about 63.8%. Then again, the level of non-food grain in absolute yields increased 25.8 percent to 25.8 percent.

For a similar period, 29.5 percent the inter-state variety in India contrasted with different areas of the economy is more articulated for the situation of development in the agrarian area. There is likewise wide variety among the conditions of India in the development pace of harvest yield and yield esteem.

2.20 Summary:

The approach to Marx's understanding of the agrarian inquiry is not the way in which the giant farmers should swallow the small, nor how to find out if there is a future for small landowners. Instead, it is important to take into account all the progress that agriculture has made throughout the industrial method of creation, how capital seizes and reforms horticulture, makes old types of production and property unsustainable and makes the need for new ones unsustainable.

In actuality, the cost of a horticultural product should comprise of three parts: wages, lease and benefit. Ordinarily the most un-beneficial homestead should be set up as a result of higher creation costs. The outright lease relies on the most un-beneficial land and determines the general efficiency levels of the rest of the land by the differential lease. As food demand increases, ground leases will almost certainly increase. Land is not a form of capital with a replacement cost, not like machinery that needs substitution at all. Thusly, lease is essentially because of the landlord exclusively because of the privilege to property and not because of any commitment. A benefit that includes the excess incentive in addition to the land lease incorporated into the cost is appreciated by the industrialist farmer, who claims the land also. Moreover as opposed to industry, enormous scope agribusiness, which relies upon the idea of the harvest, the general necessities and the accessibility of motorization, isn't generally prevalent.

There are crops that require close and reduced reconnaissance that small farmers can all the more likely oversee (p-148). Additionally, the nonattendance of work force and high wages can once in a while make it inconceivable for entrepreneur farmers. Small farmers need the benefit of unpaid family work to contend in the market before automation tackles the issue of work deficiencies.

A new era in Indian agriculture was heralded by green revolution in India that began in the mid-1960s. In water-assured areas, cultivation of high yielding seed varieties at recommended fertilizer dosages has been encouraged. Initially, the new technology was beneficial to medium and large farmers in irrigated areas. Small holding farming, however, also benefited from the green revolution due to government assistance in accessing services.

In the early 1980s, the public investment share in total investment fell from 50 % to 20% in the 2000s. It should be remembered that 90% of the private investment in on-farm production is made by farmers. Investment growth rates have shown that, in the early 1980s and 1990s, public sector investment saw negative growth and growth of 15 percent in the 2000s. On the whole, the rate of growth of public and private investment was the strongest in the 2000s.

It can therefore be concluded that even a major rise in subsidies will (a) have minimal impacts on farm distress because our farmers own tiny parcels of land and (b) have no impact on the relative productivity gap because the difference is too wide, while expenditure on government farm subsidies is an important component of farm revenue. Although subsidies are not too necessary to reduce farm incomes, the sustainable rise in farm incomes does not provide a viable future path. The primary mechanisms for rapid revenue growth continue to be structural transformation processes. In India, the New Economic Policy was designed to integrate the economy with the world market. In request to quicken development in different areas of the economy, specifically the farming area, a more profound investigation of the measures pointed toward bringing about primary changes is required. All things considered, the cycle of financial changes and the continuous Indian agribusiness opening up to world business sectors will move exchange conditions to horticulture, creating better incentives and a superior agrarian climate. All things considered, the cycle of financial shifts and the slow opening up of Indian agribusiness to the world's business sectors will shift exchange conditions to horticulture, generating better incentives and a superior agricultural climate.

CHAPTER: 3

Trends in Agrarian Structure, Production and Institutions

3.1 Introduction

Agrarian structure defines rural poverty and inequality. It plays a key role in opportunities for education and migration in the countryside. And it impacts investment and the nature of rural land markets.

Agrarian Structure takes into account single conducive factor that is responsible for the sustained growth in the agricultural sector. Agrarian structure involves the social, economic and technical elements that affect production in the agricultural sector. These factors are used to measure the productivity level of farmers, the distribution of their income and the social position of the rural population. The Agrarian structure also includes the process of land management and land tenure system.

The basic objective of this chapter is to present the basic features of the agrarian structure, production and institution. After going through this unit you will be able to understand:

- History and Antecedents of Agrarian Structure
- Total Workforce and Its Composition
- Occupational/Sectoral profile of structural change workers
- Age-wise Distribution and Sectoral Transition and Institutional Change in Indian Agriculture
- Retrospect and Prospect of Land Reforms and Agricultural Development
- Land Reforms & Importance of Agrarian structure
- Agricultural Production and Productivity Land Reforms
- Emerging trends and patterns of the agricultural workforce of India

This study begins by explaining the History and Antecedents of Agrarian Structure. It discusses Total Workforce and Its Composition. It addresses the professional/sectoral profile of structural change workers. It also addresses the age-wise distribution and sectoral transition in

Indian agriculture and institutional change. Also it discusses the Retrospect and Prospect of Land Reforms and Agricultural Development.

3.1.1 Agrarian Structure: History and Antecedents

In developing economies such as India, where the majority of the population still depends on it, agriculture plays a vital role. Indian agriculture dates back to ancient times when cultivation of crops and domestication of animals leading to the settlement of people began around 9000BCE. Indian goods soon became popular around the world and trade flourished, bringing foreign crops to India as well. Since then when irrigation and other sophisticated methods were developed in agriculture during the Middle Ages from 1200 CE to 1757 CE, the agro sector has undergone profound changes. But in the 19th century, agriculture saw a complete turnabout during the British colonial era, where it grew by only 1 percent per year. Commodity prices have risen and private investment has soared. Later, with the advent of the Green Revolution in the 1960s, various reforms and policies were introduced that completely transformed Indian agriculture from its traditional methods. It made India self-sustainable again, but there was a steady decline in agriculture afterwards. In the 1980s, India later signed the Uruguay Round Agreement (URAA), which made Indian policies more liberal and integrated into global agriculture, introducing more mechanisation, irrigation and technological progress (Gulati, 2002).

The contribution of agriculture to GDP during the days of independence was 70 percent. But it is not given sufficient priority to be anxious to develop other sectors of agriculture. There was a steady decline in public investment in agriculture during the reform period of the 1980s. In recent times, a high food inflation of 18 percent has been recorded because of this. Failure to reform agriculture would undermine the true development of the country, as most of the country still depends on agriculture. The government is therefore forced to adopt incentives and reform policies to give agriculture more priority again. Through increased productivity, the green revolution and globalisation of agriculture have given rise to new problems to some extent. This paper analyses various dominant factors that boost and decrease the growth of the agricultural sector, along with comparisons of reforms in other developing countries such as China, which began implementing Agricultural Research and Extension (AR&E) at the same time as India (Babu, 2015). Research and extension reforms, technology, farm size, labour availability, farm

size, weather conditions, crop insurance, fertilisers, information on relevant farming areas and strong leadership are the predominant factors.

Recent academic writings on Malabar's agrarian history have almost entirely focused on the themes of a relations, land tenures and peasant movements and social change³⁶. Works on peasant movements have concentrated mostly on Mapilla uprisings and to a lesser extent on the left peasant movements Of the 1930s and '40s. These works are primarily based on official British records and in some cases; their entire reconstruction of the agrarian economy is based on Logan's report. The more rigorous works on Malabar's economic history have been restricted to the region's foreign maritime trade. Unfortunately these reconstructions have not gone into the emporia- hinterland connections in detail. In the case of Malabar there are only two extant monographs on the agrarian economy. In both these works the agrarian economy is studied in terms of land tenures.

Varghese's study of the agrarian economic history of Kerala is a general study of agrarian relations focusing on developments and variations in the tenurial pattern. Thomas Shea's work once again examines the impact of land tenures on variables such as productivity and investment. The limitation with these works is that the emphasis is restricted to land tenures. The other constituent parts of the agrarian structure consequently receive much less attention as independent variables.

First one is individual property rights to farmers. Second one was a establishing a proper European feudal system. Both led to lease markets and tenancy and farming was done basically by tenants. Tenants had to pay high rents, since landlords had to pay high land tax. To pay tax in terms of cash, all farmers and tenants had to produce marketable crops. Thus this is the first mode of commercialization, introduced via creating an unequal agrarian structure. Farmers had to borrow from money lenders to farm crops. Frequent failures of monsoon led to indebtedness. British then stabilized irrigation through undertaking large scale irrigation. This stabilized production and also commercialization. But market vagaries of prices had mixed fortunes and many who had losses lost lands. This led to severe agrarian unrest. Champaran, Tea Gardens, Tebhaga Chai movement.

³⁶ Thomas W. Shea, Land tenure structure of Malabar and its influence upon capital formation in agriculture, High Wycombe, 1959; T.C. Varghese, Agrarian change and economic consequences: land tenures in Kerala. 1850-1960, Calcutta, 1970; P. Radhakrishnan, Peasant struggles. land reforms and social change\ Malabar, 1936-1982, Delhi, 1989, K.N. Panikkar, Against lord and state: religion and peasant uprisings in Malabar, Delhi, 1989 and Dilip Menon, Caste. nationalism and communalism in south India: Malabar 1900-1948, New Delhi, 1994.

Since the time prior to Independence from British rule, land policy in India has been a major subject of government policy discussions. Because of the prevailing agrarian conditions, the country's peasants strongly backed the independence movement and the Congress Party's "Land to the Tiller" policy. During the British administration, the agrarian structure emerged with a strong historical context^{37, 38, 39} As the possible start of systematic efforts to manage the land, the land-revenue system implemented by Todar Mal during Akbar's regime can be traced. This method incorporated as its main components the measurement, classification and fixation of rent. Under the different pre-British regimes, the state's collected land revenues confirmed its right to produce land, and that it was the sole owner of the land. British rulers took a cue from this system and allowed the existence of intermediaries that were not cultivated. The existence of these parasitic intermediaries has served as an economic instrument for high revenue extraction⁴⁰. The political hold on the country as well as maintaining it. The agrarian structure was therefore characterised at the time of Independence by parasitic, rent-seeking intermediaries, various land income and ownership systems across regions, small numbers of land holders holding a large share of the land, a high density of tenant farmers, many of whom had unsafe tenancies, and exploitative production relations⁴¹.

A committee was appointed immediately after Independence, under the chairmanship of the late Shri J. C. Kumarappa (a senior leader of Congress), to examine the land issue. Comprehensive agrarian reform measures were recommended in the report of the Kumarappa Committee. India's land policy was dominated by legislative efforts in the decades immediately following its independence to address the problems identified by the Kumarappa Committee^{42, 43}

A significant amount of legislation, much of it flawed and little of it seriously enforced, has been adopted.

³⁷**Baden Powel, B.H.** 1974. *The land systems of British India*. New Delhi, Oriental Publishers.

³⁸**Dutt, R.C.** 1976. *Economic history of India*. New Delhi, Publications Division, Government of India.

³⁹**Appu, P.S.** 1996. *Land reforms in India*. New Delhi, Vikas Publishing House.

⁴⁰**Dutt, R.P.** 1947. *India today*. Bombay, India, Peoples' Publishing House.

⁴¹**Appu, P.S.** 1996. *Land reforms in India*. New Delhi, Vikas Publishing House.

⁴²**National Commission on Agriculture (NCA).** 1976. *National Commission on Agriculture*, Part XV, *Agrarian Reforms*. New Delhi, Government of India.

⁴³**Joshi, P.C.** 1987. *Institutional aspects of agricultural development*. New Delhi, Allied Publishers.

3.2 Total Workforce & Its Composition

It is helpful to analyse the full labour force and the changes therein before moving into the subtleties of the agrarian workforce. Since its establishment, the Census of India has sought to capture the monetary condition of the population for varied organisational purposes. The concepts of work have altered an outstanding framework, but since 1981, the entire workforce has been categorised into three central meetings: viz., main employees⁴⁴, marginal workers⁴⁵ and non-workers⁴⁶. The extent of all out laborers in the economy developed from a simple 244 million to 481 million somewhere in the range of 1981 and 2011, with a yearly normal development pace of 2.3 percent. Of this, somewhere in the range of 1981 and 2011, the Census saw a quantum hop from 222 million to 362 million of the all out principal laborers and a sum of 22 million to 119 million marginal specialists, for example marginal laborers from each tenth specialist in 1981 to each third specialist in 2011. Incidentally, from 1981 to 2011, the proportion of non-specialists in the entire population stood at 61.7% on average, which led to a large majority of 420million in 1981 and 728million in 2011. As about 40% of the population is under 20 years old and assigned understudies, quite an enormous amount of non-workers could be due to age advancement of India. In any event, it should be noted that over the time of enumeration, the amount of non-workers decreased slightly, as shown in Figure 3.1.

⁴⁴ Main-worker: Participation in any economically productive activity for more than 183 days in the preceding year.

⁴⁵ Non-worker: A person who had not done any work at any time.

⁴⁶The marginalisation of women is commendable as their inclusion would stabilise the cost of production, maximise the returns, provide substitutes for the male workers and better women participation in the economy. Though it is true that women's productive is low, the data supplied to calculate the productivity is partial and does not consider the major contribution of women in household chores. Further, women are paid less in comparison to men due to the incidence of discrimination in the labour market. Despite all these problems, women's presence is encouraging because they replace the men in agriculture so that men can take up better jobs in non-farm sectors to support the family. Further if the joint effect is considered then the household with women working acts as a complimentary income. However, it is also a matter of concern as the women in the labour force is in a marginal way and not as a core activity, such marginal activities further burdens the women because such activities need to be undertaken apart from their regular household chores.

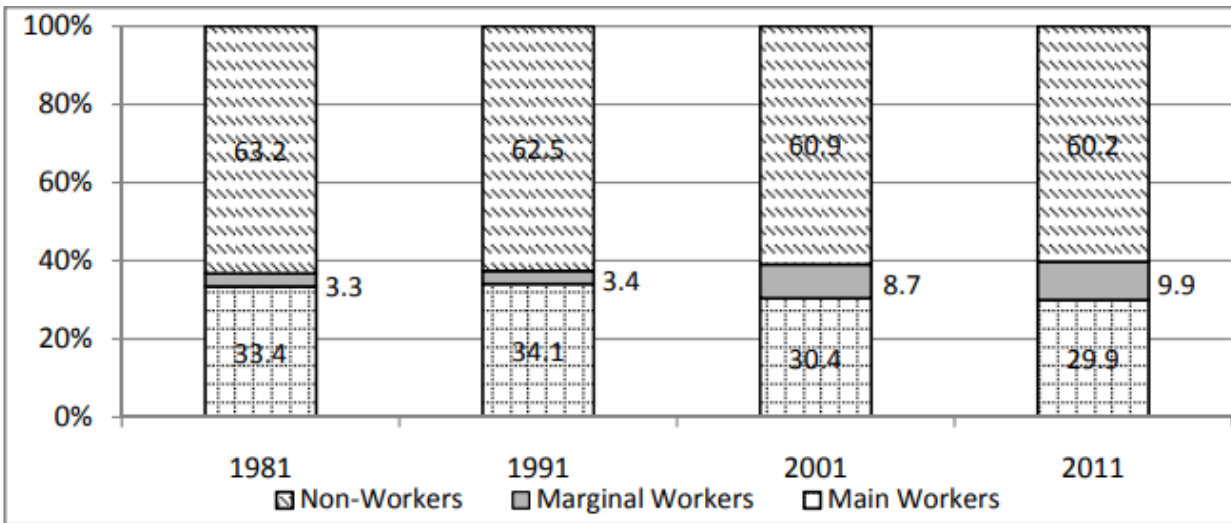


Figure 3.1: Proportion of Total Workers across Census

Source: Census documents by Registrar General, Govt. of India

While the level of non-specialists is diminished, the decrease isn't reflected in the main laborers, yet in the marginal specialists. Truth be told, it should be remembered that since 2001, A small number of key workers have reached the marginal classification, while the main specialists decreased by almost 5% from 34.1% to 29.9% somewhere in the 1991 and 2011 range.

MGNREGA (Mahatma Gandhi National Rural Employment Guarantee) Act may give occasions to the majority in rural regions to take up work for in any event 100 working days as a feature of the option to work program. The designation of 100 days for the main laborers is far underneath as far as possible. The contention that MGNREGA can create marginalization of the labor force might be incompletely evident on the grounds that the 100 days of work for the whole family are not for individuals alone. In addition, there are countless ladies entering the framework. In July 2014, another alteration was added to Schedule I of MGNREGA to permit regions to utilize 60% of the all out rural work and related exercises.⁴⁷

In this manner such government moves trigger the marginalization of the labor force and further extend the wonder. Moreover, explicit reasons are difficult to determine with just

⁴⁷ See http://nrega.nic.in/netnrega/writereaddata/Circulars/878Advisory_works_related_agriculture_allied.pdf

restricted populace factors in the Census. Extra top to bottom examination is required using other existing informational collections to fill these holes (NSSO overviews).

3.3 Occupational/Sectoral Profile of the Workers – Structural Change

The structure and size of the labor force is a segment deal which brings about financial development (Census Report, 2001). In addition the connection between the labor force and financial development is two-way, in light of the fact that the labor force adds to development, while development gives a superior stage to the labor force to ascend the stepping stool. In this way it is important to examine the elements of the sectoral profile of the labor force with additional isolation dependent on sex, age, and geographic area.

In accordance with Vijay⁴⁸ (2012), the structure and size of the labor force is a segment deal which brings about financial development (Census Report, 2001). In addition the connection between the labor force and financial development is two-way, in light of the fact that the labor force adds to development, while development gives a superior stage to the labor force to ascend the stepping stool. In this way it is important to examine the elements of the sectoral profile of the labor force with additional isolation dependent on sex, age, and geographic area. A decrease in the proportion of households reliant on the agriculture sector owing to a decrease in the proportion of farmers in the labour force is the structural shift identified in this report. Correspondingly, the amount of "peasant" non-cultivating households is becoming increasingly significant and their holdings of land are also rising. The NCPHs are unsuccessfully motivated to engage in agriculture. This has implications for agricultural development and takes into consideration the limitations of the agrarian change. The data from the National Sample Survey on household assets and liabilities in India is used to illustrate the growing significance of NCPH for rural sector structural reform. In the second step, data from the key survey conducted in nine Andhra Pradesh villages is used to identify rural micro-processes that increase the NCPH.

3.3.1 Age-wise Distribution and Sectoral Transition

India, with in excess of 50% of its populace in the 15-59 working age gathering and 34.8 percent in the 15-34 age bunch according to the 2011 Census, profits by the segment profit

⁴⁸Vijay, R. (2012). Structural retrogression and rise of 'new landlords' in Indian agriculture: An empirical exercise. *Economic and Political Weekly*, 37-45.

advantage. India's populace development has eased back down to 1.6 percent. Anyway the development pace of the workforce has increased to 2.8 percent with an ideal segment profit.' The segment patterns indicate that both the age and size structure of the populace will in general change after some time on account of the idea of the segment progress. Thusly, a more careful examination old enough and sex would uncover a more prominent message.

The age and sex shrewd circulation and thickness based development pace of agrarian laborers is given in Table 3.1. This is a significant exercise since it thinks about the examples and inheritance of horticultural movement of youngsters. In request to bring the impact of the land into the image, the net planted region as caught in the corresponding evaluation time frame (the third normal is additionally considered to diminish instability) was isolated between the farmers and the rural work populace. Subsequently, both development rates and the thickness (per 1000 hectares of net planted zone) of farm laborers have been accomplished.

Table 3.1: Density by age and gender of cultivators and agricultural labourers (Number of persons/1000ha of Net Sown Area)

		15-34				35-59				60+				Total			
		1971	1981	1991	2001	1971	1981	1991	2001	1971	1981	1991	2001	1971	1981	1991	2001
Total	Cultivators	297 (0.90)	325 (1.94)	395 (-0.41)	379	174 (5.39)	297 (1.56)	348 (1.11)	388	60 (1.78)	72 (1.65)	85 (1.89)	103	560 (2.68)	732 (1.59)	858 (0.51)	903
	Agricultural Workers	200 (1.48)	232 (1.58)	271 (3.39)	381	87 (6.12)	160 (1.97)	195 (3.88)	288	20 (2.21)	25 (2.61)	33 (4.86)	53	340 (3.00)	459 (1.42)	529 (3.59)	757
Male	Cultivators	260 (-0.6)	244 (1.33)	278 (-1.37)	243	155 (4.05)	233 (1.07)	259 (0.22)	265	56 (1.21)	63 (1.42)	73 (1.00)	81	493 (1.32)	563 (1.09)	628 (-0.4)	606
	Agricultural Workers	133 (-0.2)	131 (2.47)	167 (2.11)	206	58 (4.14)	87 (3.08)	119 (2.43)	151	15 (0.98)	16 (3.49)	23 (3.02)	31	227 (1.20)	256 (2.40)	325 (2.23)	406
Female	Cultivators	38 (7.69)	82 (3.57)	116 (1.57)	136	18 (12.6)	65 (3.12)	89 (3.32)	124	4 (7.13)	9 (3.15)	12 (5.99)	22	67 (9.34)	169 (3.07)	230 (2.55)	297
	Agricultural Workers	67 (4.12)	101 (0.30)	104 (5.16)	175	29 (9.15)	73 (0.46)	76 (5.78)	136	5 (4.91)	9 (0.76)	10 (8.22)	22	113 (5.85)	203 (0.02)	203 (5.45)	351

Source: From various census periods

Note: Compound percentage annual growth rates reflect the figures in the parenthesis. Age-wise data for 2011 has not yet been released by the Government of India.

3.4 Institutional Change in Indian Agriculture:

All over the world, monetary and mechanical frameworks are changing rapidly. In developing nations, however, the intensity and effects of these advances are more expressed. While exchange progress and developing economies integration with the rest world have access fresh paths for development, homegrown frameworks have been presented with intense rivalry, as has the rise of another system of incentives and institutions. Market influences are more reliant, and patterns in world business sectors will to a great extent influence rivalry and incentives. In this emerging situation, we need proficient associations and a profoundly evolved information framework in request to link the homegrown framework to the world market, to screen advancements on the planet markets and to give the correct signs to the viable association of financial exercises and the assignment of assets. The main goal is to furnish homegrown entertainers in developing nations with simple admittance to worldwide business sectors and assets, including innovation, and to improve homegrown institutions' admittance to business sectors.

On the logical front, late advances in sub-atomic science, information correspondence innovation (ICT), space science, and so forth, have significant ramifications for financial turn of events. From one viewpoint, these logical advancements have essentially increased development potential and on account of improved precision in examination philosophies and diminished slack in innovative work, have increased the odds of harnessing this potential (R&D). Then again, with propels in ICT and space innovation, it has gotten simpler to get to improved advancements and their highlights (attributes, sources, likely advantages, and so forth) To empower and saddle these logical advances for the improvement of an information based society, fitting approaches and institutions are required.

While monetary advancement changes and underlying changes initiated in 1991 have not unequivocally focused on horticulture in India, they are required to substantially affect the farming area. Anyway with the finishing of the second period of changes covering the financial area, public associations, security of intellectual property and work laws, the effect will turn out to be more clear (Vyas 2001). This, combined with harnessing mechanical transformations, is foreseen to essentially change Indian horticulture. Increasing efficiency would now be able to achieve further development in horticulture, which is just conceivable by accelerating the turn of

events and dissemination of improved innovations. Since data intensive is the best in class advances, the turn of events, the board and their use require new institutions and associations. The private sector's involvement in innovative agricultural work and the security of intellectual property, including the assortment of plants, require, in particular, that existing innovative labour institutions be reoriented. It is shown from the experience of Green Revolution that supporting institutions such as land changes, credit, etc notwithstanding innovative advances, as incentives, for example, costs, are of vital significance for innovation drove horticultural development. Changes in every one of these institutions would accordingly require the improvement of present day farming dependent on information. Past experience has obviously indicated that the maximum capacity of a portion of the advances, for example, half and halves, integrated yield the board, water improvement, bio-inputs, and so forth, can't be acknowledged because of the absence of satisfactory institutions (Kolavalli and Kerr 2002 and Pal et al. 1998;). These were ICTs, while current institutions were involved, for example, open pollinated crop seeds and composts, were tuned to move input-based advancements.

The previously mentioned realities point horribly to the requirement for institutional changes in Indian agribusiness and their heading. In spite of the fact that the main focal point of this volume is on farming innovative work institutions, advancement of innovation, the board, move and use, guidelines, and so on, different institutions, for example, credit, horticulture and marketing and exchange, which affect innovation selection and effect, are likewise talked about. This section presents the idea and promotion of institutional financial matters and their application to the monetary and agrarian turn of events, followed by a union of sub-topics in the Indian rural environment.

3.5 Land Reforms and Agricultural Development: Retrospect and Prospect

Among the developers of India's policy, land changes seem to have recently lost their traditional colour and favour. In particular, in the midst of monetary development and the World Trade Organization structure, this is the case, where exchange and market shifts are at the core of the strategy for improvement. However, this does not imply that land change has completely lost its relevance as an social and economic change instrument in the nation. The agrarian structure actually remains as inconsistent in the nation as in the past. Indeed, even today, in numerous locales, rural development is constrained by risky tenures and discontinuity of holdings. Over

60% of our labor force continues to be utilized as homestead laborers, the majority of whom are landless specialists and marginal farmers living in outrageous neediness. Admittance to land holds the way in to their occupations in the horticultural and non-farm areas without sufficient work openings. There is no motivation behind why land change ought to lose its significance as an improvement strategy under these conditions.

There are a few objectives to the present abhorrence of land change. Initially, different land change laws introduced in the 1960s & 1970s remain for the most part unsuccessful due to the lack of political will to amend them in many states. Which has no expectation in this way that land change will be carried out viably sooner rather than later, particularly when today's political will gives the impression of being more fragile. Also, it is contended that the weight of the infinite development of millions can't continue to be borne by the land area. The normal holding size, effectively influenced by populace development, seems, by all accounts, to be small and non-suitable. Third, land change, which energizes smallholder horticulture, can possibly succeed on the off chance that it is important to give institutional and strategy uphold. Specifically, the elements of co-employable conveyance frameworks and public endowments are essential. Thus, institutional and strategy backing may not be forthcoming; land change is probably not going to deliver the ideal outcomes. Finally, there is a need for the corporatization of horticulture and the evolution of the land ceiling and tenure rules, due to the increased stress on fare-arranged agribusiness.

The current study examines a portion of these issues with regards to land change and horticultural development. The study responds to the following inquiries, explicitly:

- (i) In request to advance fare situated and differentiated horticultural development; do the ceiling laws truly should be loose? Assuming this is the case, does that suggest promoting industrialist farming and increasing landlessness? Is a measure like that going to be politically reasonable?
- (ii) What effect have the ongoing changes in tenure had on rural development and value in states such as West Bengal and Karnataka?
- (iii) Can it help to foster financial growth and value through sanctioning or advancing land leasing strategies?

(iv) Does farm tenancy continue to be an inefficient and exploitative institution, particularly share-cropping? Can a fixed cash or fixed product leasing method substitute for share cropping, if so?

V) Does contract farming help to foster diversified agricultural growth in collaboration with national or international agro-processing industries?

(vi) Will the private sector's entry into agriculture, through contractual agreements, lead, either directly or indirectly, to the efficient and sustainable use of land and other natural resources?

3.5.1 Relaxation of Ceiling Laws

This is frequently contended that the agriculture commercialization, especially for the fares advancement, requires the size of the holdings of land to be sensibly huge in request to save the two economies of scale and creation quality. In all actuality, nonetheless, this kind of contention has all the earmarks of being lost since nations with smaller land holdings, for example, China and Vietnam significantly affect the international fare markets of today. What is most likely more significant in this setting is that we should turn out to be internationally serious as far as cost through the age and move of financially savvy, high-yielding advancements and the successful marketing of rural items through proper conveyance frameworks. In order to exclude plantations, fish lakes, and so on, a few state governments have just adjusted their ceiling laws in India. In any event, the results are far from palatable without other significant changes and support. Besides, summed up unwinding of ceiling enactment may not be socially attractive or politically practical in all cases, since the resulting absence of land can cause unmanageable strains in rural zones without adequate business openings⁴⁹.

3.5.2 Agricultural Tenancy an Inefficient Institution

Since the earliest reference point, farming occupancy, especially sharecropping as a monetary institution, has been under analysis. In Japan, sharecropping was supplanted by a fixed lease leasing framework during the Meiji system's initially round of land changes. The supply population would be both an inadequate and inefficient cultivator, according to Alfred Marshall

⁴⁹de Janvry, Alain and Elisabeth Sadoulet, 1987a, The Conditions for Compatibility between Aid and Trade in Agriculture, Berkeley: University of California, unpublished paper.

(1956). Anyway, a few financial experts, such as Cheung (1969) and Newbery (1974), attacked the consistent concept of such a conflict of inefficiency, arguing that the claim is deceptive because an arrangement is willingly entered into by both the landlord and the inhabitant. Cheung (1969) noted that the proposed portion of private property rights assets is the equivalent of whether the landowner develops the property himself, uses farm land to do the tilling, leases his holdings on a fixed rental property, or provides the real gets back to his occupant. Walker and Ryan (1990) show in a research that sharecropping represented a decline of 18.7 percent and a significant decrease in the daily use of family and bullock work in India.

However, these definitions refer to a distortion of the framework for land residency, where the adequacy of elective land residency plans can not be investigated with regard to different kinds of land relationships. In 1996, Haque shows that in India there are 14 significant types of land relations with broad contrasts in their relative adequacy. Due to the absence of room, the subtleties could not be implemented here. The study shows that according to who leases and who rents the land for development, crop profitability changes. For example, it has been found that small-scale and marginal farmers leasing land from occupant land owners have nearly higher levels of gross efficiency than marginal and small-scale farms leasing land from non-attendant landowners. Net returns per hectare were, however, higher for the occupants in the latter situation. Because of varying lease terms, net returns generally shifted between different lands residencies bunch. Occupants get moderately lower returns under yield sharing plans than under fixed-item or fixed-money frameworks. Due to close control and arrangement of loans and different inputs by the landlords, the individuals who rented land under interlocking action courses had higher gross returns per unit of land than the others. This affirms the speculation of Braverman Stiglitz (1982) that interlinkages of credit and occupancy agreements will serve landlords as a screening system to classify efficient inhabitants. Yet, the level of misuse all things considered was likewise more prominent. Besides an ongoing report by Haque (2001) of the West Bengal occupancy circumstance shows that, *ceteris paribus*, because of the security of tenant farmers' residency, efficiency contrasts between proprietor worked land and sharecropped land have now pretty much vanished. Anyway the inquiry is whether we can record sharecropping tenures in any remaining areas on the West Bengal model, with the goal that tenant farmers have the important incentive to deliver more. Then again, to supplant inefficient

sharecropping, would we be able to endorse a fixed lease framework? Any lawful exertion to do so would probably fizzle and the development of the land-rent market would give the sign.

3.5.3 Poor Peoples' Access to the Land-Lease Market

Before Independence, Indian inhabitants were seen as powerless farmers who leased land for resources from either local landowners or non-attendant landlords. Anyway, the admission of vulnerable individuals to the leasing market has weakened after a while. Late National Sample Survey Organization (NSSO) changes (Table 3.2) indicate that in a few states, including Haryana, Maharashtra, Karnataka, Rajasthan and Punjab, medium-sized and enormous measured farmers (> 4 ha) represented around half or more of the all-out area leased in 1982-1992. In fact, the proportion of marginal farmers in the all-out rented land was as low as 7.0 percent in Rajasthan, 1.0 percent in Haryana, 5.7 percent in Punjab, 4.0 percent in Maharashtra, 8.3 percent in Madhya Pradesh and 7.3 percent in Gujarat during 1982-1992. Marginal farmers accounted for barely 16.3 percent of all rented land in 1992, given the nation in general, while t Marginal farmers, who needed more prominent admission to the rented land for their viability at the end of the day, really had almost no admission to such land.

Marginal and small-scale farmers in various states, including Assam, Orissa, Bihar, Kerala, West Bengal, Himachal Pradesh, Tamil Nadu, Uttar Pradesh and Jammu and Kashmir, currently have a slightly larger portion of the total rented land. Anyway, there is concern that the availability of leased land for small farmers will also decrease as the leasing strategy becomes liberal and market-driven agrarian advancement occurs, especially as open doors are gradually rising for non-farm work (either independent work or compensation business). In a relatively progressive state such as West Bengal, for example, it is found that marginal farmers lease land to large farmers in some areas during the rabid season to grow boron rice, vegetables, etc., requiring substantial investment. Market-driven growth dynamics would thus encourage greater access to the land-lease market for large farmers and will, in all likelihood, be iniquitous in nature. It was only if marginal and small farmers' job prospects could be increased that the net economic gain could be spread equally. A recent study of the situation of reverse tenancy in Punjab (Haque 2001) shows that this is a win-win situation for both the landowner and the tenant, as small farmers raise their income either by leasing out land and contracting out labour or by self-employment. Marginal farmers, especially in backward regions, may, however, be

alienated from land through large-scale reverse tenancy growth without any alternative or additional source of income.

Table 3.2: Share of various size-classes of farms in total leased-in area (based on operational holdings)

State	Year	Percentage share in total leased-in area by size class (ha)			
		≤1	1-2	2-4	>4
Andhra Pradesh	1982	12.69	16.40	28.53	42.37
	1992	20.20	24.40	29.20	26.20
Assam	1982	18.15	30.24	38.43	13.24
	1992	26.90	30.80	13.90	28.50
Bihar	1982	29.73	39.74	20.82	9.73
	1992	45.80	35.30	17.30	1.60
Gujarat	1982	7.87	2.26	11.27	78.55
	1992	7.30	7.30	43.60	41.80
Haryana	1982	3.83	4.24	32.97	58.97
	1992	1.00	2.40	14.40	82.20
Himachal Pradesh	1982	33.43	33.88	16.15	16.14
	1992	49.30	27.20	23.50	0.00
Jammu and Kashmir	1982	17.80	31.05	43.58	7.56
	1992	21.10	51.80	26.00	1.00
Karnataka	1982	3.56	11.17	23.25	56.29
	1992	7.00	15.70	12.40	65.00
Kerala	1982	57.72	18.69	2.83	20.76
	1992	39.00	30.40	13.50	17.20
Madhya Pradesh	1982	4.11	11.68	17.53	66.66
	1992	8.30	18.50	35.60	37.70
Maharashtra	1982	3.21	2.86	16.56	77.39
	1992	4.00	6.20	16.50	73.30
Orissa	1982	17.15	23.59	19.94	39.13
	1992	25.80	45.60	23.40	5.20
Punjab	1982	2.57	10.41	21.60	65.40
	1992	5.70	6.70	21.30	66.30
Rajasthan	1982	2.77	3.89	24.17	69.23
	1992	7.00	5.10	12.40	75.50
Tamil Nadu	1982	34.18	28.85	22.50	14.47
	1992	28.70	28.20	24.70	18.50
Uttar Pradesh	1982	21.46	28.49	27.76	22.07
	1992	26.60	31.10	25.20	17.10
West Bengal	1982	31.93	26.27	25.48	11.61
	1992	50.70	35.70	12.30	1.30
All India	1982	15.57	19.57	23.86	41.03
	1992	16.30	19.30	21.60	42.90

Source: Indiatat.com

3.5.4 Contract Farming

Sometimes contract farming is suggested as the alternative to the failure in pushing up the farm incomes of the farmers. Chand (2015) has conducted two case studies, one each in Punjab and Andhra Pradesh⁵⁰. To quote from his study, Table 3.3 shows that the contract farming helps to increase farmers' yields and income because of the high-quality seeds provided by the company and the assured market for the produce. Prior to Independence, the inhabitants in India were viewed as helpless producers who rented land from either nearby landowners or non-attendant landlords for resource. Anyway after some time needy individuals admittance to the leasing market has debilitated. Late National Sample Survey Organization (NSSO) adjusts (Table 3.2) indicate that medium-sized and enormous measured farmers (> 4 ha) represented around half or a greater amount of the all out region rented in 1982-1992 in a few states, including Karnataka, Haryana, Punjab, Rajasthan and Maharashtra. Indeed during the year 1982-1992, the marginal farmers proportion in the all-out rented land was as low as 7.0% in Rajasthan, 5.7% in Punjab, 1.0% in Haryana, 8.3% in Madhya Pradesh 4.0% in Maharashtra, and 7.3% in Gujarat. In 1992, marginal farmers represented scarcely 16.3 percent of the all out rented in land, considering the nation in general, while their offer was as high as 60%. At the end of the day, marginal farmers, who required more prominent admittance to rented land for their feasibility, really had next to no admittance to such land.

Marginal and small-scale farmers actually have a moderately bigger portion of the complete rented land in various states, including Bihar, Assam, West Bengal, Orissa, Tamil Nadu, Jammu and Kashmir, Kerala, Uttar Pradesh and Himachal Pradesh. Anyway there is worry that the availability of rented land for small farmers would additionally decline as leasing strategy gets liberal and market-drove agrarian advancement happens, especially as open doors for non-farm work (either independent work or compensation business) are growing gradually. This was possible because the VST (NPL) offers not only seeds but also other inputs on a credit basis if necessary. Since the company takes care of the capital and technology needs of the farmers, it has allowed even small and marginal landowners to enter into contractual agreements. The VST (NPL) model appears to be replicable, whereas the Punjab contract farming model, as

⁵⁰Haque, T. (2003). Land reforms and agricultural development: Retrospect and prospect. *Institutional Change in Indian Agriculture*, NCAP, New Delhi, 267-284.

practised by Hindustan Lever Limited, is not easily replicable in large parts of the country in the absence of an effective institutional system to provide small landholders with credit, technology and other inputs. Second, the Punjab contract farming allowed the giant farmers to grow land to the maximum extent possible by leasing land from marginal and small farmers. By comparative occupancy, the small farmers were distanced from the soil. All in all, all the while, nature has been iniquitous. Nonetheless, VST (NPL) contract farming appears to have advanced value, from which small farmers have also gained.

Table 3.3: Average per acre income of contract and non-contract farmers

Company	Crop	State	District	Net income of contract farmers per acre (Rs)	Net income of non-contract farmers per acre (Rs)
Hindustan Lever Limited	Tomato	Punjab	Amritsar	20,000	10,200
			Hoshiarpur	9,940	6,440
			Jullandhar	13,000	6,825
			Kapurthala	14,535	8,075
			Ludhiana	8,125	5,600
			Nawamshahar	11,040	7,200
			Phagwara	11,375	6,340
VST Natural Products Limited	Cucumber	Andhra	Karimnagar	4,500	3,200
		Pradesh	Mehboob Nagar	5,200	4,500
			Medak	4,100	3,400
			Nalgonda	4,800	4,200
			Ranga Reddy	5,400	5,000

Source: indiastat.com

Thirdly, albeit in both Punjab and Andhra Pradesh there is no lawful system for contract farming, in Andhra Pradesh there was no penetrate of agreements from one or the other side, while in Punjab the two sides detailed a break of agreement. In any case, legalizing contract farming can help secure the two players' interests and make a solid connection between the organization and the agreement farmers.

Fourth, since a guaranteed farm produce market inspires a farmer to go into an agreement with a business, the prepared results of the organization ought to have comparative market possibilities. At last, it is the achievement in the homegrown and/or international market of the organization's item that determines whether it will sustain contract farming for a particular yield or ware.

It is likewise fundamental for the public authority to establish an approach climate helpful for the advancement of agreement farming by public and international organizations, through the foundation of a fitting lawful, political and administrative framework and the essential infrastructure. Moreover, the public authority needs to guarantee that agreement farming, which will in general advance monoculture, doesn't expand past extent in request to wreck biodiversity and horticultural nature. Maybe albeit no such dangers are obvious to date in the two cases examined in request to forestall such projections later on the important guidelines for land use planning in every locale ought to be given. In addition to Pandiyan (1996) and Reddy (1997), the enormous scale of corporate farming conveys the potential risk of one or the other purchasing or leasing land from many vulnerable farmers to confiscate it.

It has been argued that its significance has not been outlasted by land change. Since Independence, tenure changes have yielded some sure outcomes, but not dynamite. Karnataka residents and 'bargadars' in West Bengal, in particular, have dramatically improved their land profitability and income over the years. Due to a shift in tenure, the profitability gap between owners of operating land and shared land in West Bengal and between resident occupants and traditional owners has also vanished. It is also unclear whether the tenure permit will increase the admission of needy people to land by promoting large farmers to rent land and take up non-farm business without adequate infrastructure and strategy. In addition, market-driven growth would generally advance converse tenure without offering any elective wellspring of work that would alienate marginal farmers from the soil. Leasing advancement should therefore only be allowed within ceiling limits to enhance admission to rented land for needy people. Whereas contract farming game plans was useful in providing the vital reverse and forward links with the rural and agro-processing sectors, efforts should be made to empower contract farmers to profit. In reality, small farmers need more credit and innovative assistance through contract farming. Likewise, the

unwinding of ceiling laws may not really advance wider horticultural growth. In fact, eliminating mechanical and infrastructural constraints is of more notable importance.

3.6 Land Reforms

Land reform, a deliberate shift in the holding or ownership of agricultural land the methods of cultivation used, or the relationship between agriculture and the rest of the economy. Reforms such as these can be announced by a government, or by revolt, or by interested organisations. We need to discuss the issue of land reforms, since our insitutional structure neighter created economic holdings nor prevent marginalization of economic holdings into non-economic small parcels.

Over time, according to the variety of roles performed by the land itself, the meaning of land reform has varied: as a development factor, a store of value and resources, a sign of prestige, or a source of social and political power. The value of land represents its relative scarcity, which typically depends on the ratio in the market economy between the area of useable land and the size of the population of that area. As the per capita land area declines, the relative value of land increases, and land becomes more and more a source of tension between economic and social classes within the city.

The agrarian arrangement was developed by the United Nations in 1951 as the formal framework of agricultural development. Does this include land ownership, the legitimate or customary arrangement under which land is held, in the first place? Allocation of possession of farm property between vast estates and peasant farms or between peasant farms of varying land tenancy sizes, loan agreements, output and selling arrangements, arrangements for controlling the land and dividing the commodity between the operator and the owner? The system by which agriculture is supported, the pressures imposed by governments in the form of taxes on the rural population? And the resources offered by governments to rural areas, such as professional advice and training centres, educational services, sources of water and connectivity. (The 1951 Land Reform)

Land provides a huge basis for social distinctions in an agricultural society. Those who own land not only enjoy a higher quality of life than those who don't pawn it, but because of the

scarcity of land, the former will exert direct control over the survival of the latter. Therefore, ownership is a vital element in the framework of agrarian society. It is seen from the agrarian framework definitions given above that land is the core focus of most definitions. The agrarian structure of a nation may therefore be assumed to be a connected portion of different areas of land, such as the allocation of land ownership etc. Perhaps for this reason, in the study of agricultural structure as a starting point, Andre Betellie considered land ownership, control and usage. (Betellie, 1974)

The way economies adapt to productivity growth in the agricultural sector has been and continues to be a key problem in economic development. [R]evolutionary changes in agricultural productivity are an important prerequisite for a successful start [because] the modernization of a society rapidly increases its agricultural product bill."[R]evolutionary changes in agricultural productivity are an essential condition for a successful start [since] the modernization of a society rapidly increases its agricultural product bill" (Rostow 1990). Many academics have suggested that growth in agricultural productivity, primarily centered on the experience of the British industrial revolution, is a required pre-requisite for production expansion and overall economic growth. In the 20th and 21st centuries, where economic growth could be less reliant on local demand, the truth of this traditional wisdom is doubtful (Nurkse, 1953).

Recent analytical work has centered on the country's variance in agricultural productivity and has found a marginal or negative correlation between agricultural productivity and non-agricultural growth. The ramifications of these regional dynamics, the topic of Rostow and its contemporaries, for national development, however, remain uncertain. Models of Canonical Systemic Change show that the sub-national and national consequences of agricultural productivity development may vary significantly. For instance, Matsuyama (1992) argues that in closed economies, growth in agricultural productivity induces growth, but not in accessible ones. If modern nations, like England in the 18th century, mimic closed economies more closely than regions inside countries, inside-country and country-level studies of growth in agricultural productivity which come to opposite conclusions. Alternatively, modern countries' integration of

exchange and access to global markets may contribute to a national-level relationship between agricultural productivity and systemic change based on the wisdom obtained⁵¹

3.7 Importance of Agrarian structure

The main economic asset for the world's rural poor is the Land. For the rural poor and some of the urban poor majority, agriculture is the primary source of income (Lipton 2009,). In the developing world as well, land serves as social security. It not only provides jobs and income, but also support, a place to live, care for health and age and security for future generations (Thiesenhusen 1989). Land ownership-related property rights and tenure security are also critical for rural well-being, investment, and mobility.

3.7.1 Agrarian Structure, Poverty, and Inequality

Where the land and property rights of a small number of large landowners are poor for smallholders, poverty and injustice are greater and difficult to improve. Most Latin American nations have been characterised by extreme social and economic inequality based on the skewed distribution and use of land from the time of colonisation until the early 20th century. More than half of Latin America's population was rural until 1960. Yet the vast majority were poor rural workers. In most countries across the region, the poorest half of rural workers typically own less than 5% of the land. By contrast, the landed elites were very powerful. Typically, the wealthiest 2-3 percent of large landowners control ownership of most of the land of a country. Landed elites have also used their power to influence the conduct and even the movement of rural workers living on their estates (Baland and Robinson 2008, Barraclough 1973).

Singh, J. P., 2006⁵², in their study, noted that land tenure and agrarian structure largely determine agrarian relations. The comparison of the distribution of the number of holdings and

⁵¹ Murphy, Shleifer & Vishny (1989), agricultural wealth spurs industrialization by generating demand for manufactures. It is unlikely, however, that there is a tight relationship between supply and demand of manufactures within local areas or countries that are very open to trade. 20th century economic growth in countries like South Korea and Taiwan was not driven by local demand for manufactured goods, but predominately by foreign demand and exported growth.

⁵²Singh, J. P. (2006). Changing agrarian relationships in rural India. *Indian Journal of Agricultural Economics*, 61(902-2016-66796).

the region by farm groups between ownership and operating holdings in 1992 reveals that only in the case of a marginal group is the number of operating holdings significantly lower than that of the ownership holdings. The sharp decline is attributed, among other factors, to agrarian distress, the non-viability of a large part of the assets, the need to look for alternative employment avenues and indebtedness. In agriculture, tenancy represents the demand and supply status of the land and its terms and conditions. In states experiencing agricultural growth, the tenancy phenomenon appears to be high, while sluggish agricultural performance has been shown in states with a relatively low tenancy rate. In addition, the most important lease terms in less developed states are found to be share cropping. In developed states, land leasing for fixed cash rent is more prominent. The owned and leased land profitability in cultivated land varies widely because of the much higher cost of leased land cultivation due to the inclusion of rent in it.

3.7.2 Agrarian Structure, Education, and Migration

Educational attainment has historically been lower where landholding inequality is high (Galor et al. 2009). Smallholders, tenants, and wage laborers in rural economies where landholding is concentrated have typically faced steep barriers to accumulate enough land or capital to save, invest, and send their children to school where they could be trained to work in more dynamic economic sectors (Cinnirella and Hornung 2016, Galor et al. 2009). Land concentration also historically hampered freedom of movement and freedom of choice on the part of rural laborers to access schools (Griffin et al. 2002, Rueschemeyer et al. 1992).

Weak property rights security also encourages families to remain in rural areas lest they lose their land to counterclaimants while migrating to urban areas or other countries. However, if families are large enough, property insecurity can actually encourage migration for reasons tied to poverty.

3.7.3 Agrarian Structure, Rural Investment, and Land Markets

A large literature demonstrates that well-established and secure property rights are critical for the functioning of rural land markets, generating incentives to invest in agricultural production and infrastructure, and the rise of access to private credit (e.g., Deininger et al. 2004, De Soto 2000, Rajan and Zingales 2003). Secure land access also supports the accumulation of human and physical capital (Besley and Burgess 2000, Galor et al. 2009). This is therefore

widely conventional that property rights, even if not always formal or individual, strongly support the efficient exploitation of land (Demsetz 1967, Feder and Feeny 1991).⁵³

By contrast, weak property rights have a deleterious effect on investment and rural land markets. Investment in the land and in improvements is lower since untitled land cannot be used as collateral to obtain loans from private banks. Weak property rights also stunt rural land markets. On the one hand, buyers are more reticent when they cannot be sure that they can protect their land from counterclaimants. On the other hand, it is difficult to obtain a mortgage without a land title and therefore it is more difficult to purchase land.

3.8 Trends in Agricultural Production and Productivity: An Inter-State Comparison

During India's independence, the rural area was the most dominant area, both regarding its commitment to the GDP and as far as providing work for the workforce of the nation. In the international perspective, Indian agriculture has left a strong imprint. India is presently holding second position in the world after China in production wheat, rice, ground nut, fruits and vegetables, sugarcane and cotton. In terms of production of pulses and jute and fibre, India holds the first position. However, in terms of inter-country comparison of productivity, India is lagging much behind. Among fourteen major rice producing countries, 2007, India achieved 13th position in terms of productivity (3370 kg/ha). The highest productivity in rice production was achieved by Egypt having productivity of 9731 kg/ha, U.S.A holds the second position with productivity of 7672 kg/ha. The productivity of wheat production of nineteen major wheat producing countries when compared, India is positioned at 11th position. The highest productivity in wheat production was achieved by U.K. (8281 kg/ha) followed by France (7101 kg/ha), Egypt (7101 kg/ha), China (4762 kg/ha) respectively (FAO, 2007).

With the decrease in the share of agriculture in the gross domestic product (GDP) and the steady rise in the share of industries and services, Over the years, the Indian economy has seen a systemic transition. Although share of agriculture decreased from 55.1% in 1950-51 to 17% in 2008-09, the reliance of rural workers on agriculture did not decrease in proportion to the share of agriculture in the GDP. 72% of the populace and 76% of the labor force were rural,

⁵³ The importance of land formalization and individual ownership in securing property rights is an area of much more active debate than the importance of property rights themselves. See, e.g., Brasseur, Gaspart, and Platteau (2002).

notwithstanding being delegated one of the quickest developing economies on the planet (Reddy & Mishra, 2008). Unlike developed countries, India failed to transfer her labour force from agriculture to non-agricultural sector, more precisely to manufacturing sector. India also failed to increase agricultural productivity and income (Gollin et al., 2002). Manufacturing sector in India experienced volatility in its growth rate and share of manufacturing has never exceeded 15 percent of GDP. As a result, income differential between agricultural sector and non-agricultural sector has been widening (Chand and Chauhan, 1999).

The agricultural performance and the fortune of agrarian community in India largely depend on the vagaries of monsoon. In spite of the efforts of building irrigation network initiated by the British during the 1920s, cultivation of 80 percent of the net sown area continued to depend on rainfall even after independence. As a consequence production and productivity continued to remain low. Such experience speaks for the absence of any sound agricultural policy in colonial India.

3.8.2 Agricultural Policies in post-Independence Era (1947 to 1960)

Agricultural policies assume paramount importance in post-independence India. If one of the basic minimum goals of a sovereign nation is to achieve self-sufficiency in food production, then economic wellbeing of two-third population of the country is equally important because they are deriving their livelihoods directly or indirectly from agriculture. India, immediately after independence, was mostly preoccupied to bring in institutional changes in the agrarian sector and the growth in production and productivity did not receive adequate attention till the 1960s. Raising public investment in irrigation also received attention because it was identified as prime carter of farm growth at least in the First Five Year Plan and 20 percent of the lay out plan was earmarked for the irrigation. However, the allocation on irrigation, continued to decline since Second Five Year plan and onwards. The slow growth of irrigation contributed to the slow growth in productivity in Indian agriculture. Therefore, between 1949-50 and 1964-65, the rise in production was mostly driven by rise in area under cultivation (Narain, 1977; Vaidyanathan, 1986).

3.8.3 Crop Diversification at all-India Level

After evaluating the crop wise growth pattern, the changes in the cropping pattern needs to be examined. The given circumstances for Indian agriculture were that first, she has to feed ever rising population, second, rapid urbanisation is usurping agricultural land and third, farmers need incentives to stay with agriculture and for that reason either agriculture has to be remunerative or viable alternatives ought to be available with the farmers outside agriculture. A close look at the changes in cropping pattern (Table 3.4) from 1970-71 to 2007-08 reveals that area in gross cropped area (GCA) under food grains has declined from 75.54 percent to 63.52 percent. However, this decrease was chiefly because of decrease in the area under coarse cereal cultivation and, as a matter of fact, the area under coarse cereals as a percentage of GCA decreased by 13.34 percent between 1970-71 and 2007-08. During the same period, a marginal fall was observed for rice and for wheat area under cultivation as percentage of GCA has increased by almost 4 percentage points. For cereals, a marginal fall was also observed. The area covered by non-food grains was also found to have increased during the study period. Oilseed, fruit, vegetable and non-food crop cultivation increased between 1970-71 and 2007-08 by 4 percent, 2.86 percent and 7.02 percent, respectively. It is also very possible that farmers would move from coarse cereals to high-value crops, which would contribute to an improvement in farm income. The favourable business environment for soy foods high in refined oil and protein, as Srinivasan (2005) pointed out, may have contributed to a rise in the allocation of areas for oilseeds. However, commercial crops like cotton and sugarcane did not show much improvement in area allocation.

Table 3.4: Share of Area under Major Crops of India (percentage of GCA)

Crops	TE 1970-71	TE 1980-81	TE 1990-91	TE 2000-01	TE 2007-08
Rice	23.02	23.18	23.00	23.82	22.57
Wheat	10.42	12.98	13.04	14.28	14.18
Coarse Cereals	28.42	24.25	20.48	16.17	15.14
Total Cereals	61.93	60.41	56.53	54.27	51.88
Total Pulses	13.50	13.23	12.94	11.49	11.93
Total Food grains	75.54	73.67	69.47	65.32	63.52
Total Oilseeds	9.85	10.11	12.51	12.96	13.93
Groundnut	4.42	4.14	4.64	3.68	3.20
Cotton	4.70	4.27	4.08	4.70	4.68
Jute	0.42	7.1	0.39	0.45	0.41
Total Fibers	5.41	5.08	4.64	5.27	5.10
Sugarcane	1.62	1.62	1.90	2.23	2.47
Tobacco	0.27	0.25	0.22	0.21	0.19
Condiments and Spices	1.04	1.23	1.32	1.52	1.55
Potato	0.31	0.43	0.51	0.69	0.76
Onion	-	0.14	0.17	0.24	0.36
Total Fruits and vegetables	2.24	2.77	3.57	4.35	5.10
Fodder Crops	4.15	4.50	4.59	4.55	4.26

Source: Calculation based on data collected from Directorate of Economics and Statistics, Government of India

India has achieved self-sufficiency in food production at the macro level, but has also faced a high percentage of malnourished children and rural poverty high incidence. High rural folk proportion (more than 70 percent) as a percentage of total population are confronting declining share of national income/product. No significant improvement has been observed in the rural non-farm sector employment (Reddy & Mishra, op.cit.). Since early 1990s, more precisely after the adoption of neo-liberal path of globalization, rural India has become a cause of concern with the continuing rise in rural-urban disparities (Bhalla, 2005). Ever after structural reforms were implemented; there has been a substantial increase in landlessness among the rural population in India (Reddy 2006a). This indicates that the casualisation of the rural workforce and engagement in low-paid works is on the during the reforms period (Rao and Hanumappa, 1999). The hole between the food grain creation development rate and populace development is likewise narrowing. The population has risen at a rate of 1.64 percent from 2000-01 to 2007-08, and food grain has grown at a rate of 2.1 percent, suggesting that hard-to-reach food self-sufficiency is also now at risk.

3.8.4 Inter-State Comparison of Growth of Major Crops in India over Different Sub Periods

India is a vast country with high degree of variation in climate and resource endowment. Before getting into detailed discussion on inter-state comparison of growth of major crops, it becomes imperative to provide classification of production by agro-ecosystem in India. Agro climatic condition is the key determinant for the crops to be grown in a particular region. India has been divided into five agro-climatic regions: arid, coastal, irrigated, and rained and hill and mountain. Heterogeneity in agro-climatic condition may occur within a state or within a country and therefore, it also brings variations in the nature and type of crops produced within a state or country. The following table (Table 3.5) will provide us with systematic information on various crops grown in various states falling under above mentioned agro climatic zones.

However, for crop-wise and state wise analysis of growth, geographical categorisation of states will be used. For this, India has been divided into four regions: North-Western India that includes Himachal Pradesh, Haryana, Punjab, Uttar Pradesh and Jammu and Kashmir; Eastern India comprise Bihar, Assam, Orissa and West Bengal; Central India consisting of Gujarat, Maharashtra, Rajasthan, and Madhya Pradesh and the Southern Region includes states of Andhra Pradesh, Kamataka, Kerala and Tamil Nadu. Regional variation in cropping pattern and growth of crop output is considerably impacted by variation in climate and moisture adequacy including irrigation. In addition, it can safely be presumed that rising population and rapid urbanisation and industrialisation is putting huge stress on land and water resources. Against this backdrop, we would analyse the inter-state changes in the cropping pattern and growth of some important crops in India.

3.9 Emerging Trends and Patterns of India's Agricultural Workforce: Evidence from the Census

Rural Development Report 2012-2013 of India states that rural economy in India is undergoing a “sweeping change” because of the inconvenience of its declining dominance by various newly emerging advancement powers. This shift is the product of the relationship between agribusiness and other economic, social and social variables. With new chances and measurements, it prepared for the existing agrarian structure. Also, just proof capturing the effect

of the change brought about by the dynamic interaction of farming with different areas can be checked. Subsequently this study presents an investigation of the adjustment in the labor force example of the agrarian area. The paper's main intention is to understand the move from the idea of primary change. An agricultural workforce adjustment investigation will show progress and pursue the underlying measure of change in Indian agribusiness, as its effects are not limited solely to rural landscapes, but in addition to the economy and the world in general. As of now, by basically dissecting a portion of the basic work related factors in rural India since the 1980s, the study just accepts work as the reason and effect of progress in rural social orders. Such audits would accordingly reveal insight into the varieties and examples in request to introduce the different emerging examples. Work information is gotten mainly from the populace registration distributed somewhere in the range of 1981 and 2011 by the Government of India.

3.10 Summary:

The contribution of agriculture to GDP during the days of independence was 70 percent. But it is not given sufficient priority to be anxious to develop other sectors of agriculture. There was a steady decrease in agriculture in public investment during the reform period of the 1980s. In recent times, a high food inflation of 18 percent has been recorded because of this. Failure to reform agriculture would undermine the true development of the country, as most of the country still depends on agriculture.

India, with in excess of 50% of its populace in the 15-59 working age gathering and 34.8 percent in the 15-34 age bunch according to the 2011 Census, profits by the segment profit advantage. India's populace development has eased back down to 1.6 percent. Anyway the development pace of the workforce has increased to 2.8 percent with a positive segment profit.' The segment patterns indicate that both the age and size structure of the populace will in general change after some time in light of the idea of the segment progress. Thusly, a more careful investigation old enough and sexual orientation would uncover a more noteworthy message.

All over the world, financial and innovative frameworks are changing rapidly. In developing nations, however, the intensity and effects of these advances are more expressed. While advances in trade and the developing economies integration with the rest world have starts new paths for development, homegrown frameworks have been presented with intense

competition, just as the emergence of another system of incentives and institutions has opened up. Market influences are needier, and patterns in world business sectors will to a great extent influence rivalry and incentives. In this emerging situation, we need productive associations and an exceptionally evolved information framework in request to link the homegrown framework to the world market, to screen advancements on the planet markets and to give the correct signs to the compelling association of financial exercises and the assignment of assets. The essential target is to give simple admittance to worldwide business sectors and assets, including innovation, for homegrown entertainers in developing nations, and to improve market access for homegrown institutions.

Chapter 4:

Changing Agrarian Structure: Field Observations

Telangana villages have undergone considerable change in the past fifty years (Reddy, 2008). Most villages had very skewed land distribution; land ownership was with upper caste landlords. The land transfers have taken place in three modes. First, most landlords have sold their lands for consumption purposes. Sometimes, in some regions, increased rural political unrest made several to sell away their lands. Second, government has distributed forest lands, waste lands and common lands to the poor in terms of assigned lands. It has given puttas for even occupied lands. Third, land got subdivided among families. All these three processes led to rise of dominance of small and marginal farmers. We have noted this in the three study villages that we narrate in this chapter. We have done a sample study, by picking one village randomly in (the erstwhile state of) united Andhra Pradesh, each picked up in the three of the regions of the state each, namely Telangana, Rayalaseema and Coastal Andhra, as popularly considered as the three distinct socio-economic regions of the state. The primary data covers land holding pattern, production and farm incomes. Before we present the data on the villages, we first provide the social and historical profile of the three villages in the following, before we go into the sample study.

4.1 Socio-Economic Description of Sample Villages:

4.1.1. Achampeta, (Yeldurti mandal), Medak district

Achampeta is a smaller village in the Medak district with Mandal headquarters at Yeldurti, which is part of the Hakeempet panchayat. The nearest town is Toopran, 11 km away. Achampeta has a population of 889 with 189 households.

The village has an area of 2,000 acres, of which only about 35% is cultivable. Due to lack of rainfall, just 23 per cent has been cultivated over the last two years. The village has an ayacut

of 450 acres under a canal from Hakeempet irrigation system; however the canal did not receive water even once in the past decade. Apparently, due to the building of check dams on minor rivulets, the village tank has not obtained enough water for the last decade and has thereby increasing the percentage of fallow land to 75percent. The village, mainly irrigated by bore wells, has around 154 bore wells, each with an average irrigation rate of 1.5 acres during the Kharif season and 1 acre during the Rabi season.

The village has an Anganwadi and a primary school. Despite having benches, students are forced to sit on the concrete. Besides having four public taps, the village has an overhead tank which provides its households with water. High levels of fluoride decrease the consistency of drinking water and only those who can afford to purchase filtered water capsules, buy them from neighbouring towns. The village has few street lights and all households have sewage disposal systems that have been installed with the assistance of Rs.2500 per household scheme. The population of the village consists of twelve castes, namely Reddies, Brahmins, MunnuruKapus, Padmasali, Vanjara, Gouds, Muthrasi, Yadavas, Mangali, Chakali, ValiyaDasari, Mala and Madiga. Vyashyas have recently left the village.

In the 1930s, 90% of the property was owned by a wealthy landlord. The majority of the land was owned by the Brahmins, the padmashalis, the munnuru kapus, and a little by the scheduled castes. By the 1970s, lands under the landlords were shifted in limited numbers to munnuru kapus, vanjara, padmashali and others who have served mainly as bonded labourers for decades. During 1950-80, landowners belonging to Reddies, Brahmins, Vaishya and Padmasali owned more than 10 acres of land cultivated with the help of bonded labour.

The village had a population of 800 people, of which 250 are workers. 90 percent of the bonded labour belongs to scheduled castes and backward castes that are landless. All the bonded labour was trapped in the debt bondage, where the loans taken at high interest rate could never be repaid from the meagre wages. For example, a labourer borrowing money from the landlord to pay bride dowry (Rs.90) would be forced to work round the year in deplorable conditions having only *gatka* or *ganji* (soup made with maize or jowar) for two times a day.

The landlords lived in old style houses with mud and mortar with tiled roofs whereas the labour that belonged to scheduled castes and backward castes lived in thatched huts and shacks, while the rest had pucca houses. The debt driven bondage continued till early 1980s.

Three important things which enabled the poor to be completely free from Bonded labour. Firstly, the newly formed Telugu Desam government gave a public call to end the attached labour system. Late Sri S.R.Sankaran, a popular and socially conscious IAS officer, who drafted the Bonded Labour (Abolition) Act 1976, has taken strong initiative to take legal action against landlords in Medak district for employing attached labour under debt bondage. Secondly, rumours spread that the government planned to transfer 25 percent of the landlord's lands if he employs attached labour. Thirdly, landlords who wanted to sell some of the lands for consumption purposes and marriages preferred to sell them to the erstwhile bonded labour, so as to earn their gratitude and continue to work for them as casual labour.

In conclusion, labour have not only been emancipated from the bonded systems, but also soon started purchasing lands through their wage incomes. Thus Muthrasis, malas, madigas, and chakalis emerged as marginal and small farmers.

Meanwhile, in 1987, the government acquired some lands by imposing a land ceiling act on the landlords who were possessing more than 50 acres. Along with the waste lands, the surplus lands were distributed to all the scheduled castes and backward castes. The village represents the decline of semi-feudalism and emergence of peasant commodity production.

4.1.2: Pulimaddi, (NandyalMandal, Kurnool District)

Pulimaddi is a sleepy village in the Nadyalmandal of Kurnool district, situated 10 km from the latter. Having a population of 1790 with 439 households, it's a very old village, possibly over 400 years old belonging to Vijayanagara period as suggested by a Temple encryption in the village. The village still has houses built completely by granite stone including the roof, walls and the basement, with facilities to house even the cattle within the house in the living hall where people sleep and live. Houses have stone pillars with carvings like in temples. All houses will be juxtaposed to each other, possibly structured to provide security from marauders.

The village has about 2000 acres of agricultural land and even now 900 acres is held by *Reddies* who are the dominant caste, while backward classes (castes) own about 300 acres and scheduled castes (Malas) own 600 acres. *Reddies* who once owned about 1500 acres have disposed much of their lands, which are acquired by Malas, Chakalis, boyas. Madigas and Muslims have no lands. Further, *Reddies* have leased out much of their lands to lower castes.

The landholding structure is little skewed, we found at least 5 big landlord families who own 70 to 100 acres (however, part of the holdings are held in neighboring villages inherited from maternal or spousal side). We found many semi-middle farmers owning about 20 acres, even among scheduled castes. This village had a faction war history, which was typical to *Palegar* culture of Rayalaseema. Meanwhile, *dalits* began withdrawing from these feuds, converted to Christianity, worked hard as labour and managed to buy land from landlords who were selling in 1980s and early 1990s. *Dalit* families have managed to purchase about 200 acres in the village, bought drought cattle and later tractors under joint ownership. Further they leased in lands from *Reddies*, Jangams, other BC castes. Today, *dalits* have emerged as a peasant class to reckon with in the village. *Dalits* thus bought some economic, political and spiritual space of the village life. To summarise, the system of palegar faction culture broadly transformed into some kind of landlordism, that sought dominance and loyalty rather than pose any feudal exploitation.

The village, even though it falls in the Kurnool-Cuddapah canal area, is a tail end village and hence does not get any water and hence is rainfall dependent. However, the village has Small River called Kunda that runs past the village, but the lands are on an elevation. Some of the farmers manage draw water through lifting the water through laying temporary pipe lines up to 500 yards and pump sets. Even this dries up by February as it is over exploited. This irrigation covers some 20 percent of the land; the rest of 80 percent is purely rain-fed irrigation. Therefore the village has to go for dry land crops. Majority of cropping is done under Bengal Gram, which can survive even with one rain shower and moisture in winter. It is planted in the month of October and is a 90 day crop, which gives a yield of 5-7 quintals per acre. In the 20 percent of the land which can have access to lift irrigation, they plant cotton, tobacco, groundnut and red gram. The village has little vegetable production.

4.1.3 Kalavapamula, (Vuyyuru mandal, Krishna District)

Yadavas constitute 7 percent and Goudas make up approximately 3 percent of the 10 percent backward classes (castes). Scheduled castes constitute 40 percent of which Madiga constitute 60 percent and Malas constitute 40 percent of Scheduled Castes population. Kaluvapamula is a noisy village located in the Kankipadu-Gudivada district of Krishna in Andhra Pradesh, 40 km from Vijayawada. The village has a population of around 3500 and officially has about 80 per cent of the formal literacy, which is not a real testament to casual inspection. The dominant peasant caste in the village is Kamma, which makes up 35 per cent of the households, while Brahmins and Vaishya are the other upper castes which make up around 5 per cent of the households in the village. *Kammas* are the economically and politically strong section, who own about 1500 acres out of 1789 acres of the cultivated land in the village. S.Cs own about 100 acres and the rest 189 acres by the *Yadavas, Gowdas, and Brahmins*.

The village is believed to have formed about 300 years ago. According to an old Brahmin teacher in the village, this village was established by 7 families belonging to Kamma, 2 Brahmin and 3 Madiga, and most of the family names belong to them. According to him, the Kammas served as transporters to the Nizam army, and later to the British army. In the 1840s, the village got a canal from the Eluru Canal under the Cotton Barrage on the Krishna River. The total cultivated land provided by canal irrigation has increased to 1780 acres and has remained the same since then. Over time, a number of other Kamma families have come from Guntur to live in the village. Half of the land of the village was under ryotwaripattas and part of the land was under Nuziveedu Zamindar. The village had two Karanams. In the 1940s to the 1960s, Brahmins sold much of their property to Kammas, and even those lands disposed of by others were inherited by the Kammas. Real land ownership involves a fluid distribution between the inhabitants of the village and the outsiders, forming through sale, dowry and mutation. The early political history of the state resonated in the village as well, many educated young Kamma families entered the Communist Party of India in the 1940s. Their presence was centred in Telangana, and they did not seem to have organised much in their own villages except to organise soup kitchens (*ganjikendralu*) for the needy during the dry seasons.

The village grew jowar and millet until the British constructed the canal and then started to develop paddy under a fully commercialised scheme that lasted more than 100 years.

This made a significant distinction between Kamma peasants, who managed to purchase more land and bring more families from the Guntur district. Brahmins, who were absentee landowners, sold their shares and migrated to urban areas by 1950. Furthermore, in 1939, the sugar factory in Uyyuru, known as the KCP Sugar Mills, was established by foreign-retained engineer Velagapudi Ramakrishna, financed by Nuziveedu and Challapalli Zamindars. In the 1940s, the corporation proposed a contractual purchasing deal in Kaluvapamula. Because sugar cane sowing takes place in January, the crop requires water for 7 months in winter and summer. Kaluvapamula's two tanks were initially supplied with diesel engines as early as 1949 and some 200 acres were planted under sugar cane, and Cane was transported to Uyyuru using bullocks by farmers. Sugarcane is a much more remunerative crop that has brought up some initial prosperity to some of the Kamma households. By the 1960s, bore wells have arrived. As canal water runs for a period of six months, groundwater is normally plentiful. Fitted with electric pump sets, the supply of water actually increased sugar production to 900 acres in the village and a greater segment of farmers became beneficiaries. The KCP factory promoted the production of sugar by providing a full subsidy for fertiliser and transport costs, in addition to remunerative costs. Migrant labour from Vishakhapatnam and the dry regions of Nalgonda was mobilised to cut the cane and engage in rice harvesting. Batches of labour are brought by giving advances and are lodged in the makeshift huts in the backyards of the landlords. Seasonal migrants from dry land held a check on incomes. This tradition, which started as early as the cultivation of cane in the area, continues to date. The supply of labour and cane licences provided by the factory remained the only constraints for the development of the sugar cane in the midst of unrestricted water supplies. Traditionally, cultivation by Kamma landlords relied on the 'Paleru' (attached Labor) system. Each landlord used to have two principally attached labours named peddapaleru and chinnapaleru and their respective families. Peddapaleru is a senior agricultural worker, and Chinnapaleru is a junior helper.

Women and children in their households will also perform specific duties, such as buffalo grazing, cart feeding, oxen feeding, milking, household work, in addition to routine agricultural work. The wage rate was dependent on an annual payment, such as one putti (12 bags of paddy) to *peddapaleru* (chief servant) and three-fourth putti for the *chinnapaleru*, the servant apprentice, (in other words 8 to 6 quintals of rice for 12 years). This was supplemented by conventional patron-client relationships, including certain gifts at weddings and other

ceremonies. Debt bondage usually was the binding factor in chattel serfdom of palerus. Palerus belonged to Mala and Madigas, besides the yadavas. The structure started to relax in the 1970s, with working families demonstrating a willingness to send their children to school, increased budgetary demands, and landlords still showing a demand for cash wages (as an effective mechanism to reduce the real wage). As land reforms have completely failed to recognise and distribute surplus land, landlessness among irrigation-rich coastal districts is highest compared to rest of the state, especially among *dalits*.

To summarise, there is a considerable agrarian change, as we stated that in each of the villages in our introduction, we see land concentration coming down and increased small & marginal farmers. However, the Andhra village has greater tenancy and landlessness, while the dry villages of Rayalaseema and Telangana have less landlessness and lesser tenancy. The land transfers through sale, redistribution, subdivision and tenancy have contributed to more and more smaller peasantry entering into commercial farming.

4.2 Sample Size

Now we describe the sample study that we have undertaken that gives us specific information over land distribution, size-classification, caste-classification, production, costs, returns etc. The field study, conducted during Feb-June 2012, covered 458 rural households in the three villages. The coverage of sample households ranged between a minimum of 127 households to a maximum of 177 households in the three villages, which in percentage terms constituted 26-78 percent of the village households. On average it covered 40 percent of total households in three villages, which is a reasonably good coverage even statistically. The households are selected on the basis of stratified random sample, we first enlisted all households belonging to all castes then we randomly picked up the sample households. The coverage also was done within the means of time and resources possible for the study.

Table 4.1: Sample Size across Villages

Village	Total Households	Sample Households	% of HHs Covered
Kalavapamula	480	127	26
Pulimaddi	416	154	37
Achampet	228	177	78
Total	1124	458	41

Source: Field Survey

4.3 Methodology

The study would draw its data from secondary sources such as *Census of India*, *Agricultural Abstract*, *Report on Principal Crops*, *NSS*, *National Income Statistics*, etc. More significant, the essential proof would be 458 families in three towns in the areas of Andhra Pradesh, specifically Telangana, Coastal Andhra and Rayala Seema. Following the examination, the state was divided into Telangana and Andhra Pradesh. On a random delineated premise, around 40% of the population is chosen for all ranks in the towns. In addition, the investigation included an ethnographic record of the cities, the chronicled and financial foundations of the different groups, and their portability with quantitative data.

4.4 Ownership

According to 55th NSS round data, the number of landless households in rural areas was 56 percent for All India and 46 per cent for Andhra Pradesh in 1999-00. In our study, land ownership with its size classification ranges from 2 to 82 percent in the three villages across all three regions, namely Achampeta, Pulimaddi and Kalavapamula. [Table 4.2].

It is important to note that the lion's share of landed households today belongs to both marginal and small farmers. In the selected villages, we found that the share of the marginal and small holdings is 62 per cent, when the semi-medium households add up, their share is 81 per cent of the total holdings (including landless). In the village of Achampet, the marginal and small population is about 90%, while in Kalavapamula it is about 60% and in Pulimaddi it is about

42%. If we include semi-medium, which owns less than 10 acres, this bloc would make up 75-90 per cent of the peasantry in all the villages in question. The common experience of a field researcher is that the presence of traditional landlords in every village has become marginal and unrecognisable. One would only find hoards of small peasants who, together at the village restaurants in the morning, negotiate small loans with money lenders, then go to the local pesticide shop before they disappear into their fields. They would either reappear at the local liquor store or at the tea shop in the evening. In fact, the composition is so visible. The middle peasants and the large peasants have urban commitments and are rarely seen in the village.

Table 4.2 Land ownership and Size classification:

	Achampet	Pulimaddi	Kalavapamula	Average
Land Ownership (%)				
Landed HH	95	77	76	83
Landless HH	5	23	24	17
Size Classification (%)				
Marginal	59	18	45	41
Small	29	24	13	22
Semi-medium	10	27	21	19
Medium	2	25	19	15
Large	0	6	2	3
	100	100	100	100

Source: Field Survey

4.4.1 Operational Holdings

We now turn our attention our attention to another feature of the agrarian structure, which is the caste. The average holding of the upper caste peasant is 9.25 acres compared to 3.18 acres of backward caste and 3.02 acres of planned caste. The planned tribe is about 0.4 acres, and the Muslim is about 1. In the Kalavapamula and Pulimaddi regions, caste inequality is highest. To conclude the average size holding of upper caste household is about 3 to 4 times bigger than scheduled caste household and twice that of backward caste households on average (table 4.3).

Table 4.3: Average Size of Holdings across Castes:

	Achampet	Pulimaddi	Kalavapamula	Average
Ocs	5.9	12.19	9.68	9.26
BCs	2.8	5	1.76	3.19
SCs	3.2	4.5	1.38	3.03
STs	0	0	1	0.3
Muslims	0	3	0	1

Source: Field Survey

4.5 Production and Market Surplus

The production of Paddy in the Kharif season in the sample villages was followed by irrigation facilities. Kalavapamula, the village that can be considered irrigated dry, resources by bore wells, and Pulimaddi, the village that is totally rainfall based dry area, are the two villages that are covered under canal irrigation.

Paddy production is naturally high in the canal irrigated villages, followed by well irrigated bore regions. Paddy is therefore grown in the seasons, the Kharif and the short-lived Rabi variety. The Kharif crop, however, belongs to the finest and superfine varieties, while the Rabi mostly belongs to the common rice variety. The market surplus of paddy clearly depends on this as an aspect, with farmers preferring to retain part of Kharif's production for domestic consumption while fully disposing of the Rabi crop.

Two things emerge clearly when we look at the nature of production across the size categories. First as noted earlier, small marginal, semi-medium and farmers have increased in the agrarian structure as much as the land under them operated. Once upon a time, small farmers used to be subsistence farmers, mainly producing for family consumption.

In the past, the inventory excess of these groups was marginal. Second, their share of gross output was also small compared to middle or large farmers. To our observation in the country, things have changed considerably. First, the share of small peasants owning less than ten acres seems to have increased dramatically.

In total, the share of the marginal and small farmers is about 39% and the participation of the semi-medium farmers in the paddy-dominated villages is about 28%, making up approximately 67% together (Table 4.4).

Farmers are also striving for food security and in particular, marginal and small farmers, including those in dry villages, are cultivating paddy and retaining part of it for home consumption. In irrigated paddy dominated regions, the demand surplus of the size groups is higher, accounting for between 68 and 71 per cent and increasing steadily from marginal to big over-sized growers. Market surplus of size classes is higher, forming about 68 to 71 percent and gradually raised from marginal to large farmers over size classes. The demand surplus of medium and big farmers is over 90%. However, the demand surplus among marginal farmers in irrigated areas such as Kaluvapamula is around 80-84 per cent. As a demand surplus, small farmers generate more than 80 per cent.

As for the Rabi crop of paddy, all production of all kinds of farmers is marketed. This is because the varieties produced in Rabi belong to what is referred to as inferior/common varieties. This being a summer crop, much of it can't even be milled with a low moisture content. They are more suitable for par boiling and par boiled rice markets in Kerala and Assam, not Andhra Pradesh.

Farmers, therefore, also for domestic use, retain part of the kharifrice and sell Rabi rice. What is revealed in our study is that there is a definite departure from the subsistence nature of agriculture in the state. While semi-medium, medium and large farmers have been commercialised to produce higher market surpluses, they are no longer confined to this class, in fact marginal and small farmers produce substantial portion of their produce as marketed surplus (Table 4.5). First of all, as is the case with the increasing share of small, marginal and semi-medium farmers in the agricultural structure and the region run by them, there is a proportionate increase in their share of production as well as in the marketable surplus. This means that there is a significant shift in the practice of subsistence peasantry to small crop production in the agrarian structure.

Table 4.4: Production and Marketed Surplus of Paddy (Kharif)

	Achampet		Pulimaddi		Kalavapamula	
	P	MS	P	MS	P	MS
Marginal	1714 (30)	880 (51)	57 (31)	52.5 (92)	1560 (15.1)	1313 (84)
Small	1953 (35)	1535 (79)	0	0	856 (8.3)	790 (92)
Semi-medium	1112 (20)	945 (85)	82 (45)	41 (50)	2269 (21.9)	2177 (96)
Medium	866 (15)	806 (93)	0	0	4485 (43.4)	4372 (97)
Large	0	0	45 (24)	34 (76)	1170 (11.3)	1161 (99)
	5645 (100)		184 (100)		10340 (100)	

Source: Field Survey

Table 4.5: Production and Marketed Surplus of Paddy (Rabi)

	Achampet		Pulimaddi		Kalavapamula	
	P	MS	P	MS	P	MS
Marginal	66 (42)	66 (100)	234 (66)	234 (100)	974 (9.6)	974 (100)
Small	0	0	30 (8)	30 (100)	1061 (10.4)	1061 (100)
Semi-medium	90 (58)	90 (100)	0	0	2382 (23.4)	2382 (100)
Medium	0	0	90 (25)	90 (100)	4607 (45.33)	4607 (45.33)
Large	0	0	0	0	1140 (11.3)	1140 (100)
	156 (100)		354 (100)		10164 (100)	

Source: Field Survey

Paddy's production in Rabi is prevalent in the canal irrigated villages; we can see this in Kalavapamula, where the Rabi crop is 90% of Kharif's production. In irrigated dry villages, the production of paddy in Rabi depends on rainfall. As the year of field work is a weak monsoon year, most farmers in the irrigated dry Achampet village had to go for crops such as maize, redgram, sesame, groundnut, sunflower, etc. As a result, the Rabi output of paddy fluctuates along with rainfall, except in canal irrigated villages. In the canal irrigated villages, medium and large farmers accounted for 25-100 per cent, while the share of small farmers in Rabi production is relatively smaller than that of Kharif (Table 4.5). Perhaps better irrigated land for large and medium-sized farmers may be the explanation for higher Rabi crop yields. Some of the large and medium-sized farmers also have motor pump borewells.

In the past two decades, and even before that, there has been significant diversification of crops in the state. There has been a transition from food crops to non-food grain crops in the area and a shift from coarse grains to paddy grains in food crops. Traditional non-food crops in the state have been sugar cane, tobacco, mustard and cotton. Some of these, such as tobacco, mustard, etc., have declined in a number of regions along with food crops such as jowar, bajra, ragi, millet. While new crops, such as cotton and maize, have come to dominate over the last decade, new crops, such as soya, have entered the state's crop pattern.

It is interesting to note that, with regard to the cultivation of non-food crops concerned, many of which are dry land crops, some of which are investment-intensive, such as sugar cane and tobacco, while others are not, the marginal and smallholder share of these crops is high, comparatively medium-sized, and the large farmers are quite small. Moreover, while these classes have a significant share in the production of food crops, their share of non-food crops is evidently small, as can be seen from our evidence. Given the small nature of the sample, we would not dare to generalise, there seems to be a tendency to this aspect.

With the exception of soya, groundnut and redgram, the majority of non-food grain crops, such as sugar cane, tobacco, black gramme, sunflower, bengal gramme, turmeric, are dominated by medium-sized and large-scale farmers, sometimes half-medium farmers share a quarter of the production. Thus, the small peasantry seems to be aiming to combine the family's food security with the earnings of cash, and to contain more food crops that have more market stability than those with less.

However, this is only to say that their relative share is small, it does not mean otherwise. Indeed, a good proportion of semi-medium farmers are actually tenant farmers from small and marginal farmers, who are involved in the production of non-food grain cash crops such as cotton, maize, tobacco, soya, etc.

Table 4.6 Production and Marketed Surplus of Cotton, Sugarcane, Tobacco, Sunflower

	COTTON						SUGARCANE					
CATE GORY	ACHAMPET		PULIMADDI		KALAVAPAMU LA		ACHAMPET		PULIMADDI		KALAVAPAM ULA	
	Producti on	Market Surplus	Product ion	Market Surplus	Produc tion	Marke t Sur	Producti on	Mar ket Sur	Producti on	Mar keSu r	Produ ction	Marke t Surplu s
Margi nal	215 (10.7)	215 (100)	6 (4.3)	6 (100)	98 (19.4)	98 (100)	442 (81)	442 (100)	3 (40)	2.7 (90)	73 (14.2)	73 (100)
Small	374 (18.5)	374 (100)	1 (0.7)	1 (100)	97 (19.2)	97 (100)	92 (17)	92 (100)	0	0	105 (20.5)	105 (100)
Semi- mediu m	842 (41.7)	842 (100)	0	0	166 (32.9)	166 (100)	0	0	4.5 (60)	4.2 (93)	305 (59.5)	305 (100)
Mediu m	586 (29.1)	586 (100)	96 (69.1)	96 (100)	144 (28.5)	144 (100)	12 (2)	12 (100)	0	0	30 (5.8)	30 (100)
Large	0	0	36 (25.9)	36 (100)	0	0	0	0	0	0	0	0
	2017 (100)		139 (100)		505 (100)		546 (100)		7.5 (100)		513 (100)	
	TOBACCO						SUNFLOWER					
CATE GORY	ACHAMPET		PULIMADDI		KALAVAPA MULA		ACHAMPET		PULIMADDI		KALAVAP AMULA	
	Prod.	M. S.	Prod.	M. S.	Prod.	M.S	Prod.	M.S	Prod	M.S	Prod.	MS
Margi	12	12	73	73	12	12	957	957	0	0	33	33

nal	(2)	(100)	(14.2)	(100)	(2)	(100)	(23)	(100)			(2)	(100)
Small	9 (1.5)	9 (100)	105 (20.5)	105 (100)	9 (1.5)	9 (100)	1358 (33)	1358 (100)	18 (12.2)	18 (100)	253 (15.4)	253 (100)
Semi-medium	233 (39.8)	233 (100)	305 (59.5)	305 (100)	233 (39.8)	233 (100)	1087 (26)	1087 (100)	0	0	993 (60.5)	993 (100)
Medium	231 (39.5)	231 (100)	30 (5.8)	30 (100)	231 (39.5)	231 (100)	760 (18)	760 (100)	85 (57.4)	85 (100)	363 (22.1)	363 (100)
Large	101 (17.2)	101 (100)	0	0	101 (17.2)	101 (100)	0	0	45 (30.4)	45 (100)	0	0
	586 (100)		513 (100)		586 (100)		4162 (100)		148 (100)		1642 (100)	

Source: Field Survey

Cotton cultivation in the state is quite widespread, particularly among irrigated dry regions, which are cultivated under bore wells. Cotton is regularly planted in some villages, because it is a regular cash-supply crop. Farmers told us that none of the other crops, including paddy, would yield any income for the six months of planting in the Kharif. There is a long 8-month period from summer to December, when farmers are starved of any cash. Cotton crops start delivering cash right after three months; the first flush comes in October, the second flush in December, and the third in February. This makes some kind of cash rotation possible in the peasant economy. The second factor that makes cash flow possible is the availability of private finance. They borrow some cash in June-July, repay it in October, borrow again, and repay it in December, and so on. Cotton crop is therefore a cash-reflow mechanism in the cash-hungry peasant economy. However, the risk factor is often underestimated, which often pushes them into debt traps.

Table 4.7: Production and Marketed Surplus of Groundnut

	Groundnut					
CATEGORY	PULIMADDI		ACHAMPET		KALAVAPAMULA	
	Production	Market Surplus	Production	Market Surplus	Production	Market Surplus
Marginal	53 (4)	41 (78)	24 (39)	23 (96)	0	0
Small	96 (8)	80 (84)	38 (61)	34 (90)	0	0
Semi-medium	366 (30)	325 (89)	0	0	0	0
Medium	386 (31)	360 (93)	0	0	185 (66)	178 (96)
Large	339 (27)	307 (91)	0	0	96 (34)	92 (96)
	1240 (100)		62 (100)		281 (100)	

Source: Field Survey

Black gram is popularly grown the coastal belt from East Godavari to Krishna. Black gram is normally grown for two reasons; first, there are low-quality soils in which the second crop of paddy is not suitable. Second, when there is no water in the canals for the second crop, farmers prefer to grow black gram, which requires very little investment, with the moisture retained in the soil.

The share of small, marginal and semi-medium farmers in the production of black gram is substantially high, accounting for 58% of the total production in the village. Ten years ago, the black gram is also sown as a third crop, but late due to the hot winds in summer, the flowering of the plant is wilting and they are therefore unable to have this as a third crop. With a yield of 4-6 quintals and a price of about Rs.3600, the farmer can make about Rs.15 to 21,000 per acre.

Occasionally, bumper crops with yields of up to 8 quintals can produce little more income for farmers subject to price stability. However, ever since black gram have been imported from Burma, black gram farmers are losing revenue in the light of rising cultivation costs.

Bengal gram is sown in the extremely dry villages of Pulimaddi. It is said to be a completely dry village. The soil is a mixture of sand and broken stones, and there is no solid rock on the ground. There is no potential for underground water. Paradoxically, there is a river by the name of Kunda that flows past the village, but all its lands rise from the river, not a drop of water from the village.

Farmers, however, draw water from the river using diesel engines mounted on carts and leased plastic pipes. They draw up to 500 metres of water, beyond which diesel pumps refuse. For this purpose, there is a leasing market for plastic pipes and diesel engines in the village. Monsoon rain is the only source of irrigation for around 80 per cent of the village's agricultural land. Interestingly, farmers have adapted to the conditions that Bengal Gram has been growing for the last 20 years, which needs very little water. Bengal gramme requires so little irrigation that it can rise only on the morning dew of the winter season. In reality, good rain can spoil the yield of dry land.

Table 4.8: Production and Marketed Surplus of Black gram, Bengal gram and Red gram

	BLACKGRAM		BENGALGRAM		REDGRAM	
	KALAVAPAMULA		PULIMADDI		ACHAMPET	
CATEGORY	Production	Market Surplus	Production	Market Surplus	Production	Market Surplus
Marginal	224 (20.6)	211 (94)	66 (2)	62.95 (95)	4 (60)	3.8 (93)
Small	109 (10)	106 (97)	313 (10)	309.55 (99)	0	0
Semi-medium	301 (27.7)	294 (98)	395.5 (13)	391.15 (99)	3 (40)	2 (90)
Medium	443 (40.8)	435 (98)	1233 (41)	1226.28 (99)	0	0
Large	10 (0.9)	9.5 (95)	1030 (34)	1027.95 (99.8)	0	0
	1087 (100)		3038 (100 0		7 (100)	

Source: Field Survey

Jowar was the main crop in the state and has now been marginalised for a small crop. In the Telangana region, especially the Nizamabad district, it is grown as a seed crop under contract farming, where, as in Rayalaseema, it is grown as a food crop. However, the share of small-scale farmers in the development of Jowar is small compared to medium-sized and large-scale farmers. It is important to note that there is a share of small peasantry in Jowar production is minor compared to medium and large farmers. It is interesting to observe that the share of market surplus is hundred percent, no one reported to retain it for home consumption.

Table 4.9: Production and Marketed Surplus of Jowar and Maize crops

JOWAR					MAIZE	
CATEGORY	KALVAPAMULA		PULIMADDI		ACHAMPET	
	Production	Market Surplus	Production	Market Surplus	Production	Market Surplus
Marginal	73 (14.2)	73 (100)	56 (3)	56 (100)	957 (23)	957 (100)
Small	105 (20.5)	105 (100)	210 (10)	210 (100)	1358 (33)	1358 (100)
Semi-medium	305 (59.5)	305 (100)	345 (17)	345 (100)	1087 (26)	1087 (100)
Medium	30 (5.8)	30 (100)	1218 (58)	1218 (100)	760 (18)	760 (100)
Large	0	0	255 (12)	255 (100)	0	0
	513 (100)		2084 (100)		4162 (100)	

Source: Field Survey

4.6 Credit

Among the sample villages, according to the respondents, the amount of credit disbursed in Pulimaddi is remarkably high. Since these are not directly equivalent, the size of the sample varies from one village to another. However, the widespread trend in over-the-counter lending definitely suggests the unequal distribution of bank credit through villages. Credit is one of the most critical tools of the State's agricultural policy to foster development and production stability. It is necessary for all farmers to receive sufficient credit to meet the labour capital requirements of the crop loan, and the size of the financing is supposedly designed to facilitate this.

Since the beginning of the Green Revolution in 1966, the expansion of agricultural credit has been the cornerstone of our agricultural policy, which has made the institutional credit available to the farmer and freed him from the clutches of money lenders. The accomplishments of the post-Green Revolution agricultural policy are that the reliance on money lenders has increased from 96 per cent to 30 per cent.

However, since the implementation of liberalisation policies, this credit has decreased from 70% to 40% overall in the region, according to some surveys. The coverage of agricultural credit is, however, higher in the Southern States; thus, the situation may be predicted to be better than the national average.

There has also been a rise in institutional credit since 2006 for almost six years. There may also be some improvement even in the event of some downturn. According to our observation, the coverage of institutional credit in this sample analysis in Andhra Pradesh is approximately 52 per cent. Again, if we subtract the loans granted to self-help organisations, which are not purely agricultural loans, the institutional credit share in the total credit falls to 47 percent.

Among the sample villages, the average household credit provided by the banks in 2012-13 was Rs. 294949. This average figure, however, shows far too little of what it conceals. In fact, the level of inequality in the distribution of credit is very high. A marginal farmer receives an average sum of Rs. 24244 and a small farmer receives Rs. 31623.

They tend to be less than the size of the finance standard; they should be between Rs.30000-Rs.75000. The semi-medium farmer got Rs.42, 252, which is also less than the size of the finance. Medium-farmers earned average credit Rs. 31163 and the big farmer received Rs. 74, 444. As a result, semi-medium to large farmers receive much more credit on average than even the size of their finances indicates, while marginal and small farmers receive much less. The average farmer earns 6 times the average credit of a marginal farmer, 4 times that of a small farmer. A large farmer earns an average loan of 52 times that of a marginal farmer and 16 times that of a small farmer.

Table 4.10 Average Institutional Credit

	Achampet		Pulimaddi		Kaluvapamula		Total	
	% of HH	Agri Credit	% of HH	Agri Credit	% of HH	Agri Credit	% of HH	Total Agri Credit
Landless	4.5	35000 (15.33)	23	25277 (5.01)	24	9000 (5.93)	18	23092 (8.07)
Marginal	48.5	43522 (19.06)	12	10750 (2.13)	32.2	18462 (12.17)	31	24244 (11.32)
Small	23.7	43120 (18.89)	16	33386 (6.61)	9	18363 (12.10)	17	31623 (12.53)
Semi-medium	8.5	40895 (17.91)	19	63251 (12.53)	14.9	22611 (14.90)	15	42252 (15.11)
Medium	1.7	43500 (19.05)	18	116777 (23.13)	31.7	38313 (25.25)	18	31163 (7.05)
Large	0	0 (0)	4	208333 (41.27)	1.7	15000 (9.88)	2	74444 (17.05)
Non-cultivator	13	22286 (9.76)	8	47001 (9.31)	5	30000 (19.77)	9	33095 (12.94)
Total		228323 (100)		504775 (100)		151749 (100)		294949 (100)

Source: Field Survey

This inequality can also be defined as follows. 10 per cent of medium and large farmers receive 43 per cent of total bank loans, 43.8 per cent of marginal loans and just 17 per cent of small farmers, 12.3 per cent of semi-medium farmers receive 23.3 per cent of bank loans and 25.5 per cent of landless farmers receive 5 per cent of bank loans. Furthermore, some 9 per cent of non-cultivating farmers are found to receive 10 per cent of agricultural loans from banks to own the land. It is clear that banks are not purely on the scale of finance, that they are lending more and more to rich farmers and less to small farmers.

We found that the total institutional credit was 52.3 per cent, while the non-institutional credit was 47.7 per cent. Also landless families, along with marginal and small farmers, receive institutional credit through self-help groups. The majority of rural households are covered by SHGs. Average SHG loans per household in different villages ranged from Rs.7500 to Rs.35,000. This difference is due to the vintage of the operating SHG, the ones at the beginning will get less and the loan will rise over time. In Achampet and Pulimaddi, the average household SHG loan crossed Rs.15000 and reached Rs.35000 in Achampet, while in Kalavapamula it remained poor.

Table 4.11 Average Non-Institutional Credit

	Achampet	Pulimaddi	Kalvapamula	Average
Landless	39167 (16.92)	3472 (1.43)	8667 (5.87)	17102 (8.2)
Marginal	34581 (14.94)	20500 (8.42)	13308 (9.01)	22796 (11.0)
Small	71548 (30.90)	42046 (17.27)	10000 (6.77)	41198 (19.8)
Semi-medium	31579 (13.64)	46719 (19.19)	34444 (23.33)	37580 (18.1)
Medium	32500 (14.04)	50370 (20.69)	41250 (27.93)	41373 (19.9)
Large	0 (0)	66667 (27.39)	0 (0)	22222 (10.7)
Non-cultivators	22143 (9.56)	13636 (5.60)	40000 (27.09)	25259 (12.2)
Total	231518 (100)	243410 (100)	147669 (100)	207530 (100)

Source: Field Survey

As far as non-institutional credit is concerned, the average non-institutional loan is gradually increased from landless to semi-medium households, and is then comparatively lower for medium and large farm households. The average non-institutional loan for landless farmers is Rs. 17102, for marginal farmers it is Rs. 22796, for small farmers it is Rs. 41198. It is Rs.37580 for semi-medium households. It is Rs. 41373 and 22222 for medium and large households.

Kalavapamula recorded the lowest level of non-institutional credit among the various villages. Non-institutional credit does not have the same asymmetry as its equivalent, there is much more distribution across size groups, although variations do exist. Small peasants with 60 per cent (marginal, small and semi-medium) households posted 52 per cent of private loans. 10% of medium-and small-scale farmers received 33% of private loans. Non-cultivating households registered a share of 6.16 per cent of their loans. As a result, private credit is more commensurate with the respective composition of the classes of size. Lower groups pay higher interest rates.

We have found that the condition of private finance in the villages has changed. The hegemony of conventional money lenders has been broken, and there is now widespread money-lending by all societies. These money lenders come from all the castes. We saw in Chandaram that the elderly woman of the backward Golla caste rotated around Rs. 90 lakhs to Rs. 1 crore. She went to Mumbai in the 1960s as a migrant worker, managed to get a slum house allocated, saved money from earnings, then went to Dubai as a domestic worker in the 1980s. She came back with a profit on Rs.2 lakhs, and then with a loan of money she minted money in the past three decades.

Here's only one example of this. These charge interest rates from 3% to 5% per month, depending on the customer. We saw money lenders lending 10% a month to players in the village, where gambil and liquor consumption thrive in the villages. Money lending is an activity with the highest rate of accumulation. For farmers, however, this represents about 7-10 per cent of their cultivation costs, depending on the interest rate. This is especially burdensome when it is lent for fixed assets, such as borewells and leasing, to grow high-risk crops such as cotton.

4.7 Employment

Employment is an important yet little complex phenomenon in economies which have a substantial share of people engaged in self-employed activities and who also participate in wage labour. Poor household's employment is spread among self-employment activities, and wage labour within the village as well as outside the village. These are dynamic over time and space. There could be underemployment hidden in the reported employment. There is no easy way to resolving some of these. In this study, as for family labour employment in agriculture concerned, we have tried to standardize their employment into 8 hour man days to arrive at productive days of employment. We have then drawn information on days of hired-in labour across size classes, hire-out labour days of size classes and total employment of sample households. The purpose of this inquiry is two-fold. One is to ascertain the nature of employment among size classes. Poor peasant households use substantial amount of family labour. We do not include employment involved in management and supervision of labour. Our intention is to distinguish between petty commodity producer classes from pure labour hiring capitalist farm households. Second purpose is to observe the employment situation in agricultural labour markets. In measuring employment days, there are certain difficulties when we face piece work involved. Part of agricultural work such as land preparation, transplanting, weeding, watering, application of pest and harvesting in paddy, harvesting in most others crops such as maize, sugarcane, etc. The complication in arriving at employment days that there is no standard number of persons that can do a piece of work within an agreed time period, sometimes three dexterous workers can perform a day's job done by 6 average type workers. Two men can do what 4 women on average can do. We have arrived at employment days of piece work labour by dividing the total piece rate by the wage rate. We have collected such information for all the nine crops in all the three villages.

We all know that despite we classify farmers into different size-classes; they do not really match into same classes. The class position in terms of wealth or income clearly depends on the sources of irrigation. Canal irrigated areas stand above in terms of wealth and income compared to rain-fed or well/tank irrigated areas. One can see these in terms of land values also. Class nature of labouring in the field too matches with the endowment pattern of irrigation. For instance, a medium or large holding which held land in a historically canal irrigated like south

Coastal villages of Krishna stand much above the same in other regions. Hence, exact comparisons are not possible.

Table 4.12: Family labour of Owner-cultivators

Family labour Days on Own-farm for Men						
	Marginal	Small	Semi-medium	Medium	Large	Average
Achampet	16	14	12	4		12
Pulimaddi	24	22	5	7	4	12
Kalvapamula	17	12	13	13	8	13
Average	19	16	10	8	4	12.4
Family labour Days on Own-farm for Women						
	Marginal	Small	Semi-medium	Medium	Large	Average
Achampet	24	20	13	9	0	17
Pulimaddi	36	32	13	13	11	21
Kalvapamula	53	44	30	28	0	39
Average	37	32	18	17	4	25.7

Source: Field Survey

On average in poor households men work for 12.4 days on own farms per year per acre and women work for 25.7 days. Among marginal farmers, men work for 19 days and women work for 37 days; among small farmers men work for 16 days and women for 32days; semi-medium farm households, men work for 10 days and women work for 18 days and among medium household's men work for 8 days and women work for 17 days. The inter-village differences in family labour employment which are not very high are due to differences in cropping pattern (Table 4.12).

It is interesting to note that all households, including marginal ones, also hire labour for certain activities. 18 males are recruited per acre per year among marginal households and 28 females are recruited. Small farmers recruit 23 males and 31 females, semi-medium farmers

recruit 27 males and 43 females, and medium farmers recruit 43 males and 69 females and large farmers, 57 males and 48 females (Table 4.13).

Table 4.13: Hired-In Labour on Own Farms

Hired-in labour :Men						
	Marginal	Small	Semi-medium	Medium	Large	Average
Achampet	9	13	16	25	0	16
Pulimaddi	6	6	8	12	34	13
Kalvapamula	38	49	56	93	124	72
Average	18	23	27	43	57	33.4
Hired-in labour: Women						
	Marginal	Small	Semi-medium	Medium	Large	Average
Achampet	28	30	37	56	0	38
Pulimaddi	19	18	25	35	52	30
Kalvapamula	38	45	67	117	92	51
Average	28	31	43	69	48	40

Source: Field Survey

Table 4.14: Hired out labour in other farms

Hired out labour in Other farms: Men							
	Non-Cultivating	Landless	Marginal	Small	Semi-medium	Medium	Average
Achampet	70	76	66	59	34	0	61
Pulimaddi	150	112	78	85	35	14	79
Kalvapamula	185	122	110	106	85	35	107
Average	135	103	85	84	51	16	83
Hired out labour in Other farms: Women							
	Non-	Landless	Marginal	Small	Semi-	Medium	Average

	Cultivating				medium		
Achampet	117	104	104	91	52	0	94
Pulimaddi	112	136	106	115	68	36	96
Kalvapamula	190	146	130	133	120	75	132
Average	139	128	114	113	80	37	107

Source: Field Survey

Finally, the most significant part of poor households is how many they employ as wage labour. We find that, on average, male labour hires for 83 days and female labour hires for 107 days in 2012-13. As far as agricultural employment is concerned, it is very poor. Total employment is still less than 100 days for men and 150 days for women, even though we include family work. Wage employment is naturally high among the landless and is gradually declining. For even non-cultivating households, we found that employment is very high. Kalavapamula provides the highest jobs for men and women in irrigated villages. (Table 4.14).

The Mahatma Gandhi National Rural Employment Guarantee Act provides for an average employment of 48.7 days in the sample villages (MNREGA). This is similar to the average figure for the state. In three of the dry villages, 80 days of jobs are given under the scheme, while at least 20 days are provided in the irrigated village of Kalavapamula. MNREGA's employment is poor in the villages of Telangana, which is not very clear. There is active involvement of landless and landed households up to semi-medium households. Even medium-sized households are looking for this job in Pulimaddi, which looks a little different. There is, however, no participation from large households (Table 4.15).

Table 4.15 MNREGA Employment among Sample Villages

	Non-Cultivatin	Landless	Marginal	Small	Semi-medium	Medium	Large	Average
Achampet	31	39	48	45	51	20	0	39
Pulimaddi	78	84	91	87	94	86	0	87
Kalvapamula	20	18	17	20	28	17	0	20
Average	43	47	52	50	57	41		48.7

Source: Field Survey

Table 4.16 Distribution of Agricultural Employment

	Employment on Own Farm		Wage Employment		MNREGA Employment		Total Employment	
	Men	Women	Men	Women	Men	Women	Men	Women
Landless	0	0	102	125	20	23	122	148
Marginal	25	42	91	114	29	30	139	186
Small	21	35	79	108	30	29	130	171
Semi- medium	10	19	77	60	26	26	113	105
Medium	8	14	40	21	21	21	69	56
Large	3	3	0	0	0	0	3	3
Average	10.9 (9.8)	28 (21.8)	77.8 (70.7)	85.6 (66.8)	27 (24.5)	29 (22.6)	110.7 (100)	128.6 (100)

Source: Field Survey

If we look at the distribution of employment in the villages, we find that men get 110 days of employment on average and women get 128 days, which includes MNREGA, which is quite low. Women use to get 180 days of employment, which has declined. Wage employment is still the major source of employment which constitutes 70 and 85 percent for men and women respectively. Second biggest source of employment in the rural areas is the MNREGA at 24 and 22 percent for men and women respectively. 10 and 21 percent of employment is on own farms that does not pay any wages. One can surely conclude two things from this table. There is a seriously low overall level of employment in the village, which could force the poor to look for alternative jobs outside agriculture. Second, because of low farm employment, MNREGA appears to provide a quarter of the employment. An additional option seems to be essential in theory for reducing distress (Table 4.16).

4.8 Production Costs and Returns

Perhaps the most important aspect of the present peasant agriculture is the viability. The Indian state has provided a putative support price called minimum support price effective for primarily for rice, wheat, cotton, and sugarcane, for others though Minimum Support Price (MSP) is announced it is practically ineffective for lack of procurement operations. For even

these, we know that the MSP coverage and implementation are limited to some states. In the state of Andhra Pradesh, though MSP for paddy exists, the system of market support is subverted by the trading lobby. Further, the MSP did not cover the full cost of production in the state for most of the time [Ramanamurthy and Mishra (2012)]. The market prices which closely rally with the MSP also followed this course. For most other crops, MSP does not even exist. In this light, we examine the costs and returns for the 12 major crops grown in the state with the help the data drawn from the sample households. We follow the standard methodology given by Commission for Agricultural Costs and Prices in our exercise⁵⁴. For our purpose, we have taken only Cost A1, A2, C1 and C3 in the study, as A1 & A2 cover the paid costs of owner cultivator and tenant respectively and the latter two cover the full costs of production. The basic objective of the exercise is to look at the cost of production; prices received and return on different crops across size classes. We make following observations from the tables no 4.17-4.25.

When we look at Cost A11, there is a general inverse relationship between production cost and size classes. This can be expected because, as we will see further the extent of family labour substitution gradually decreases in the size categories. Therefore marginal and small farmers save mostly on the labour costs. We have seen yield rates are positively associated with size classes; however, these are not strong enough to reverse the inverse relation in size and cost of production. So as for paid-out costs concerned, the inverse relation due to petty production character of small family holdings is well captured by the field data. At the same time, it is important to mention the exceptions to this general trend. First, while in case of paddy, cotton, pulses (black gram, Bengal gram /chickpea, red gram and soy), sugarcane, tobacco there is an inverse relationship, in case of jowar, maize, groundnut and turmeric, there is a positive relationship. So the inverse relation is crop specific. Second, the costs of marginal farmers in majority crops are higher than others, owing to several factors such as they receive lesser price,

⁵⁴ The cost of cultivation scheme developed by the Commission for Agricultural Costs and Prices defines five cost concepts, namely, (i) Cost A1 (all fixed and variable paid out costs excluding rent), (ii) Cost A2 (Cost A1+ rent), (iii) Cost A2+ (Cost A1+Family Labour (FL)), (iv) Cost B1 (Cost A1+ Interest on value of owned fixed assets excluding land), (v) Cost B2 (Cost A2 + imputed rent on own land), (vi) Cost C1 (Cost B1+ imputed family labour); (vii) Cost C2 (Cost B2 + imputed family labour) ; (viii) Cost C2* (Cost C2 using Minimum Wages if they are higher than market wages); (ix) Cost C3 (cost C2*+10 per cent managerial input over C2*). Cost A2 + FL includes rent as well as family labour and is relevant cost for tenant farmer, Cost B1 and B2 are relevant for small and marginal farmers, and cost C1 and C3 are relevant costs for supervisory landlord farmer. The respective cost of cultivation is converted into cost of production per quintal by applying the yield. The estimated cost of cultivation per acre is given Table 4.17-4.25.

they face higher interest cost and other rental costs that they incur for hiring tools and implements. Thus their family labour advantage is outweighed by higher institutional costs. Their lack of access to institutional credit, low human, social and financial capital, greater dependence on middlemen, etc are the reasons for the higher costs and lower returns. However, this is not so in every case, for example in paddy, jowar, pulses and cotton they have the lowest cost among other size classes. As for medium and large farmers, they tend to face higher costs of production, largely because of higher labour component.

While paddy farming in state has grown steadily and impressively in the state in the past four decades, paddy economy offered mixed prospects to the farmers. We know paddy has expanded in three phases in the state, one in initial Green Revolution period under old canal irrigated areas and the newly expanded ones; second one is since early 1990s under borewells with submersible pump sets, in the dry area.

Paddy crop gave steady returns to farmers, particularly in the early phase in 1974-89, where MSP not covered the full costs but had a surplus over the costs, which has encouraged capitalist farming. But progressively the relative prices showed a downward trend, the cost of production went up in the state since early nineties. Upper peasantry in south Coastal Andhra have, who realized the growing lack of viability of paddy farming, began leasing out to landless tenants who were ready to offer a higher rent than the surplus that was coming from the cultivation. Landless and marginal/small farmers who leased in progressively faced rising costs of fertilizers, pesticides, and even labour costs, and even rental costs; today cultivating a significant portion of these lands have no commensurate agricultural incomes from paddy farming.

For *Kharif* paddy, the paid-out costs for Kalavapamula, is about Rs.797 for marginal, Rs.900-937 for others. Large farmers have slightly lesser costs at Rs.775. The cost A2 and Cost A2+FL are however much higher ranging Rs.1164-1300 for the different classes of tenant farmers. The market prices which closely move along with MSP is about Rs1100, farmers get around this price according to moisture and quality differences. The prices that they received in the year of data collection, were the ones that are far better than their previous prices (they fell to Rs.650 in 2010-11) and recovered to Rs. 1100. The prices received by the farmers have covered paid costs (Cost A1) and tenant costs (Costs A2) among all classes as well as in all villages,

except in Kalavapamula. However, it yielded annet revenue between Rs.4, 800-6,500 between the small/semi-medium to marginal farmers. But these are too low to constitute a liveable income. When we compared to Cost A2 or Cost A2+FL, which are relevant for tenant farmers, these are negative in Achampet, Kalavapamula, leaving them with losses. They are positive but extremely low returns are found in rest of the villages. As for the full costs (Costs C1 and C2), prices covered them nowhere, except in for marginal farmers in Pulimaddi. Thus the present prices can only allow the petty commodity producing farmers from marginal, small or semi-medium farmers, who are either owner-cultivators; or tenants who don't depend on these incomes but on wage or allied activities. These prices do not allow capitalist farming (Table 4.17)

Table 4.17: Cost of Production and Returns for Paddy *Kharif* (Rs.)

	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
<i>Paddy Kharif</i>										
Kalavapamula										
Marginal	797	1164	919	1308	1439	304	-63	182	-207	-338
Small	937	1303	1040	1457	1603	128	-238	25	-392	-538
Semi-medium	892	1270	958	1437	1581	200	-178	134	-345	-489
Medium	921	1307	980	1475	1623	159	-227	100	-395	-543
Large	775	775	817	1161	1277	394	394	352	8	-108
Achampet										
Marginal	827	1195	896	1207	1327	194	-174	125	-186	-306
Small	765	1084	833	1149	1264	239	-80	171	-145	-260
Semi-medium	789	789	847	1145	1259	222	222	164	-134	-248
Medium	780	780	785	1088	1197	465	465	460	157	48
Pulimaddi										
Marginal	614	614	652	919	1011	986	986	948	681	589
Semi-medium	965	965	1082	1456	1601	635	635	518	144	-1
Large	722	722	757	1068	1175	878	878	843	532	425

Source: Field Survey

The *Rabi* costs and prices for paddy present even more depressing situation. Since *Rabi* crop of paddy belong to inferior or common varieties, the prices are just equal to MSP and sometimes little lower. In Coastal Andhra, since procurement by official agencies is absent and private traders operate the markets completely, prices are wee bit lower than the MSP, while in Telangana there are at least more procurement centers of FCI or APCSC, prices are little better. To conclude, the returns on *Rabi* paddy are extremely low for all classes' farmers. They barely cover paid out costs (cost A1) of owner-cultivators, that too who use lot of family labour. These prices do not cover the paid out costs of tenant farmers. They also do not cover the full costs of cultivation, defined by Cost C1 and Cost C2. Evidently, such low prices do not allow capitalist farmers to sustain, who are therefore leaving farming and choosing to work in non-agriculture, because, even other crops do not offer any better prospects. Thus, paddy farming is therefore done by family labour based poor households, who also cannot accumulate but only addresses the food security of families (Table 4.18).

Table 4.18: Cost of Production and Returns for Paddy *Rabi* (Rs.)

	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
<i>Paddy Rabi</i>										
Kalavapamula										
Marginal	837	1171	946	1271	1399	101	-233	-8	-333	-461
Small	854	1174	953	1306	1437	37	-283	-62	-415	-546
Semi-medium	861	1193	955	1382	1520	68	-264	-26	-453	-591
Medium	909	1280	985	1457	1603	16	-355	-60	-532	-678
Large	805	805	870	1203	1323	210	210	145	-188	-308
Achampet										
Marginal	1138	1138	1243	1680	1848	-103	-103	-208	-645	-813
Semi-medium	770	770	860	1165	1281	230	230	140	-165	-281

Source: Field Survey

Jowar, which was once upon a time a principal crop, has become a minor crop grown in only 2 percent of cropped land. It is grown village namely, Pulimaddi, among our sample study. Pulimaddi is dry village and is suitable for jowar cultivation. The jowar crop however gives positive returns not only cost A1, but also over cost A2 and Cost C1, though not on Cost C2. With an average yield between 12-17 quintals per acre, the crop has yielded Rs10,000-13,000 revenue per acre. This is slightly higher than other crops. However, in dry regions for the crops the returns may appear slightly higher, but there is no second crop in these areas, thus irrigation gives the higher gross revenues through multi-cropping (Table 4.31).

4.9. Descriptive Statistics of the Sample

The descriptive statistics of the sample for the three villages are presented along with scatter plots in the following. The scatter plots suggest systematic distribution of points around trend, conveying robustness of the sample. We have presented the descriptive statistics for cost of cultivation, yield and price, for marginal, small, semi-medium, and medium farm households. The mean, standard error, median, mode, standard deviation, variance, kurtosis, skewness, range and variance are presented in the tables. The important feature of the sample is that the variance in cost of cultivation and yield are reasonably less, between 25 to 8 percent. This justifies the classification that we have assumed.

The range in farm sizes of marginal, small and medium farmers are not very varied whereas the medium and semi medium farm sizes vary. There is a lot of variation in the cost of production across farm sizes which are seen by the standard deviations. For Marginal famers with land holdings between .25-2 the standard deviation in the cost of cultivation is Rs.4342.6. This difference in cost maybe due to the fact that many marginal farmers are tenant farmers and need to pay rent. When we look at the range of COC it varies from Rs.7000 to Rs.23450. A similar difference in the cost of cultivation is seem for semi- medium farmers the Std. deviation is COC is RS.5215 and the range in costs is from Rs.7952 to Rs.20070.

Table 4.19**Statistical Analysis of Paddy (kharif) Cultivation of Marginal Farmers in Kalvapamula**

	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	1.61	18808.93	25.20	1034.92
Standard Error	0.08	739.41	0.38	40.96
Median	2	21300	26.25	1100
Mode	2	11010	26.25	1150
Standard Deviation	0.54	4734.54	2.46	262.32
Sample Variance	0.29	22415867	6.05	68813.22
Kurtosis	-0.17	-0.15	-0.58	10.94
Skewness	-1.01	-1.23	-0.01	-3.13
Range	2.05	16450	10.5	1250
Minimum	0.25	7000	19.5	0
Maximum	2.3	23450	30	1250
Sum	66.19	771166	1033.36	42432
Count	41	41	41	41
Coefficient of Variation (%)	33.8	25.2	9.8	25.3

Source: Field Survey

Table 4.20 Statistical Analysis of Paddy (kharif) Cultivation of Small Farmers in Kalvapamula

	<i>Farm Size Cultvtd</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	3.45	21564.79	23.30	1069.28
Standard Error	0.19	262.60	0.45	25.73
Median	3	21448.5	22.87	1100
Mode	3	#N/A	22.5	1100
Standard Deviation	0.74	982.57	1.70	96.27
Sample Variance	0.55	965453.1	2.89	9268.68
Kurtosis	-1.10	1.26	1.46	-1.59
Skewness	0.44	0.60	-0.10	-0.07
Range	2.3	3774	6.75	270
Minimum	2.5	20051	19.5	930
Maximum	4.8	23825	26.25	1200
Sum	48.3	301907	326.25	14970
Count	14	14	14	14
Coefficient of Variation (%)	21.5	4.6	7.3	9.0

Source: Field Survey

Table 4.21 Statistical Analysis of Paddy (kharif) Cultivation of Semi-medium Farmers in Kalvapamula

	<i>Farm Size Cultvtd</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	5.91	22256.29	25.19	1085.64
Standard Error	0.31	844.08	0.57	22.70
Median	5	23033	26.25	1100
Mode	5	20791	26.25	1100
Standard Deviation	1.28	3480.26	2.38	93.61
Sample Variance	1.64	12112274	5.69	8764.61
Kurtosis	0.89	8.03	-0.53	-0.86
Skewness	1.37	-2.46	0.09	0.05
Range	4	15191	8.25	320
Minimum	5	10610	21.75	950
Maximum	9	25801	30	1270
Sum	100.6	378357	428.25	18456
Count	17	17	17	17
Coefficient of Variation (%)	21.6	15.6	9.5	8.6

Source: Field Survey

Table 4.22 Statistical Analysis of Paddy (kharif) Cultivation of Medium Farmers in Kalvapamula

	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	14	22843.5	25.28	1072.85
Standard Error	0.95	356.98	0.66	28.17
Median	12.5	22544	26.25	1100
Mode	12	#N/A	26.25	1150
Standard Deviation	3.57	1335.72	2.50	105.42
Sample Variance	12.76	1784167	6.26	11114.29
Kurtosis	-0.46	-0.76	-0.33	-1.50
Skewness	0.95	0.63	-0.01	-0.17
Range	10	3968	9	310
Minimum	10	21083	21	920
Maximum	20	25051	30	1230
Sum	196	319809	354	15020
Count	14	14	14	14
Coefficient of Variation (%)	25.5	5.8	9.9	9.8

Source: Field Survey

The range in farm sizes of marginal, small and medium farmers are not very varied whereas the medium and semi medium farm sizes vary. There is a lot of variation in the cost of production across farm sizes which are seen by the standard deviations. For Marginal famers with land holdings between .25-2.3 the standard deviation in the cost of cultivation is Rs.4734. This difference in cost maybe due to the fact that many marginal farmers are tenant farmers and need to pay rent. When we look at the range of COC it varies from Rs.7000 to Rs.23450. A similar difference in the cost of cultivation is seem for semi- medium farmers the standard deviation in COC is RS.3480 and the range in costs is from Rs.10610 to Rs.25801.

Table 4.23 Statistical Analysis of Paddy (Rabi) Cultivation of Marginal Farmers in Kalvapamula

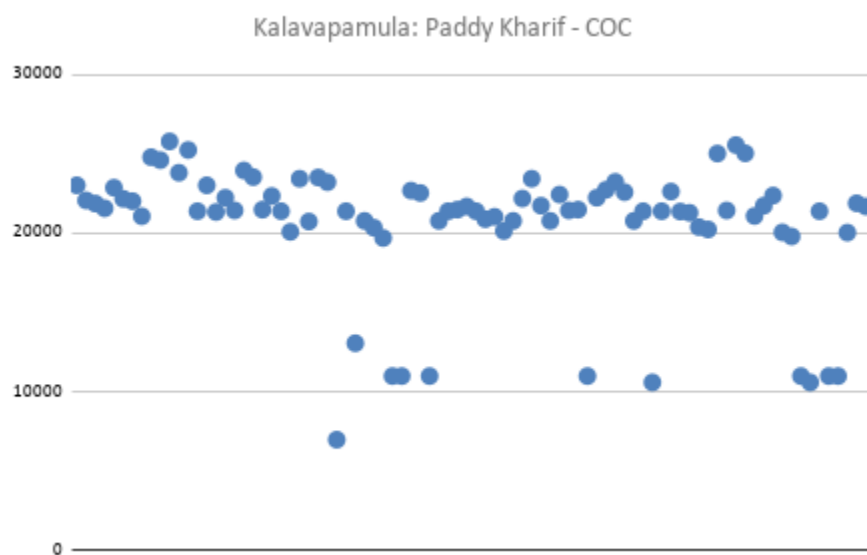
	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	1.56	21689.26	25.66	898.70
Standard Error	0.10	287.63	0.52	35.78
Median	2	21760	26.25	950
Mode	2	21610	26.25	950
Standard Deviation	0.55	1494.58	2.71	185.95
Sample Variance	0.30	2233782	7.38	34579.99
Kurtosis	-0.97	0.53	-0.78	23.07
Skewness	-0.75	-0.15	-0.18	-4.66
Range	1.6	7063	9.16	980
Minimum	0.4	17975	20.83	0
Maximum	2	25038	30	980
Sum	42.14	585610	692.83	24265
Count	27	27	27	27
Coefficient of Variation (%)	35.4	6.9	10.6	20.7

Source: Field Survey

Table 4.24 Statistical Analysis of Paddy (Rabi) Cultivation of Small Farmers in Kalvapamula

	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	3.48	22017.3	25.65	902
Standard Error	0.24	723.62	0.64	21.84
Median	3	21610	26.25	885
Mode	3	21610	26.25	840
Standard Deviation	0.77	2288.30	2.02	69.08
Sample Variance	0.60	5236328	4.1	4773.33
Kurtosis	-1.07	0.38	-0.56	-1.82
Skewness	0.63	0.23	-0.56	0.32
Range	2.3	7889	6	180
Minimum	2.5	18011	22.5	830
Maximum	4.8	25900	28.5	1010
Sum	34.8	220173	256.5	9020
Count	10	10	10	10
Coefficient of Variation (%)	22.3	10.4	7.9	7.7

Source: Field Survey



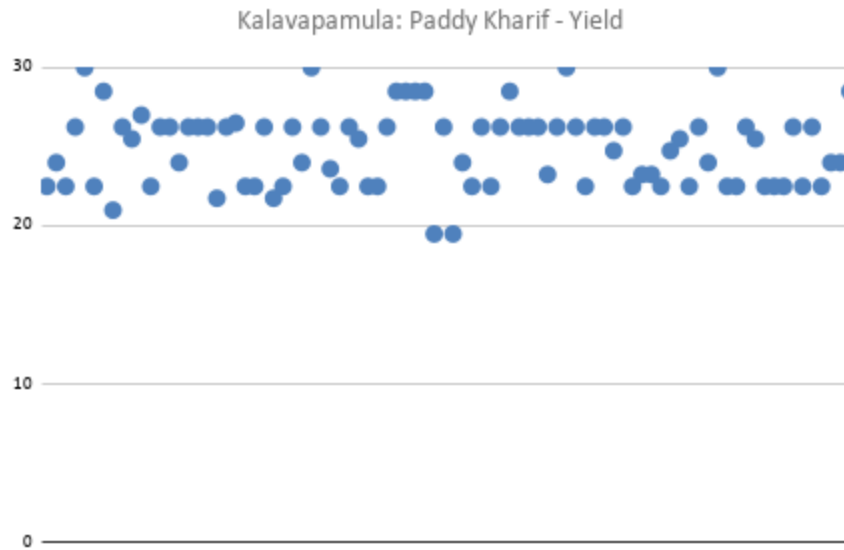


Table 4.25 Statistical Analysis of Paddy (Rabi) Cultivation of Semi-medium Farmers in Kalvapamula

	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	5.66	22431.75	23.62	852.5
Standard Error	0.28	958.27	2.22	78.30
Median	5	23413	26.25	920
Mode	5	23388	26.25	920
Standard Deviation	0.98	3319.55	7.69	271.26
Sample Variance	0.96	11019446	59.16	73584.09
Kurtosis	1.70	6.42	10.05	11.36
Skewness	1.49	-2.32	-3.07	-3.33
Range	3	12590	28.5	980
Minimum	5	13011	0	0
Maximum	8	25601	28.5	980
Sum	68	269181	283.5	10230
Count	12	12	12	12
Coefficient of Variation (%)	17.4	14.8	32.6	31.8

Source: Field Survey

Table 4.25 Statistical Analysis of Paddy (Rabi) Cultivation of Medium Farmers in Kalvapamula

	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	13.64	23650.79	26.73	927.14
Standard Error	0.80	454.75	0.69	19.11
Median	12.5	23663	26.25	950
Mode	12		26.25	950
Standard Deviation	3.0	1701.54	2.591525	71.51
Sample Variance	9.01	2895261	6.71	5114.28
Kurtosis	-0.01	6.37	-0.71	-1.40
Skewness	0.89	-1.90	-0.16	-0.04
Range	10	7635	7.5	200
Minimum	10	18611	22.5	830
Maximum	20	26246	30	1030
Sum	191	331111	374.25	12980
Count	14	14	14	14
Coefficient of Variation (%)	22.0	7.2	9.7	7.7

Source: Field Survey

For the Rabi crop of paddy we find that there is a deviation of the cost of cultivation for medium and semi medium farmers is more than the deviation for marginal and small farmers.

Table 4.26 Statistical Analysis of Paddy (Kharif) Cultivation of Marginal Farmers in Achampet

	<i>Farm Size</i>	<i>COC</i>	<i>COP</i>	<i>Yield</i>	<i>Price</i>	<i>Profit</i>
Mean	1.17	14669.97	852.98	18.39	1012.29	4113.78
Standard Error	0.05	465.58	36.10	0.54	4.58	1133.65
Median	1	16531.2	858.01	18.75	1000	2667.28
Mode	1	9290.4	825.81	18.75	1000	-3415.4
Standard Deviation	0.54	4342.64	336.80	5.06	42.80	10574.05
Sample Variance	0.29	188585	13436.9	25.64	1831.86	1.12E+08
Kurtosis	-1.20	-1.20	3.72	-0.55	11.8347	11.31
Skewness	0.30	-0.51	1.18	-0.15	2.85	-1.33
Range	1.5	15494.08	2065.05	22.5	350	91659.1
Minimum	0.5	5891.20	276.64	7.5	900	-55157.2
Maximum	2	21385.28	2341.69	30	1250	36501.9
Sum	102.25	1276287	74209.49	1600.62	88070	357898.9
Count	87	87	87	87	87	87
Coefficient of Variation (%)	46.5	29.6	39.5	27.5	4.2	257.0

Source: Field Survey

Table 4.28 Statistical Analysis of Paddy (Kharif) Cultivation of Small Farmers in Achampet

	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	3.33	16222.8	18.24	995.64
Standard Error	0.101163	542.3938	0.604626	6.045206
Median	3	17142.72	18.75	1000
Mode	4	15187.2	18.75	1000
Standard Deviation	0.63	3387.24	3.77	37.75
Sample Variance	0.39	11473450	14.25	1425.23
Kurtosis	-1.54	0.48	1.96	21.05
Skewness	0.09	-0.92	0.96	-3.41
Range	2	14005.6	18.75	300
Minimum	2.5	7996.8	11.25	800
Maximum	4.5	22002.4	30	1100
Sum	130	632689.2	711.67	38830
Count	39	39	39	39
Coefficient of Variation (%)	19.0	20.9	20.7	3.8

Source: Field Survey

Table 4.29 Statistical Analysis of Paddy (Kharif) Cultivation of Semi-medium Farmers in Achampet

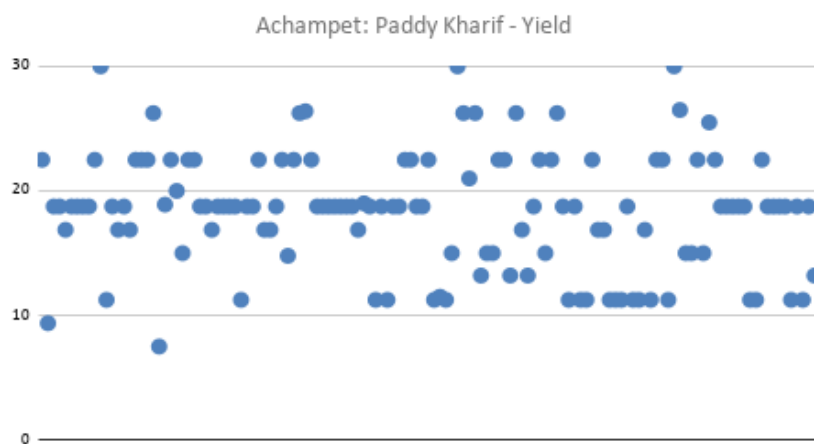
	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	6.2	17127.94	15.70	1026
Standard Error	0.48	2332.40	0.76	32.80
Median	7	19741.12	15	1000
Mode	7	20070.4	15	1100
Standard Deviation	1.09	5215.41	1.70	73.34
Sample Variance	1.2	27200542	2.90	5380
Kurtosis	-3.33	4.30	4.94	-1.70251
Skewness	-0.60	-2.06	2.21	-0.11
Range	2	12118.4	3.96	170
Minimum	5	7952	14.78	930
Maximum	7	20070.4	18.75	1100
Sum	31	85639.68	78.53	5130
Count	5	5	5	5
Coefficient of Variation (%)	17.7	30.4	10.8	7.1

Source: Field Survey

Table 4.30 Statistical Analysis of Paddy (Kharif) Cultivation of Medium Farmers in Achampet

	<i>Farm Size</i>	<i>COC</i>	<i>Yield</i>	<i>Price</i>
Mean	12.33	17838.61	20	1300
Standard Error	1.20	989.19	4.50	115.47
Median	13	17142.72	22.5	1300
Mode	#N/A	#N/A	#N/A	#N/A
Standard Deviation	2.08	1713.33	7.80	200
Sample Variance	4.33	2935503	60.93	40000
Kurtosis	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Skewness	-1.29	1.52	-1.29	0
Range	4	3207.68	15	400
Minimum	10	16582.72	11.25	1100
Maximum	14	19790.4	26.25	1500
Sum	37	53515.84	60	3900
Count	3	3	3	3
Coefficient of Variation (%)	16.9	9.6	39.0	15.4

Source: Field Survey



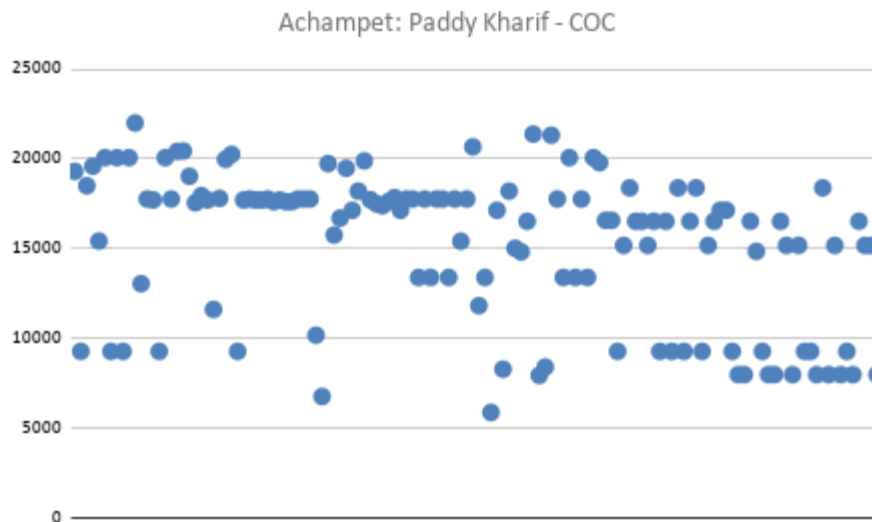


Table 4.31: Cost of Production and Returns for Jowar (Rs.)

	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
Jowar										
Pulimaddi										
Marginal	848		951	1696	1865	511		408	- 337	-506
Small	879	1629	974	1719	1891	492	- 258	397	- 348	-520
Semi-medium	689	1109	756	1255	1380	629	209	562	63	-62
Medium	639	1091	689	1268	1395	680	228	630	51	-76
Large	708			1300	1430	627			35	-95

Source: Field Survey

Maize is crop in the state has come up over time as alternative principal crop, which can be grown in any kind of soil, also as in intercrop. This crop was giving net revenue of Rs.20,

000-25,000 per acre, thanks to thriving demand from growing poultry industry; maize prices are reasonably good for a very time. However, with the increased supply prices eventually fell in 2012 and returns became negative even over the paid out costs. Tenant farmers have lost heavily to a tune of Rs.6000 per acre. Everyone made losses over full cost of production. Maize gave negative returns over all concepts of costs (Table 4.32).

Table 4.32: Cost of Production and Returns for Maize (Rs.)

	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
Maize										
Achampet										
Marginal	1491	1851	1579	1975	2173	-293	-653	-381	-777	-975
Small	1311	1674	1391	1875	2062	-120	-483	-200	-684	-871
Semi-medium	1441	1831	1529	2204	2424	-289	-679	-377	-1052	-1272
Medium	1335	1635	1350	1770	1948	-89	-389	-104	-524	-702

Source: Field Survey

When it comes to pulses, in red grams for instance, the average yield is 2 quintals per acre. The average return over Cost A1 is just about Rs.2122 for marginal farmer and Rs.2080 for semi-medium farmer. This gives net revenue over full cost just about less than Rs.2000 per acre that took over paid out costs (Table 4.32). The productivity in pulses had been stagnant since decades and the price is insufficient to influence acreage under red gram. There is a need to close the gap between farm harvest price and the retail price. Therefore, red gram is being shown only in extremely backward dry land areas, whose production today is threatened by the abysmal returns.

The situation of black gram too worsened of late. This is grown in South Coastal districts namely, from East Godavari to Nellore, as a second crop. It has a yield about 3-4 quintals per acre. The profitability of black gram has fallen to Rs.8,500 per acre. In the study we found that the net returns over paid out costs is about Rs5000-6000 and over full costs is just about Rs.4000, but when Cost C2 is considered the returns are slow. The labour cost is major cost in

cost of production, which has increased several-fold in the last few years, erasing the profitability of the crop (Table 4.33).

Table 4.33: Cost of Production and Returns for Pulses (Rs.)

PULSES	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
<i>Redgram</i>										
Achampet										
Marginal	2122		2256	3909	4300	878		744	-909	-1300
Semi-medium	2080		2208	3867	4253	420		292	-1367	-1753
<i>Blackgram</i>										
Kalavapamula										
Marginal	1473	3890	1797	3735	4109	2162	-255	1838	-100	-474
Small	1747	3934	2009	3462	3809	2017	-170	1756	302	-45
Semi-medium	2045	4694	2183	4358	4794	1501	-1148	1363	-812	-1248
Medium	1948	1948	2007	3023	3325	1586	1586	1528	512	209
Large	1745		1865	3465	3811	1555		1435	-165	-511
<i>Bengalgram</i>										
Pulimaddi										
Marginal	2432		2725	3823	4205	1042	750		-349	-731
Small	1929	2984	2079	3202	3523	1832	777	1682	559	238
Semi-medium	2430	3662	2661	4226	4648	1100	-132	870	-696	-1118
Medium	2546	3838	2692	4338	4771	971	-321	825	-821	-1254
Large	2047	3123	2103	3648	4013	1505	429	1449	-96	-461

Source: Field Survey

Bengal gram which is grown in Pulimaddi, as stated earlier, gives a yield about 6-8 quintals, with very little cost of production about Rs.2000 per quintal. The prices which have fallen from Rs.6500 to Rs.3500 have yielded just about Rs.9000-12000 net revenue over paid out costs. However, when full costs of C1 and C2 are considered, the returns are negative. This crop, in other years, did give little higher returns up to Rs.15000 to 20000 per acre for the 7 months (Table 4.33).

Oilseeds is also a prominently grown crop in the state. Among the oilseeds, ground nut is extensively grown in entire Rayalaseema region, where the crop has the highest acreage. Among the sample village, ground nut is grown in Pulimaddi. Groundnut has the highest cost of production in Pulimaddi. The productivity differences are so high among the village that ranged 6-19 quintal per acre. The average cost of production, taking paid-out costs in to consideration, ranges about Rs.1300-2000, an A2 cost being about Rs.3000-3300 and full cost between Rs2000 to Rs.4000. Medium farmers have lower costs in Pulimaddi and Large farmers have high costs. Pulimaddi suffered a lower yield due to monsoon playing truant and so were the returns. The returns over Cost A1 are very meagre in Pulimaddi. The returns are negative over full costs in Pulimaddi (Table 4.34).

Table 4.34: Cost of Production and Returns for Oilseeds (Rs.)

OILSEEDS	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
<i>Groundnut</i>										
Pulimaddi										
Marginal	2732	4008	2946	4227	4650	851	-425	638	-644	-1067
Small	2041	3338	2278	3601	3961	1372	75	1136	-188	-548
Semi-medium	2069	2975	2232	3655	4021	1349	443	1186	-237	-603
Medium	1813	2650	1937	3004	3304	1586	749	1462	395	95
Large	2692	3892	2832	4085	4494	765	-435	625	-628	-1037
<i>Sunflower</i>										
Pulimaddi										
Small	2744	4078	2886	4219	4641	456	-878	314	-1019	-1441
Medium	2748	2748	2994	4323	4756	590	590	344	-985	-1418
Large	3136	3136	3336	4936	5430	381	381	181	-1419	-1913

Source: Field Survey

Cotton crop is grown mostly in Telangana and in few places in Rayalaseema; it has emerged as a principal non-food grain crop in the former. As we have discussed earlier, cotton is a cash-spinning crop in the lives of cash-starved peasant economy. The crop received good

prices during 2009-2011, due export permissions given in the light of Chinese crop holiday, prices went up to Rs.6500 per quintal. They crashed to Rs.3300-3600 in 2012, the year of the data collection. In 2012, the returns have fallen from Rs.3500-Rs.4000 net returns over paid out costs to Rs.353-1000. The crop gave a return of Rs.10, 000 per acre over paid out costs. Therefore, the petty commodity producers are quite content, who can have this crop as a means for cash rotation whereas returns over Cost A2 are negative or too meagre in Pulimaddi villages. The tenant farmers have incurred losses. The returns are negative over full costs in Pulimaddivillage. Thus only over the paid costs, the crop gives some positive returns that keeps money rotation for the poor households (Table 4.35).

Table 4.35: Cost of Production and Returns for Cotton (Rs.)

	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
<i>Cotton</i>										
Pulimaddi										
Marginal	2912		3212	4712	5183	1088		788	-712	-1183
Small	3147		3521	5732	6306	353		-21	-2232	-2806
Medium	3469	5269	3732	5880	6467	292	-1508	29	-2119	-2706
Large	3285	3285	3285	4785	5264	715	715	715	-785	-1264

Source: Field Survey

Sugarcane is grown in Kaluvapamula, which is in vicinity of KCP Sugar factory situated 20 km away. The factory is established in 1951 encouraged cane cultivation in the region, the crop was highly profitable for four decades. The company used to give entire fertilizer las subsidy, besides getting them advance crop loan. However, the subsidy scheme is withdrawn since fifteen years and medium and bid farmers too began diversifying from agriculture by leasing out land, though still it is the medium and large farmers hold the majority of share in production. According to the field data, there is a general positive relation between size classes and paid-out costs, with the exception of marginal farmers. There is also a positive relation between size classes and prices received; however in the sample we found that the prices covered only Cost A1, i.e., paid out costs in case of all classes of farmers except small farmers who got positive return on full cost, while all classes of farmers incurred losses. Sugarcane yields above

the cost of A1, A2, C1, C2 and C3 are positive for small and large farmers, and negative for marginal, semi-medium and medium farmers and farmers. Sugarcane cultivation yields an average of Rs.25, 000 returns over full cost with an average yield of 20 tones. Sugar cane seems to be one of the state's best income-generating crops(Table 4.36).

Table 4.36: Cost of Production and Returns for Sugarcane (Rs.)

	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
Sugarcane										
Kalavapamula										
Marginal	1624		1649	2399	2639	376		351	-	-
Small	1235	1620	1295	1680	1848	1065	680	1005	620	452
Semi-medium	1445	2654	1504	2604	2864	720	-	661	-	-
Medium	1396	2863	1419	2564	2820	760	-	737	-	-
Large	1462	1462	1463	2144	2359	779	779	779	97	-

Source: Field Survey

Tobacco is grown in Pulimaddi among the sample villages. It is a highly labour intensive crop, which requires investment of large make shift enclosed spaces in which tobacco leaves are dried, roasted and cured. The yield is about 5-9 quintals. We found that for a medium and semi-medium farmer, it yielded a net return of Rs.22,500 per acre; for marginal and small farmers, 3500-7500 over the cost paid out. Large farmers have moderate returns compared to other classes. However, during the year of field work, farmers reported crop damage due to cyclone and poor prices. The semi-medium and medium farmers have made about Rs6000-9000 net returns over cost C1. Returns over C2 and C4 are found to be negative marginal, small and large farmers (Table 4.37).

Table 4.37: Cost of Production and Returns for Tobacco (Rs.)

	Cost of Production					Returns over				
	A1	A2	C1	C2	C3	A1	A2	C1	C2	C3
<i>Tobacco</i>										
Pulimaddi										
Marginal	4467		4847	6673	7340	733		353	-	-2140
Small	4718		4963	6495	7144	1191		946	-586	-1235
Semi-medium	2963	3707	3118	4044	4449	2475	1731	2320	1394	989
Medium	3496	4592	3603	4917	5409	2469	1373	2362	1048	557
Large	5258	5258	5342	6671	7338	920	920	836	-493	-1160

Source: Field Survey

4.10 Diversification and Incomes

The average aggregate income of farm households ranged from Rs.107, 222 to Rs.299, 267. Although residing above the official poverty level of the Planning Board, the total earnings of the lowest or roughly equal landless class of marginal farmers are roughly US\$ 1 per day. If one applies, so landless, marginal, small and semi-medium farm households with a two-dollar income concept, i.e. all those who own less than 10 acres or none, all reside below this amount. Medium and large farmers have an annual income close to Rs.3 lakhs in the survey. These are the rich class of the villages, they earn about Rs.25, 000 per month, which is above average national income, but less than that of a class IV government employee. The small peasantry has a monthly household income between Rs.870 to Rs.1200. There are also non-cultivating households, but who own some land, this class as annual income Rs.175094. However, this class is a highly heterogeneous group compared to others. Second, the aggregate diversification of farm-to-non-farm production is considerable; nearly 45 percent of the income comes from non-farm operations. With just 23.19 percent, the landless labour class is found to gain the least from agriculture. Marginal receive about 47% from livestock, about 60 percent from it for the majority of the schools. It is rather pathetic to note that rural labour income from agricultural employment

would drop to a quarter and marginalised workers could even give half of their income. This is perhaps connected with the fact that fifty percent of agriculture is under petty producers whose labour demand is less than the middle or big farmers; their dwindling share of employment of income is in built into the structure of agriculture now. 35 percent of agricultural revenue is derived from non-cultivating land owning class. Before we proceed to see the regional differences, we conclude that there is a considerable diversification from agriculture within the agricultural households.

Table 4.38: Average Household Agricultural and Non-Agricultural Incomes

	Agricultural Incomes	Non-Agri Incomes	Total Income
Landless	24864 (23.19)	82358 (76.81)	107222 (100)
Marginal	47479 (47.08)	53367 (52.92)	100846 (100)
Small	82166 (53.58)	71195 (46.42)	153361 (100)
Semi- medium	96600 (58.57)	68341 (41.43)	164941 (100)
Medium	180336 (61.63)	112292 (38.37)	292628 (100)
Large	178579 (59.67)	120688 (40.33)	299267 (100)
Non- cultivators	61464 (35.10)	113630 (64.9)	175094 (100)
	711944 (55.7)	582279 (44.3)	1293954 (100)

Source: Field Survey

4.10.1: Agricultural Incomes

Having seen the low stagnant level of agricultural income in the income structure of agricultural households, let us turn our attention to the fragmentation of agricultural incomes between different activities, such as farm income, agricultural income from wages, allied activities and rental income. (Table 4.39).

Table 4.39: Distribution of Household Agriculture income

	Farm	Animal Husbandry	Wage	Rental	Total
Landless	0 (0)	5149 (20.71)	19715 (79.29)	0 (0)	24864 (100)
Marginal	13102 (27.60)	8673 (18.27)	25704 (54.14)	0 (0)	47479 (100)
Small	50721 (61.73)	11402 (13.88)	20043 (24.39)	0 (0)	82166 (100)
Semi- medium	61698 (63.87)	14788 (15.31)	16342 (16.92)	3772 (3.90)	96600 (100)
Medium	142722 (79.14)	20066 (11.13)	13184 (7.31)	4364 (2.42)	180336 (100)
Large	165903 (92.90)	11847 (6.63)	829 (0.46)	0 (0)	178579 (100)
Non- cultivators	0 (0)	3664 (5.96)	16576 (26.97)	41224 (67.07)	61464 (100)

Source: Field Survey

We find that landless and marginal farmers share the proletarian character by deriving majority of their agricultural income from the wage labour. This aspect of wage labour is found gradually declining the size classes, small farmers derive a quarter of their agricultural income and semi-medium farmers derive 16 percent from wage labour. The small, semi and medium farmers earn about 60 percent of their agricultural income from farming. Medium and large farmers derive 80-90 percent from farming. There is an emerging phenomenon of subsidiary

activity of dairying is slowly shifting from middle and big peasantry to small and marginal peasants. This is primarily the labour becoming costlier for the absence of child labour now and petty producers use unpaid family labour for raising cattle. Thus the dual character of small peasantry of being a peasant as well as the wage labour graded over class-caste structure is indeed revealing. There is a drive to become a peasant by the landless despite the fact it gives a dwindling income share in the portfolio is perhaps worth examining.

4.10.2: Non-Agricultural Incomes

The non-agricultural activity basically comprises of wage labour, salaried employment, shops and establishments (business), petty vending, self-employed service and industrial activities. Agricultural households are compelled to diversify, when we examine the diversification process, observe the following pattern. We observed that landless, marginal and to some extent small and semi-medium can diversify only into casual labour to a large extent, petty vending; whereas middle and large agricultural households can diversify more into regular salaried employment and regular business. We observed that in five out of three villages, marginal and small farmers derived greater share of their incomes from non-agricultural activities rather than from agricultural activity. Within village, we observed certain salaried employment such as government and private teachers, Anganwadi workers, ANM workers, pensioners. The prominent self-employed non-farm activities being motor-winding mechanics, construction workers, masons, auto drivers, truck drivers, motor mechanics, videographers, groceries, chicken centers, tent houses, music bands, hotel/Tiffin centers, cloth stores, medical shops, stationary sellers, plastic vendors, petroleum sellers, engine oil sellers, tailors, milk collectors, financiers, commission agents, pesticide dealers, liquor vendors, transport workers, homilies, cable operators, electricians etc. Traditional non-farm activities such as weaving, pottery, bamboo work etc have vanished. The non-farm activity can be classified into entrepreneurial and wage work. There are medium to small/tiny enterprises, most of the entrepreneurial opportunities accrue to medium to large peasant households and mostly belonging to upper castes, while wage work and low paying self-employed vending businesses belong to, first 90 percent of these are in private sector. Most wage work is casual; wages are slightly higher than in agricultural sector backward castes and *dalits*. *Dalits* are seldom into self-employed, mostly they are wage workers. In fact, their migration in the last one decade and more

has brought lot of changes in the village scenario. Following these, we now can understand the pattern of non-farm income across the size-classes; we see that non-farm income progressively increases the size classes, as those from upper classes own private business opportunities, while those from lower agrarian classes tend to get wage work. Thus from both classes, there is a progressive onward march towards non-farm activities from farm activities.

We can observe that medium and large household are deriving greater income from regular salaried professions, business and service sector activities, for example medium farm households derive 35 percent of non-farm income from business. Of course, there are trading castes who own traditional business like groceries, dal mills, etc, the new activities are owned by others. These essentially are proprietors of small trading capital in the village; they own provision stores, autorikshaws, tractors, excavators, harvesters, cable tv suppliers, millers, commission agents, etc. The workers in to these activities come from backward casts and *dalit* families belonging to marginal, small and sometimes semi-medium households. Especially semi-literate youth do not want to work as farm labour; they would like to be drivers, cleaners, workers in establishments. They get salaries employment but it belongs to low paying work. This is not only a cultural elevation, but also working conditions are said to be less harsh than in agriculture. Even landless labour in Coastal Andhra is found to prefer in construction industry because it is an activity under shade, not under the hot sun. Thanks to reservation policy, one finds some regular salaried employment from backward cast and *dalit* communities too, but their share is limited.

Table 4.40: Distribution of Non-Agriculture Income (Without MGNREGA income)

	Business	Wage Labour	Salaried Employment	Service sector	Total
Landless	15031 (21.96)	15367 (22.45)	21303 (31.12)	16743 (24.46)	68444 (100)
Marginal	5479 (13.02)	8935 (21.23)	17404 (41.36)	10263 (24.39)	42081 (100)
Small	17331 (31.94)	12295 (22.66)	15522 (28.61)	9108 (16.79)	54256 (100)
Semi-	13079	6667	28361	10210	58317

medium	(22.43)	(11.43)	(48.63)	(17.51)	(100)
Medium	39924 (54.8)	10656 (14.63)	16458 (22.59)	5818 (7.99)	72856 (100)
Large	39143 (36.7)	0 (0)	20000 (18.75)	47500 (44.54)	106643 (100)
Non-cultivators	20369 (21.75)	18038 (19.26)	45390 (48.46)	9862 (10.53)	93659 (100)
Total	150356 (30.3)	71958 (14.5)	164438 (33.14)	109504 (22.07)	496256 (100)
Avg. Non-Agri income	21479 (30.3)	10280 (14.5)	23491 (33.14)	15643 (22.07)	70893 (100)

Source: Field Survey

The average non-agricultural household income is about Rs.70, 893. Landless, marginal, small and semi-medium households have their average non-farm incomes less than sample average, that of medium households is close to the sample average and that of large and non-cultivators is about Rs.1,00,000 (table 4.28).

4.10.3: Comparison in sample villages:

Compared to agricultural and non-agricultural incomes at village level, we make some observations. Farm incomes in sample villages are highest in Kalavapamula, Pulimaddi and Achampet rank down in the decreasing order. In the three villages, we are interested in seeing the share of agricultural and non-agricultural production of the various groups. We create assumptions that obey. Second, a major diversification of incomes from agriculture to non-agricultural practices has been noted, expressed in terms of income on the country side. There is a considerable diversification in settlements that are no longer limited to cultivation. Second, in the canal-irrigated village of Kalavapamula, agricultural incomes are typically large at the village level. In general, farm incomes of various size groups in this village are greater than their non-agricultural incomes. Here, landless, marginal and small farmers are more focused on agriculture compared to medium and large farmers who, according to their peers, have adequately diversified into non-agricultural practices. Thirdly, however, in the

villages where irrigational sources are poor, farming classes are forced to migrate to non-agricultural sector within or outside the village; there the non-agricultural incomes are higher than the agricultural incomes. Therefore, backward villages are forced to diversify into non-agriculture. The ability to diversify into non-agriculture are expectedly increase with the class status, lower class households has to diversify as wage labour, upper households diversify into self-employed and regular salaried activities. We now substantiate these with some figures.

Further, with in agricultural incomes, the share of farm incomes is much smaller for marginal and small farm, they derive 46 percent of their income from allied activities, primarily, dairying. Further 35 percent of their income is earned from wage labour in agriculture. Village level observations bring some interesting facts. In Kalavapamula, we found that small and semi-medium farmer's farm income is found to be negative, which we have stated earlier that the prices did not cover Cost A2 and most farmers in the village are tenants. Their income from animal husbandry is 17 and 38 percent of their total farm income. Farm income is calculated taking into account Cost A1 or Cost A2 depending their status as owner-cultivator or tenant. In rest of the villages farm income is positive, not taking the cost of their family labour or full cost of cultivation. Farm incomes of medium and large farmers are positive and relatively more than the small peasantry. Except in Pulimaddi, where a medium farmer set up a large scale dairy farm unit (run by Biharilabour), in all most the rest of the villages, it is the marginal, small and semi-medium farmers who are having milch cattle as subsidiary activity. The rental incomes of non-cultivating households are 75 percent of their farm incomes in Kalavapamula; unlike elsewhere the rental income is 8-15 percent.

Table 4.41: Distribution of Agricultural and non-Agricultural Incomes of Sample Villages

	Achampet			Kalvapamula			Pulimaddi		
	Agri.	Non-Agri	Total	Agri	Non-Agri	Total	Agri	Non-Agri	Total
Landless	13433 (46)	15717 (54)	29150 (100)	33533 (46.64)	38362 (53.36)	71895 (100)	20918 (18.35)	93106 (81.66)	11402 (4)
Marginal	33359 (42)	46990 (58)	80350 (100)	55644 (65.6)	29061 (34.3)	84706 (100)	35951 (36.2)	63240 (63.7)	99191 (100)

				9)	1)		4)	6)	
			13847	33081	35624		48536	95906	14444
Small	43113 (31)	95363 (69)	7 (100)	(48.1 5)	(51.8 5)	68706 (100)	(33.6 0)	(66.4 0)	2 (100)
Semi- Medium	25985 (40)	38185 (60)	64171 (100)	(39.8 6)	(60.1 4)	12354 9 (100)	64178 (56.1 1)	50209 (43.8 9)	11438 7 (100)
							10750		
Medium	22334 8 (63)	13150 0 (37)	35484 8 (100)	36700 (59.1 0)	25402 (40.9 0)	62103 (100)	1 (62.2 8)	65118 (37.7 2)	17261 9 (100)
							28515		
Large	0	0	0	61447 3 (100)	0 (0)	61447 3 (100)	6 (80.7 7)	67900 (19.2 3)	35305 6 (100)
Non- Cultivat or	23343 (36)	41560 (64)	64903 (100)	12248 0 (41.8 9)	16992 0 (58.1 1)	29240 0 (100)	38329 (22.5 1)	13197 3 (77.4 9)	17030 2 (100)
Total	36258 4 (49.5 4)	36931 7 (50.4 6)	73190 1 (100)	94515 8 (71.7 2)	37267 6 (28.8 8)	13178 34 (100)	60056 9 (51.4 2)	56745 5 (48.5 8)	11680 24 (100)

Source: Field Survey

Among the sample villages, as stated earlier, Kalavapamula is rich in water resources; here the agricultural and non agricultural incomes are 71.72 and 28.88 percent respectively. Among Achampet and Pulimaddi the share of agricultural incomes are 51.42 and 48.58 percent respectively (Table 4.41).

In Coastal village of Kalavapamula, formal sector opportunities went to mostly with the landed households; we found several software engineers in US, government employees in the village.

For instance, in Achampet we say labouring households getting informal work in the industrial area. In Kalavapamula, descendants of upper peasantry have migrated to Hyderabad, Chennai, Bangalore and abroad, that of *dalits* and backward castes migrate to Vijayawad to work in industries in Autonagar industrial estate.

4.11 State Welfare

The last one decade of liberal democracy saw certain departures from the previous modes of public policy, which is in terms of an increase in welfare programs assiduously used to contain the rural distress. Particularly under the UPA government at the Centre and the state, there has been a proliferation of such programmes. There are more than a dozen actively implemented schemes that involve kind and cash transfers in the Andhra Pradesh. These include Public Distribution System, Mahatma Gandhi Rural Employment Guarantee Act, old-age pensions, student scholarships, medical assistance under Arogyashree, midday meal, Integrated Child Development Program, National Insurance and Family Benefit Scheme, 3% interest farm loans, agricultural loan waiver, etc. These schemes now form a major part of the electoral discourse through which the parties seek to take credit for introducing social security to the poor. We have collected data from households over the kind and cash transfer to arrive at the average welfare transfer that is taking place annually. We found that almost all the poor (even well-off) households in the villages are covered under major schemes namely PDS and MNREGS, are implemented relatively well in Andhra Pradesh.

We have made an estimation of monetary worth from six welfare measures, which include direct transfers such as pensions, scholarships and wages under MNREGA as well as indirect transfer involved in subsidy in schemes like Integrated Child Development Scheme (ICDS), midday meal and public distribution scheme⁵⁵. From the six welfare schemes, there is an average income transferred to each rural household in the sample village. Landless, marginal, small and semi-medium have received Rs.9, 235, Rs.17, 723, Rs.17, 386, and Rs.17, 124

⁵⁵There are of course other schemes such as Arogyashree, National Family Health Benefit scheme, National health Insurance scheme, pavalavaddi, Indira AwasYojana, which also give some insurance coverage for the rural households which are not included in the study as beneficiaries are sporadic than these which are more regular.

respectively. Even medium farmers received Rs.7062. The non-cultivating households received on average Rs.11, 855. The important source is public distribution, which amounts about Rs.4, 529 transfers per annum. Pensions constituted Rs.3, 500, mid day meal Rs.1166 and scholarships Rs.1066 on average. This constitutes roughly 15-18 percent of landless and marginal households and 8-10 percent of semi-medium and small farm households. Even medium farm households received 12 percent of total welfare transfer and large farmers received 4 percent. 13 percent of welfare transfer went into non-cultivating households, some of which are of course poor households.

The monthly income received under MNREGA Rs.6170 is approximately 56 days of jobs on average (Table 4.30). Households from landless and semi-medium households participate. Marginal, small and semi-medium household participation and income earnings are higher everywhere, with on average these groups accounting for 25, 18 and 21% of total NREGA income in the villages. So generally, these three groups account for 64 per cent of total NREGA revenues. The income earned by landless workers is comparatively lower (only 15%) compared to other groups, since they are much more involved in agricultural and non-agricultural jobs, where wages are much higher.

Interestingly, according to field data, even the share of semi-medium farm households is very high, as the highest income of Rs.11, 000 is earned in pulimaddi by this party, around Rs.8000 in Achampet. The participation of medium and large farmers is likely to be small and absent, except in Pulimaddi, where we suspect some false participation by the wealthy. As our sample includes some significant poor households in a non-cultivating class, we can see that their participation in NREGA is considerable, with 11 per cent of NREGA income going to that class (table 4.43)

Table 4.42: Distribution of Average Household Transfer Income under Different Welfare Programs (in Rs)

	Land Less	Marginal	Small	Semi-medium	Medium	Large	Non-Cultivators	Weighted Average
PDS	4817	4953	4855	4734	4495	1777	4297	4529 (23)
Pensions	3370	3586	2749	4568	3371	343	2851	3467 (18)
ICDS	717	738	629	440	126	0	629	628 (3)
MDM	2192	2694	2771	2999	1666	523	1424	2370 (12)
Scholarships	2400	2438	2400	2400	2106	343	1371	2204 (11)
MGNREGA	6336	7538	7376	6321	3948	1571	5157	6170 (32)
Total	19831	21947	20780	21462	15713	4558	15729	19368 (100)

Source: Field Survey

Table 4.43: Average MNREGA Wage Income in Sample Villages

	Landless	Marginal	Small	Semi-medium	Medium	Large	Non-Cultivators
Achampet	4200 (11.4)	8557 (23.2)	8647 (23.4)	8317 (22.5)	2400 (6.5)	0 (0)	4796 (13)
Pulimaddi	9900 (14.3)	9733 (14.1)	9518 (13.7)	11000 (15.9)	9175 (13.2)	11000 (15.9)	8920 (12.9)
K.pamula	3065 (14.6)	3836 (18.2)	3414 (16.2)	5560 (26.4)	2960 (14.1)	0 (0)	2200 (10.5)
Avg	5721 (13.34)	7375 (18.5)	7193 (17.77)	10399(21.6)	4845 (33.8)	3666 (5.3)	5305 (12.14)

Source: Field Survey

The PDS is the second most significant source of revenue transfer. 80% of all households have BPL cards and the system operates very effectively in the state. This results in an average implicit income of Rs.4700 per year. According to our respondents, households from landless to semi-medium farm households as well as non-cultivating households have access to PDS. We have found that most of them also buy, contrary to the idea that the majority is reselling. Large farm households reported not taking PDS rice. There are no major variations in the village level of PDS revenue. The PDS income in Achampet is marginally high compared to other villages (Table 4.44).

Table 4.44: Implicit Income Transfer under PDS

	Landless	Marginal	Small	Semi-medium	Medium	Large	Non-Cultivators
Achampet	4436 (15)	5333 (18)	5065 (17)	5027 (17)	4600 (16)	0 (0)	4882 (17)
Pulimaddi	4936 (14.5)	4909 (14.4)	5050 (14.8)	4946 (14.5)	4985 (14.6)	4702 (13.8)	4625 (13.5)
K.pamula	4585 (16)	4923 (18)	4394 (16)	4483 (16)	4205 (15)	2460 (9)	2789 (10)
Avg	4652 (15)	5055 (16)	4836 (15)	4818 (15)	4596 (15)	2387 (7)	4098 (13)

Source: Field Survey

A small pension of Rs.200 is granted to citizens over 60 years of age in rural areas. We presented the average income earned by households under the pension scheme (Table 4.45). Households have an average income of Rs.2514-Rs.3800 per year. Higher average income for semi-medium households conveys a certain class prejudice. This is possible because the enrolment of pensioners is always riddled with corruption and mistake of exclusion. However, what is real, of course, is that there is an increasingly higher coverage of elderly people under the pension system, reflecting the pressure to tackle poverty for the democratic state. The scheme is also revamped recently and the pension is raised to Rs.1000 per person.

Table 4.45: Income Transfer under Pension Scheme

	Landless	Marginal	Small	Semi-medium	Medium	Large	Non-Cultivators
Achampet	2400 (15)	2775 (18)	2400 (15)	2400 (15)	2400 (15)	0 (0)	3200 (21)
Pulimaddi	3333 (15)	5200 (24)	2743 (13)	3120 (14)	3600 (17)	0 (0)	3600 (17)
K.pamula	3467 (18)	3200 (17)	2400 (12)	2400 (12)	5400 (28)	0 (0)	2400 (12)
Avg	3066 (16)	3725 (19)	2514 (13)	2640 (13)	3800 (20)	-	3066 (16)

Source: Field Survey

The Mid-Day Meal Scheme is the fourth significant welfare initiative to increase the enrolment and attendance of school children in the villages. This is a universal curriculum intended to include all grades. We find that mid-day meal is an active programme in all villages. What we have seen from the household survey is that children from landless to semi-medium households take active mid-day meals served in schools. Interestingly, semi-medium households are again the relatively largest winner, while inter-class disparities are still not very important. Big households are not active participants, which is understandable (Table 4.34).

Table 4.46 Implicit Income Transfer under Mid-Day Meal Program

	Landless	Marginal	Small	Semi-medium	Medium	Large	Non-Cultivators
Achampet	2263 (14)	3041 (22)	3036 (22)	2460 (18)	1760 (13)	0 (0)	3417 (25)
Pulimaddi	2822 (17)	2478 (15)	2930 (18)	3622 (22)	2578 (16)	1903 (12)	0 (0)
K.pamula	2442 (14)	3039 (18)	3806 (23)	3806 (23)	3806 (23)	0 (0)	0 (0)
Avg	2509 (15)	2852 (18)	3257 (21)	3296 (21)	2714 (17)	634 (4)	1139 (8)

Source: Field Survey

The state government has put in place a scholarship for higher education for the weakest groups, including Muslims. Recently, this has also been applied to those students studying engineering, management, medicine, pharmacy at private colleges. This has become so popular among the masses as the debate that a number of higher education institutions have come to exist on the scholarship money paid by the government. Unfortunately, we have not been able to obtain accurate data on private college scholarships; we have limited ourselves to social welfare scholarships paid to S.Cs and B.Cs. We found that this scheme provides an average gain of Rs.2300 per household. There are no gaps between classes (Table 4.35).

Table 4.47: Implicit Income Transfer under Scholarships

	Landless	Marginal	Small	Semi-medium	Medium	Large	Non-Cultivators
Achampet	2150 (20)	2408 (20)	2140 (20)	2450 (20)	0 (0)	0 (0)	2250 (20)
Pulimaddi	2470 (16.3)	2250 (16.3)	2490 (16.3)	2100 (16.3)	2743 (18.6)	0 (0)	1958 (16.3)
K.pamula	2560 (16.7)	2630 (16.7)	2124 (16.7)	2400 (16.7)	2800 (33.3)	0 (0)	0 (0)
Avg	2393 (17.7)	2429 (17.7)	2251 (17.6)	2316 (17.6)	1847 (17.3)	-	1402 (12.1)

Source: Field Survey

The average transfer of Rs.716 per household is determined to take place on the basis of the Integrated Child Development Scheme (ICDS). There are two or three ICDS centres in the villages, depending on the population. The children of landless, marginal, small and semi-medium households profit from the programme (table 4.36).

Table 4.48: Implicit Income Transfer under ICDS:

	Landless	Marginal	Small	Semi-medium	Medium	Large	Non-Cultivators	Total
Achampet	0 (0)	880 (33.3)	880 (33.3)	0 (0)	0 (0)	0 (0)	880 (33.3)	640 (100)
K.pamula	880 (19)	1100 (24)	880 (19)	880 (19)	0 (0)	0 (0)	880 (19)	620 (100)
Pulimaddi	880 (16)	1100 (20)	880 (16)	880 (16)	880 (16)	0 (0)	880 (16)	890 (100)
Avg	586 (11)	1026(77))	880 (22)	586 (11)	293 (4)	0 (0)	880 (22)	716 (100)

Source: Field Survey

From the above analysis of the results, it was found that the marginal and the small constitute about 90 percent in the village of Achampet, while about 60 percent in the village of Kalavapamula and 42 percent in the village of Pulimaddi. The rate charged for Kalavapamula is Rs.797 for marginal, Rs.900-937 for others for Kharif paddy. Large farmers have marginally lower costs at Rs.775. Kalavapamula is rich in water supplies among the sampled villages, as mentioned above, where agricultural and non-agricultural incomes are 71.72 and 28.88 per cent, respectively. The share of agricultural income between Achampet and Pulimaddi is 51.42% and 48.58% respectively. Interestingly, according to field data, even the share of semi-medium farm households is very high, as this group earns a maximum income of Rs.11, 000 in pulimaddi, or Rs.8000 in Achampet. The involvement of medium and large farmers is likely to be limited and absent, with the exception of Pulimaddi, where some false participation by rich people is suspected.

4.12 Summary:

We are interested to see the share of agricultural and non-agricultural income of different classes in the three villages. We can make the following observations. First, there has been a significant diversification of incomes from agriculture to non-agricultural activities reflected in

incomes on the part of the country. The villages are no longer limited to agriculture, there is a considerable diversification. Second, at the village level, agricultural income is generally high in the canal irrigated village of Kalavapamula. In this village, agricultural incomes of different size groups are generally higher than their non-agricultural income. Here, landless, marginal and small-scale farmers are more dependent on agriculture than middle and large-scale farmers who have a sufficiently diversified into non-agricultural activities compared to their counterparts. The capacity to diversify into non-agriculture is projected to increase with class level, lower-class households have to diversify as wage labour, upper households have to diversify into self-employed and daily wage activities. In Kalavapamula, we found that the farm income of small and semi-medium farmers was found to be negative, and we reported earlier that the prices did not cover the costs of A2 and most farmers in the village are tenants. Their income from animal husbandry is 17 and 38 percent of their total farm income. Farm income is calculated taking into account Cost A1 or Cost A2 depending their status as owner-cultivator or tenant.

Among the villages sampled, Kalavapamula is rich in water supplies, with an agricultural and non-agricultural income of 71.72 and 28.88 per cent respectively. The share of agricultural incomes of Achampet and Pulimaddi is 51.42 and 48.58 per cent respectively.

Chapter 5:

Summary and Conclusions

5.1 Conclusion

Agriculture is the primary residence of the majority of people in India. The growth of agriculture is determined by the country's topography, soil conditions, the availability of rain and the improvement of water facilities. The productivity of agricultural land depends on a variety of factors, including demographics, geographic conditions, the systemic and institutional climate, and policy factors. Institutional variables such as land ties also assess the productivity of land. Of all the variables, the 'agricultural policy regime' in the country primarily determines agricultural productivity. They are intended to change land ties, remove obstacles to the growth of agriculture and eradicate exploitation in rural areas where land reforms have been implemented in the country. The programme has been introduced in five categories, including the elimination of intermediary tenures, lease reforms including rental rules, tenure protection and conferment of tenant ownership rights, land tenure and surplus land allocation ceilings, holding consolidation and land record collection and updating. Land reforms were unable to achieve the desired objectives and the arrangement of land holdings appears to be distorted in the countryside. It remains, until now, as an unfinished government agenda.

India chose planning as the instrument of bringing changes in socio-economic life of the country. For the planners, in agriculture, there were two approaches available to achieve growth and development in the sector. First was the technocratic approach, which emphasized on achieving growth in the sector by providing modern agriculture inputs etc. Second was the institutional approach which emphasised the bringing of institutional changes through government proactive policy regimes to address the question of equity and justice in the rural India. Since post-colonial India state, in principle, was committed to address the question of inequalities and removal of exploitative agrarian structures, it chose to follow the institutional approach. Under this approach, land reforms, infrastructural development and food security was emphasised. This approach was followed until the dawn of green revolution in mid 1960s. Green revolution technology is also known as Subramanian model of agriculture development made a departure with Nehru-Mahalanobis model of development. Under this approach, emphasis was

on achieving higher food production through using High Yielding Variety (HYV) seeds also known as Norman Borlaug seeds, and high consumption of fertilisers, pesticides and other monetised inputs. Thus, Indian agriculture was set to become commercial, but in this period, agriculture trade was operated within the protected trade regime and the sector was fairly insulated. Policy makers emphasised on achieving self-sufficiency and self-reliance in food production rather bringing institutional changes in land relation etc. The green revolution strategy was successful in achieving surplus food grain production but it caused class polarisation in the countryside. By 1980s, this strategy attained saturation due to exhausted land productivity and technological fatigue. The Indian government was set to liberalise its economy by mid 1980s.

Andhra Pradesh was primarily an agrarian economy, contributing significantly to the Gross State Domestic Product (SGDP) and 2/3 of its dependent population. With the implementation of agricultural sector reforms, the state saw an immense increase not in the growth of agriculture but in the indebtedness of farmers. The state propagated that the 'economic driver' would be the field of Information Technology (IT), not the agricultural sector. Thus, at the expense of neglected farming, the state visualised development. State reforms have been introduced in the fiscal, foreign trade, banking, health and education sectors. Under the fiscal reforms, government fiscal deficit reduction was emphasised. This affected adversely the public investment on agriculture. The central as well as state government's expenditure as a share of national income declined and rural employment became a big problem. Growth from the agriculture sector on the economy came down considerably. The agriculture sector was "left out" from the globalisation process, the agrarian population excluded and marginalised. In other words, agriculture was unfavorably included in the globalisation process.

The nature of agrarian structure and dynamism acquired over a period differ region to region because of differential climatically, social, historical and economic reason. In India several states have emerged as the 'hub of farmers' suicides' within those states some regions and districts have registered more suicide cases. One paradox in those regions is in the recent past is that these regions witnessed change in cropping pattern towards high valued commercial crops by registering reasonable growth in agriculture production. However, this growth was associated with the distress. During the post liberalisation period, agriculture registered a higher

growth rate in the Telangana region, but at the same time, the region witnessed thousands of agrarian suicides. Liberalisation has functioned as an accentuating factor for backward agriculture in this country. The agrarian problem in the region could not be explained only in terms of liberalisation policies and changing agrarian structures etc. but had to move beyond those categories and locate into the regional domination that this region is subjected to after formation of the state. The regional disparities in the state have been maintained for a long time because of the internally colonised situation of Telangana. This theory is helpful in explaining the backwardness of a well-endowed region; the theory also helps in uncovering forms of institutional oppression, covert form of discrimination. The entry into colonial relationship could be through either consent or coercion, Telangana region entered in to this relationship through an agreement called 'gentlemen agreement.' This theory also helps in explaining how the people under internal colonialism start active resistance from the condition of hegemonic acculturation. When Telangana was proposed to be merged with Andhra, the States Reorganisation Commission (SRC) cautioned danger involved in its merger, it opined that "Telangana itself may be converted in to a colony by the enterprising Andhras." 1 The coastal Andhra enterprising class could hegemonies political and economic power because of agrarian surplus generation that took place in the region during the colonial and post-colonial times. Andhra's subsequent ruling classes/castes exploited the mechanism of irrigation planning at the expense of Telangana to the benefit of their area. The green revolution strategy also favored the rice cultivation and canal irrigated coastal districts. By the enhanced surplus during that period, the coastal Andhra capitalist class experienced further prosperity and augmented their political and economic power. Nevertheless, naturally endowed area of Telangana was discriminated, dominated and denied its legitimate resources. Thus, Telangana agriculture experienced further deterioration especially on the irrigation front.

There have been a series of experiments in the state based on survey investigations in victims' homes in attempt to analyse the proximate triggers of suicides. A few of them are analysed here to clarify the nature of the stress factors causing suicides. In 1998, a People's Tribunal heard depositions of claimants from 60 agricultural families in five state districts (RSC 1998). Most of the 60 (42) recorded their dependence on irrigation wells or bore wells in which they invested a significant portion of their capital. The major explanation for their crop failure that caused the suicides was water shortages recorded by thirty-three of them. Just one of the

twenty-one who reported heavy borrowing for investing in wells or bore wells or for deepening bore wells reported bank loans, while the remainder reported very high interest rates from informal private sources.

Andhra Pradesh was a leading state in the incidence of suicides by farmers. The first stage of suicide in the mid-1980s was committed by cotton farmers (1986-87). Andhra Pradesh was a leading state for the incidence of farmers' suicides. Cotton farmers committed the first stage of suicide in the mid-1980s (1986-87). The second phase started in the Prakasam district in the mid-nineties (1997-98), starting with Warangal district, but spread to some other districts of northern Telangana with suicides by cotton farmers.

The recent studies have indicated stressful conditions of farm production in state. Conditions of such stress seem to vary across the agrarian structure. The study would examine on the emergence of small and marginal farmers agricultural incomes of these classes and subsistence strategies of them from a variety of sources such as diversification, employment, and State welfare and kinship networks.

The objective of this study was to analyse the existence of agricultural markets in which small and marginal farmers operate and the nature and quantity of economic vulnerability of small and marginal farmers in agriculture through the formation of small and marginal holdings in Andhra Pradesh State. This research also explored the diversification of small and marginal farmers, the accessibility of small farmers to the credit system, and examined coping mechanisms.

The research will draw its data from secondary sources such as the Indian Census, the Agricultural Abstract, the Key Crops Survey, the NSS, the National Income Statistics, etc. More important, the primary proof would be 458 households in three villages in the regions of Andhra Pradesh, namely Telangana, Coastal Andhra and Rayala Seema. After the review, the state was bifurcated into Telangana and Andhra Pradesh. The sample is around 40 percent of the population selected for all castes in the villages on a random stratified basis. In addition, an ethnographic account of the settlements, the historical and socio-economic history of the different groups and their mobility with quantitative information was carried out in the study.

Growth in the agricultural sector can well be judged by the increase in agricultural production over time. Relative changes in the prices of different crops can, in economic terms, often affect substitution. In the Indian background, rice, wheat, maize, millets and pulses are the main food crops. Oilseeds, sugarcane, cotton, jute & mesta, and potatoes are the principal cash crops. Tobacco, chilies, ginger, onion, turmeric, tapioca, sweet potatoes, and so on are minor cash crops.

In India, there is a long debate between policy makers and academics about whether or not public investment in agriculture is necessary for the growth of economic development. Dhawan and Yadav (1997) researched public investment in agriculture and estimated that one rupee of state borrowings (from the market as well as non-market sources such as the center) resulted in an increase in the creation of public capital in agriculture of about a little less than 1/3rd of a rupee. The majority of public investment in Indian agriculture is aimed at improving the irrigation system.

Although subsidies are generally seen as compensating for low profitability in the farm sector, it is not certain that lagging farm incomes are responsible for low profitability. Chand, Saxena and Rana (2015) explain that farm production in 2011/12 was 70% higher than the cost of all contingent inputs (including hired labour). While such profitability was unprecedented due to the extraordinarily high farm prices that year, in the 1990s and mid-2000s the profitability ratio ranged from 40 to 50 percent.

Although the recent fall in product prices has had a detrimental influence on profitability, we should not lose sight of the small resources base, which for a large part of the agricultural population remains a fundamental constraint. Ownership of land for marginal and small farmers is so restricted that farm incomes would continue to be poor, both in actual and relative terms, even though subsidies have been dramatically increased.

It can therefore be inferred that even a substantial rise in subsidies will have (a) minimal impacts on farm distress because our farmers own small parcels of land and (b) no influence on the relative productivity deficit because the gap is too wide, though government farm subsidy expenditure is an essential component of farm income. Although subsidies are still too important for farm income to be decreased, they do not offer a feasible potential route for a sustained rise

in farm income. The main drivers for accelerated revenue development appear to be structural change methods.

A study on “Agricultural policy for the Nineties; Issues and Approaches” by Vyas V.S (1994)² Data was obtained from CMIE, Economic surveys of 1992-93 and Respective Plan documents. The four key deficiencies plaguing Indian agriculture are: the preponderance of low-value agriculture, the low cost-benefit ratio, the inefficient use of natural resources, and the degradation of self-help institutions. According to him, the four factors are considered as major factors inhibiting sustainable agricultural growth. In Indian agriculture, per hectare value added is low in the production of most of the crops and mixes. This categorically suggests that the growth of income of farmer even in the case of high value crops (other than sugar) with a reasonable cropping intensity is meager. Second, the cost-benefit ratio is that resources such as fertiliser, irrigation water, etc. are ineffectively used. As a result, Indian agriculture has become high cost enterprise. The third disturbing feature is the degradation of the natural resource base of India. The resources are being used in such a manner that the sustainability of agricultural growth has been pushed to its threshold. Even though there are serious attempts to stop deforestation, the factors, which disturb agricultural land like degradation of the soil and fall in water levels, are going more or less unabated. The most serious handicap facing Indian agricultural is the erosion of farmer self-help institutions, formal as well as informal and their increasing dependence on inefficient urban biased and centralized bureaucracy. Actually, the country is bestowed with the soil and climate, which can enable to reach heights of productivity in a large variety of commodities. Hence, Vyas concludes that because of endowed natural factors, an alert and responsive peasant population and shared political and bureaucratic consensus on poverty alleviation is need of the hour.

According to 55th NSS round data on landless households in the rural areas, they constituted 56 percent for All India as much as 46 percent in Andhra Pradesh in 1999-00. In our study, the number of households with land is found to be 75 percent. 30 percent of them are marginal farmers. Landless and marginal households, who are primarily wage labour, together constitute 55 percent. Thus the majority of the poor have some access to land, however, a good portion of them do have an economic holding. The households with some access to land are in a

range of 76 to 95 percent in the three villages, across all the three regions, namely Achampeta Pulimaddi and Kalavapamula.

In the sample villages we found that the share of marginal and small holdings constitute 62 percent, if add the semi-medium households then their share is 81 percent of the total holdings (including landless).). In Achampet village, the marginal and small constitute is about 90 percent, while they constitute about 60 percent in Kalavapamula, and 42 percent in Pulimaddi.

The average holding of an upper caste peasant is 9.25 acres compared to 3.18 acres of backward caste and 3.02 acres of scheduled caste. The scheduled tribe is about 0.4 acres and that Muslims is 1.

We observe that as for the non-food grain crops cultivation concerned, which many being dry land crops, some of them are investment-intensive such as sugarcane, and tobacco, while others are not so, marginal and small farmers share in the production is high comparatively medium and big farmers is quite small. Moreover, while these classes share considerable share in the production of food crops, their share in the non-food crops is conspicuously small, as found in our evidence. Given the small nature of the sample, we would not venture to generalise, there certainly seems to be a tendency of this aspect.

We found that the institutional credit on aggregate covered 52.3 percent while non-institutional credit was 47.7 percent. Even the landless households are given the institutional credit through Self-Help Groups, along with marginal and small farmers. SHGs cover most of the rural households. The average SHG loan per household in different villages ranged from Rs.7500 to Rs. 35,000.

Regarding non-institutional credit, the average non-institutional loan is found to progressively increase from landless to semi-medium households and then for medium and large farm households it is relatively less. The average non-institutional loan for landless is about Rs.17102, for marginal farmers it is Rs.22796, for small farmers it is Rs. 41198. For semi-medium households, it is Rs.37580. For medium and large households it is Rs. 41373 and 22222 respectively.

On average in poor households men work for 12.4 days on own farms per year per acre and women work for 25.7 days. Among marginal farmers, men work for 19 days and women work for 37 days; among small farmers men work for 16 days and women for 32 days; semi-medium farm households, men work for 10 days and women work for 18 days and among medium household's men work for 8 days and women work for 17 days. The inter-village differences in family labour employment which are not very high are due to differences in cropping pattern (Table 4.12).

We found that on average a male labour hires out for 83 days and a female labour hires out for 107 days in 2012-13. This is rather quite low as agricultural employment is concerned. Even if we include family labour, Total employment remains below 100 days for males and 150 days for females. The wage employment naturally high among landless and progressively declines. We found for even non-cultivating households the employment is quite high. Kalavapamula provide highest employment for men and women, which are irrigated villages. Achampet and Pulimaddi are semi-dry areas provide low employment (Table 4.14).

For *Kharif* paddy, the paid-out costs for Kalavapamula, is about Rs.797 for marginal, Rs.900-937 for others. Large farmers have slightly lesser costs at Rs.775. The cost A2 and Cost A2+FL are however much higher ranging Rs.1164-1300 for the different classes of tenant farmers. The market prices which closely move along with MSP is about Rs.1100, farmers get around this price according to moisture and quality differences. The prices that they received in the year of data collection, were the ones that are far better than their previous prices (they fell to Rs.650 in 2010-11) and recovered to Rs. 1100.

There is also a positive relation between size classes and prices received; however in the sample we found that the prices covered only Cost A1, i.e., paid out costs in case of all classes of farmers except small farmers who got positive return on full cost, while all classes of farmers incurred losses. Sugarcane yields above the cost of A1, A2, C1, C2 and C3 are positive for small and large farmers, and negative for marginal, semi-medium and medium farmers and farmers. Sugarcane cultivation yields an average of Rs.25, 000 returns over full cost with an average yield of 20 tones. Sugar cane seems to be one of the state's best income-generating crops.

In Kalavapamula, we found that small and semi-medium farmer's farm income is found to be negative, which we have stated earlier that the prices did not cover Cost A2 and most farmers in the village are tenants. Their income from animal husbandry is 17 and 38 percent of their total farm income. Farm income is calculated taking into account Cost A1 or Cost A2 depending their status as owner-cultivator or tenant.

Among the sample villages, as stated earlier, Kalavapamula is rich in water resources; here the agricultural and non agricultural incomes are 71.72 and 28.88 percent respectively. Among Achampet and Pulimaddi the share of agricultural incomes are 51.42 and 48.58 percent respectively.

Interestingly, even the share of semi-medium farm households according the field data is pretty high, as a highest income of Rs.11, 000 is earned in pulimaddi by this group, about Rs.8000 in Achampet. Participation of medium and large farmers is predictably small and absent, except in Pulimaddi, where we suspect some fake participation from the rich.

An average transfer of Rs.716 per household is found to take place on account of Integrated Child Development Scheme (ICDS).

5.2 Summary

Small and marginal farmers have a significant role in ensuring social stability whose benefit cannot be qualified in monetary terms. Hence no agricultural policy will succeed without making these farms economically sustainable and vibrant. The small and marginal farmers are still in the clutches of indebtedness and poverty. This agrarian crisis has manifested itself in the form of suicides in Andhra Pradesh State and has reached dangerous levels. The gravity of this issue and its causes suggested that most of the suicides were among farmers belonging to the group of small and marginal farmers. In addition to the general problems facing the agricultural sector, these farmers face many challenges in obtaining timely quality inputs, including capital and marketing their goods effectively, ranging from poverty to crop failure, indebtedness, marital discord and alcoholism. Their ability to absorb high cost technologies is also limited as compared to both medium and large farmers.

The aim of this thesis is to research the process of small and marginal holding creation in Andhra Pradesh State. Furthermore, the existence and quantity of economic vulnerability of small and marginal farmers in agriculture, the diversification of small and marginal farmers and the credit market accessibility of small farmers should be discussed in the sense of the agricultural markets in which small and marginal farmers work.

Agrarian suicides take place, rather than in isolation, in a socio-cultural and economic sense. The upsurge in farm suicides in India has recently taken place in several distinct contexts. Suicide may be an individual act, but the context could be very nuanced, so there is a need to research several points of view. This research aims to do the same thing. However, in the study, economic suicide determinism prevails over other disciplines. Andhra Pradesh (AP) ranked top in the cases of farmers' suicides. Between May and July 2004, over 400 peasants in the state committed suicide within a short period of less than two months (V. Sridhar, 2006).

India's agricultural structure has experienced a phase of reducing the size of farms and increasing the marginalisation of holdings for the past few decades. Over the period 1960-61, the proportion of marginal holdings rose to 2007-08-08 (from 39 percent to 72 percent). In 2007-08, the proportion of medium land holdings decreased (from 38% to 12%), the amount of controlled land by marginal farmers increased significantly (from 6.9% to 23%) and the region under smallholdings increased significantly (from 12.3% to 21%) to account for 42% of operated land holdings for both marginal and small holdings. On the other hand, the region run by medium holdings (from 31.2 percent in 1960-61 to 23 percent in 2007-08) and large holdings (from 31.2 percent in 1960-61 to 23 percent in 2007-08) and large holdings (from 31.2 percent in 1960-61 to 23 percent in 2007-08) decreased dramatically (from 29.0 percent to 12.0 percent).

A complex land revenue administration scheme was in effect in the pre-British Moghul Empire in which the Jagirdars or Zamindars, the emperors' representatives, received income directly from the farmers in this system. During the times of drought and misery, the administration was responsive to the circumstances of the peasantry and even repaid the revenue. During the British era, this structure underwent dramatic changes. Three forms of revenue administrative structures have been introduced by the British: Permanent Settlements, first implemented in the Bengal, Ryotwari and Mahalwari settlements.

Capitalism" What is specific about the "capitalist mode of production" is that most of the production inputs and outputs are supplied through the market (i.e. commodities) and that this mode is basically all production." For example, most or all of the production factors, including labour, are directly owned by the feudal ruling class in thriving feudalism, and the goods may also be owned directly by the feudal ruling class.

In order to conform to the economic rationality bounded by capitalism, which is reflected in the price relationships between inputs and outputs (salaries, non-labor costs, sales, profits) rather than the broader rational context facing society as a whole, this has the significant effect of reshaping and reorganising the entire organisation of the production process.

Small-peasantry crisis

In 1992, Indonesian farmers produced enough soya to satisfy the domestic market. Tofu and 'tempeh' are an important part of the regular diet throughout the archipelago. Following the neo-liberal theory, the country opened its borders to food imports, allowing cheap US soy to enter the market. This has destroyed national production. 60 percent of the soy consumed in Indonesia is imported

According to the FAO in West Africa the food deficit increased by 81 percent in year the 1995 to 2004. Over the same period, cereal imports increased by 102 percent, sugar imports increased by 83 percent, dairy products by 152 percent and poultry by 500 percent. According to IFAD, however, the region has the capacity to produce sufficient quantities of food (2007).

Agricultural Policy and Trends in Indian Agriculture Sector

The Mahalanobis Model was based on the historical commitment to economic nationalism of the free movement. In the approach of organisational analysis to planning in India, the model was conceptualised in 1955 and was implemented in the 'plan game' under the title 'draught suggestions for the formulation of the second five year plan (1956-61)'. Private entrepreneurs were appointed to maintain the government and consumer goods industries, household industries, agriculture, service industries in the fundamental capital or investment goods industries. This model envisaged a 'transition period' during which for higher employment purposes small-scale, labor-intensive and household sectors worked.

National project on management of soil health and fertility (NPMSHF)

During 2011-12, the Government of India introduced NPMSHF to provide farmers with access to soil fertility management information by improving soil testing facilities through the establishment of more testing laboratories, including mobile testing facilities, training and demonstrations, and financial assistance to promote integrated nutrient management (INM). The table below shows the progress of the release of funds under the various components.

Trends in Indian Agriculture Sector

The increase in agricultural production over time can well be judged by the growth in the agricultural sector. Relative changes in the prices of different crops may also affect substitution in economic terms. In the Indian context, the major food crops are rice, wheat, maize, millets and pulses. The main cash crops are oilseeds, sugarcane, cotton, jute & Mesta, and potatoes. Minor cash crops include tobacco, chilies, ginger, onion, turmeric, tapioca, sweet potatoes, etc. Tea, coffee and rubber are significant among the plantation crops.

Land Reforms

These laws were aimed at removing obstacles to agricultural production resulting from past agricultural systems and at eliminating agricultural exploitation and social inequality within the agricultural system. The broader guidelines were established by the Report of the Congressional Committee on Agrarian Reforms, 1948. Consequently, the final goal of the study was to administer small and marginal farmers' land cooperatively and to set up cooperative village management. This form of joint cooperative farming does not deprive the farmers concerned of land rights; they obtain their respective share of production in proportion to their share of land.

NeoLiberalism (change in credit policy, seed policy, diversification, cut down in public investment)

The world economic order, particularly since the beginning of colonial rule, can be divided broadly into three distinct phases: the phase of economic liberalism that witnessed the push to seize foreign markets, the phase of Keynesianism in the aftermath of the Great Depression that gained prominence in the post-Second World War period that called for state intervention to cap.

Neo-liberal agricultural economic policies pursued market independence, ignoring the fact that, unlike industry, agriculture does not have an ongoing mechanism of development that provides uninterrupted production. In a nation like ours, like manufacturing, agricultural production is rarely a large enterprise, and the peasantry is handicapped by the inability to produce beyond a point and maintain large stocks as well. Adjusting the availability of agricultural output to reach the mark is almost an impossible challenge. As the manufacturing process and output production at discrete intervals are subject to the vagaries of nature, demand takes time, leading to significant variations in demand.

Growth of Agriculture in India: A temporal and spatial analysis

Agricultural growth has always been an important component of inclusivity, and recent experience suggests that high GDP growth is likely to lead to an acceleration of inflation without high agricultural growth in the country, which would have a negative impact on the larger growth process. And the reasons behind slow agricultural growth are critical in the reorientation of programmes and policies in the 12th Plan.

Growth and share of Agriculture in India's trade

In the wake of the second green revolution, farm marketing and external trade in agricultural commodities are becoming increasingly relevant, raising the living standards of farm families, freeing India from hunger and turning poverty into history in the shortest time possible (GOI, 2007).

Due to the continuing increase in demand in the domestic market, the composition of agricultural and allied export products has mainly changed. Excellent export prospects, favourable agricultural product pricing, and globally comparable standards have created

enormous trade opportunities in the Indian agribusiness market. According to experts, India will have to play a greater role in the global markets for agricultural products in the future. It is predicted that the country will reinforce its position among the world's leading rice exporters. It is currently the second largest producer of rice after China and, after Thailand and Vietnam, the third largest net exporter.

In India's agricultural sector, major structural changes have occurred in the form of a decrease in the share of agriculture in the country's total GDP from 44.3% in 1970-71 to 14.6% in 2009-10 and a rise in the service sector from 32% to 55.2% over the same period, suggesting a transition from the conventional agricultural economy to the dominant service sector. Similarly, the cropping trend also changed as the proportion of food grain in the country's total cropped area decreased from around 66.3% in TE 1993-94 to around 63.8% in TE 2009-10. On the other hand, the proportion of non-food grain in total crops has risen from 25.8 percent to 25.8 percent.

29.5 percent for the same era. Compared with other sectors of the economy, the inter-state difference in India is more pronounced in the case of growth in the agricultural sector. There are also large variations in the growth rate of crop production and yield value among the states of India.

Situation in Andhra Pradesh and Telangana

India's agriculture has entered the process of globalisation and diversification following the macro-economic reforms implemented in the Indian economy in the early 1990s and the multilateral trade order reforms brought about in the wake of the GATT negotiations and the WTO. The combined effect of domestic policy reforms and international trade reforms is expected to contribute to a much greater integration of the Indian economy with the rest of the world, a scenario that would benefit Indian farmers considerably. However, the reforms undertaken so far have not produced the anticipated gains for Indian farmers. In the regions of Rayalaseema and Telangana, recurrent droughts are just one aspect of the problem. Other aspects of the problems are soil depletion and unsustainable agricultural practises, increasing input costs, wild volatility in farm production and prices, rising indebtedness. As the next cause of suicide is only symptomatic of the greater malaise that affects agriculture and its state practise, the author carefully notifies that indebtedness is also defined. He has concisely provided an account of how the process of liberalisation had a negative effect on agriculture. The state has stepped back from its position as a promoter of agriculture in the last 10-15 years and facilitated the entry of landed

gentry. The release and marketing of agricultural products, the relaxation of control over the conditions under which farmers have access to farm inputs, the reduction of fertiliser subsidies, the removal of state funding for agricultural extension services, the decrease of public investment in infrastructure such as energy and irrigation, the financial liberalisation that is pushing the government to favour at local expense.

Agricultural economics is an area of applied economics dealing with the application of economic theory to the optimization of food and fibre production and distribution. Agricultural economics originated as an economic division that dealt primarily with land use; it focused on optimising crop yield while preserving a good environment of soil. The discipline has expanded over the 20th century and the discipline's new reach is much wider. Today, agricultural economics covers a number of applied fields, with a major overlap with traditional economics. Agricultural economists have made important contributions to economics, econometrics, growth economics and environmental economics analysis (Karl A. Fox, 1987; Gardner, B.L., 2001; Ford Runge, C. 2008; Daniel A. Sumner, et. al., 2010). Food policy, agricultural policy and environmental politics are influenced by agricultural economics.

India has achieved self-sufficiency in food production at the macro level, but faces a high percentage of malnourished children and a high incidence of rural poverty at the same time. As a percentage of the total population, a high proportion of rural citizens (more than 70 percent) face a decreasing share of national income/product. No major changes have been observed in rural jobs in the non-farm market (Reddy & Mishra, op.cit.). Rural India has become a cause of concern since the early 1990s, more specifically after the adoption of the neo-liberal direction of globalisation, with the continuing increase in rural-urban inequalities (Bhalla, 2005). There has been a significant rise in landlessness among the rural population in India since the implementation of economic reforms (Reddy 2006a). This suggests that during the reform era, the casualisation of the rural workforce and participation in low-paid work is on the rise (Rao and Hanumappa, 1999). The difference between the rate of growth in the production of food grains and population growth is also narrowing. The population has risen at a rate of 1.64 percent from 2000-01 to 2007-08, and food grain has grown at a rate of 2.1 percent, suggesting that hard-to-reach food self-sufficiency is also now at risk.

The size and structure of the workforce is a demographic investment which results in economic growth (Census Report, 2001). Moreover, the relationship between the workforce and economic growth is two-way, since the workforce contributes to growth, while growth offers a stronger opportunity for the workforce to climb the ladder. Therefore, it is important to explore the complexities of the sectoral profile of the workforce with further segregation based on gender, age, and geographic location.

According to Vijay, the decline in farmers in the labour force has led to a new community of non-cultivating peasants who own land but do not cultivate (2012). These new intermediaries either encourage tenancy by leasing their uncultivated land in a fragmented manner or keeping it fallow and shifting to the non-farm field. Thus, the challenge is to go deeper and search out the related facts in order to solve the mystery of evolving agricultural labour force trends. It is necessary to empirically evaluate and then arrive at conclusions, which can unfortunately not be achieved using the data from the Census. This will, in a sense, be a limitation of this article. However, this paper gives the path for progress that can set the tone for further analysis.

Land Reforms and Agricultural Development: Retrospect and Prospect

In recent years, land reforms seem to have lost their traditional flavour and favour among India's policy makers. This is especially the case in the aftermath of economic liberalisation and the regime of the World Trade Organization, when trade and market reforms are at the heart of development policy. These formulations, however, represent an over-simplification of the land tenure system where in the context of different types of land relations, the efficiency question of alternative land tenure arrangements cannot be analysed. A study by Haque (1996) shows that with wide differences in their relative efficiency, there are 14 major types of land relations in India. Due to a lack of room, the details could not be presented here. The study shows that crop productivity varies according to who leases land for cultivation and who leases it.

The Case for Contract Farming

Two contract farming case studies were conducted, one each in Punjab and Andhra Pradesh (Haque 2001)⁵⁶. Table 3.4 that contract farming helps to increase farmers' yields and

⁵⁶Haque, T. (2003). Land reforms and agricultural development: Retrospect and prospect. *Institutional Change in Indian Agriculture, NCAP, New Delhi*, 267-284.

income due to the high-quality seeds provided by the company and the guaranteed market for the products. It also helps the company, at a predetermined price, to ensure an adequate supply of quality and captive raw materials for its processing unit. In addition, it helps to meet the market presentation criteria and the processing unit's sustainability as such.

Sample Size

The field study, conducted during Feb-June 2012, covered 458 rural households in the three villages. The coverage of sample households ranged between a minimum of 127 households to a maximum of 177 households in the different villages, which in percentage terms constituted 26-78 percent of the village households. On average it covered 40 percent of total households in three villages, which is a reasonably good coverage even statistically. The households are selected on the basis of stratified random sample, we first enlisted all households belonging to all castes then we randomly picked up the sample households. The coverage also was done within the means of time and resources possible for the study.

Methodology

The study would draw its data from secondary sources such as *Census of India*, *Agricultural Abstract*, *Report on Principal Crops*, *NSS*, *National Income Statistics*, etc. More importantly, 458 households in three villages in the regions of Andhra Pradesh, namely Telangana, Coastal Andhra and Rayala Seema, would be the primary evidence. The sample is approximately 40 percent of the population selected on a random stratified basis covering all castes in the villages. In addition, the study carried out an ethnographic account of the villages, the historical and socio-economic backgrounds of the various classes and their mobility with quantitative information.

Ownership

Important fact is that the lion's share of the landed households today belongs to marginal and small farmers. In the sample villages we found that the share of marginal and small holdings constitute 62 percent, if add the semi-medium households then their share is 81 percent of the total holdings (including landless).). In Achampet village, the marginal and small constitute is about 90 percent, while they constitute about 60 percent in Kalavapamula, and 42 percent in

Pulimaddi. If we include semi-medium, who own less than 10 acres, then this bloc would constitute 75-90 percent of the peasantry in all the sample villages.

Operational Holdings

The average holding of an upper caste peasant is 9.25 acres compared to 3.18 acres of backward caste and 3.02 acres of scheduled caste. The scheduled tribe is about 0.4 acres and that Muslims is 1. The caste inequality is highest in Kalavapamula and Pulimaddi regions.

Production and Market Surplus

In particular, the marginal and small farmers' share is about 39 percent, and the contribution of semi-medium farmers to production in paddy-dominated villages is about 28 percent, forming approximately 67 percent together. Farmers also aim to achieve food security and marginal and small farmers in particular, including those in the dry villages cultivate paddy and retain part of it for home consumption. In irrigated paddy dominant areas, the market surplus of size classes is higher, forming about 68 to 71 percent and gradually raised from marginal to large farmers over size classes. The market surplus of medium-sized and large farmers is over 90%. However, in irrigated areas like Kaluvapamula market surplus among marginal farmers is about 80-84 percent. Small farmers onwards produce more than 80 percent as market surplus.

Credit

Regarding non-institutional credit, the average non-institutional loan is found to progressively increase from landless to semi-medium households and then for medium and large farm households it is relatively less. The average non-institutional loan for landless is about Rs.17102, for marginal farmers it is Rs.22796, for small farmers it is Rs. 41198. For semi-medium households, it is Rs.37580. For medium and large households it is Rs. 41373 and 22222 respectively.

Kalavapamula reported lowest level of non-institutional credit among the different village. Non-institutional credit does not show the same asymmetry as its counterpart, there is more even distribution across size classes, though differences do exist. Small peasantry

constituting 60 percent (marginal, small and semi-medium) households reported 52 percent private loan.

Employment Days:

On average in poor households men work for 12.4 days on own farms per year per acre and women work for 25.7 days. Among marginal farmers, men work for 19 days and women work for 37 days; among small farmers men work for 16 days and women for 32 days; semi-medium farm households, men work for 10 days and women work for 18 days and among medium household's men work for 8 days and women work for 17 days.

We found that on average a male labour hires out for 83 days and a female labour hires out for 107 days in 2012-13. This is rather quite low as agricultural employment is concerned. The total employment is still less than 100 days for men and 150 days for women, even if we include family labour. The wage employment naturally high among landless and progressively declines.

Production Costs and Returns

For *Kharif* paddy, the paid-out costs for paddy is about Rs.797 for marginal, Rs.900-937 for others. Large farmers have slightly lesser costs at Rs.775. The cost A2 and Cost A2+FL are however much higher ranging Rs.1164-1300 for the different classes of tenant farmers. The market prices which closely move along with MSP is about Rs1100, farmers get around this price according to moisture and quality differences. The prices that they received in the year of data collection, were the ones that are far better than their previous prices (they fell to Rs.650 in 2010-11) and recovered to Rs. 1100. The prices received by the farmers have covered paid costs (Cost A1) and tenant costs (Costs A2) among all classes as well as in all villages, except in Kalavapamula.

Maize is crop in the state has come up over time as alternative principal crop, which can be grown in any kind of soil, also as in intercrop. This crop was giving net revenue of Rs.20,

000-25,000 per acre, thanks to thriving demand from growing poultry industry; maize prices are reasonably good for a very time. However, with the increased supply prices eventually fell in 2012 and returns became negative even over the paid out costs. Tenant farmers have lost heavily to a tune of Rs.6000 per acre.

We found that for a medium and semi-medium farmer, it yielded a net return of Rs.22,500 per acre; for marginal and small farmers, 3500-7500 over the cost paid out. Large farmers have moderate returns compared to other classes. However, during the year of field work, farmers reported crop damage due to cyclone and poor prices.

Diversification and Incomes

We find that Farm incomes in sample villages are highest in Kalavapamula, Pulimaddi and Achampet rank down in the decreasing order. Further 35 percent of their income is earned from wage labour in agriculture. Village level observations bring some interesting facts. In Kalavapamula, we found that small and semi-medium farmer's farm income is found to be negative, which we have stated earlier that the prices did not cover Cost A2 and most farmers in the village are tenants. Their income from animal husbandry is 17 and 38 percent of their total farm income.

Among the sample villages, as stated earlier, Kalavapamula is rich in water resources; here the agricultural and non agricultural incomes are 71.72 and 28.88 percent respectively. Among Achampet and Pulimaddi the share of agricultural incomes are 51.42 and 48.58 percent respectively.

State Welfare

The last one decade of liberal democracy saw certain departures from the previous modes of public policy, which is in terms of an increase in welfare programs assiduously used to contain the rural distress. Particularly under the UPA government at the Centre and the state, there has been a proliferation of such programmes.

PDS is the second most important source of income transfer. 80 percent of all households have BPL cards and the system is operated quite efficiently in the state. This gives an average implicit income of Rs.4700 per annum. According our respondents, households from landless to semi-medium farm households as well as non-cultivating households access to PDS. We also found that most of them also consume, contrary to the belief that majority resell. Large farm households reported that they do not take PDS rice. There no significant village level differences in PDS income. In Achampet the PDS income is marginally high compared to other villages (Table 4.32).

According our respondents, households from landless to semi-medium farm households as well as non-cultivating households access to PDS. We also found that most of them also consume, contrary to the belief that majority resell. Large farm households reported that they do not take PDS rice. There no significant village level differences in PDS income. In Achampet the PDS income is marginally high compared to other villages (Table 4.32).

A modest pension of Rs.200 is provided to people above 60 years age in the rural areas. We have presented the average income received by households under pension scheme (Table 4.33). An average income ranging from Rs.2514-Rs.3800 per annum is accruing to households. The higher average income to semi-medium households conveys some class bias.

BIBLIOGRAPHY

- Adam Smith often mis-attributed in this sense. See the Wealth of Nations section for what Smith actually said.
- Andre Beteille, *Studies in Agrarian Social Structure*, Oxford University Press, Delhi, 1974, P.I.
- AWARE 1998, A report on farmers suicides in Andhra Pradesh. A report submitted to the AWARE development Research Advisory Group, Hadrabad.
- B. L. Gardner (2001), "Agriculture, Economics of," *International Encyclopedia of the Social & Behavioral Sciences*, v. 1, pp. 337-344. Abstract & outline.
- Baland, J. M., & Robinson, J. A. (2008). Land and power: Theory and evidence from Chile. *American Economic Review*, 98(5), 1737-65.
- Barraclough, Solon, ed. 1973. *Agrarian Structure in Latin America*. Lexington: D.C. Heath.
- Bathla, S., S. Thorat, P. K. Joshi, B. Yu (2017), Where to Invest to Accelerate Agricultural Growth and Poverty Reduction, *Economic and Political Weekly*, LII, No. 29, 36-45.
- Besley, Timothy, and Robin Burgess. 2000. "Land Reform, Poverty Reduction, and Growth: Evidence from India." *Quarterly Journal of Economics* 115 (2): 389-430.
- Bhalla, G.S. (2004), 'Globalisation and Indian Agriculture', Volume 19, *State of the Indian Farmer: A Millennium Study*, Academic Foundation, New Delhi
- Bhupati, M. Desai, E. D'Souza, J. W. Mellor, V. P. Sharma, and P. Tamboli (2011): "Agricultural Policy Strategy, Instruments and Implementation: A Review and the Road Ahead" *Economic & Political Weekly*, Vol. XLVI, No. 53, december 31, p. 42.
- Binswanger-Mkhize, Hans P (2013). The Stunted Structural Transformation of the Indian Economy Agriculture, Manufacturing and the Rural Non-Farm Sector. *Economic & Political Weekly*, XLVIII (26 & 27): 5-13.
- Brainard, W. C. and Tobin, J. (1968), "Pitfalls in Financial Model Building", *American Economic Review*, Vol 58, No.2, pp. 99-122.
- Braverman, A. and J. E. Stiglitz. 1982. Sharecropping and interlinking of agrarian markets. *American Economic Review* 72(4): 695-715.
- Byres, T. J. (1981). The new technology, class formation and class action in the Indian countryside. *The Journal of Peasant Studies*, 8(4), 405-454.
- C. Ford Runge (2008). "agricultural economics," *The New Palgrave Dictionary of Economics*, 2nd Ed., Abstract.
- Chand, R (2017), Doubling Farmers' Income, NITI Policy Paper, No. 1/2017, Niti Aayog, Government of India
- Chand, R, R. Saxena and S. Rana (2015), Estimates and Analysis of Farm Income in India, 1983-84-2011-12, *Economic and Political Weekly*, Vol. L, No. 22, 139-145.
- Chand, Ramesh and Sonia Chauhan (1999), 'Are disparities in Indian Agriculture Growing?' Policy Brief No.8, National Centre for Agricultural Economics and Research
- Chandrasekhar, C. P. and J. Ghosh. 2004. *The market that failed*. New Delhi: LeftWords Books.
- Chatterjee, Partha (2004) *Politics of the Governed: Reflection on Popular Politics in Most of the World*, Permanent Black, New Delhi.
- Cheung, S. N. 1969. *Theory of share tenancy*. U.S.A.: Chicago University Press.
- Choudary, P. V. (2002). National policy for farmers, 2002 only old wine in new bottle.
- Cinnirella, Francesco, and Erik Hornung. 2016. "Landownership concentration and the expansion of education." *Journal of Development Economics* 121: 135–152.

Daniel A. Sumner, Julian M. Alson, and Joseph W. Glauber (2010). "Evolution of the Economics of Agricultural Policy", *American Journal of Agricultural Economics*, v. 92, pp. 403-423.

De Soto, Hernando. 2000. *The Mystery of Capital*. New York: Basic Books.

Deininger, Klaus, et al. 2004. *Land Policy Research Report*. Washington, DC: World Bank.

Demsetz, Harold. 1967. "Toward a theory of property rights." *American Economic Review* 57(2): 347-359.

Dev, Mahendra S. (2011), "Macro and Farm Level Investment in India: Trends, Determinants and Policies", Study prepared for FAO, Rome, September 2011.

Dev, S Mahendra (2002), "Bold Initiatives Needed on Agriculture and Rural Employment", *Economic and Political Weekly*, March 23.

Dev, S. M. (2012). A note on trends in public investment in India. *IGIDR Proceedings/Projects series PP-069-SMD2, Indira Gandhi Institute of Development Research, Mumbai*.

Dhawan, B. D., & Yadav, S. S. (1997). Public investment in Indian agriculture: trends and determinants. *Economic and Political Weekly*, 710-714.

Duncan Foley and Gérard Duménil, 2008."Marx's analysis of capitalist production," *The New Palgrave Dictionary of Economics*, 2nd Edition.

Durkheim, Emile (1952) *Suicide: A Study in Sociology*. Translated by John A. Spaulding and George Simpson. London: Routledge.

Encyclopedia of Marxism at marxism.org. "Capitalism". Marxist.org. Retrieved July 8, 2011.

Engerman, Stanley, and Kenneth Sokoloff. 2002. "Factor Endowments, Inequality, and Paths of Development Among New World Economies." National Bureau of Economic Research Working Paper No. 9259.

FAO (2007), 'India's Position in World Agriculture', Regional Office for Asia and the Pacific, Bangkok

Gollin, Douglas, Stephen Parente and Richard Rogerson (2002), 'Role of Agriculture Development', *The American Review*, 92(2): 160-164.

Farrell, M.J., "The Measurement of Productive Efficiency," *Journal of the Royal Statistical Society Series A*, General 125 Part 2(1957): 252-267. Farrell's frequently cited application involved an empirical application of state level agricultural data

Feder, Gershon, and David Feeny. 1991. "Land tenure and property rights: Theory and implications for development policy." *World Bank Economic Review* 5(1): 135-153.

Fisher, (1936), *The Theory of Interest*, Macmillan, New York

Framework, I. S. Framework 2007-2010 (IFAD 2007). Retrieved on January 20, 2014.

Galor, O., Moav, O., & Vollrath, D. (2009). Inequality in landownership, the emergence of human-capital promoting institutions, and the great divergence. *The Review of economic studies*, 76(1), 143-179.

Gandhi, V. P. (1996), "Investment Behaviour in Indian Agriculture", *Indian Journal of Agricultural Economics*, Vol 51, No. 4.

Gollin, Douglas, Stephen Parente and Richard Rogerson (2002), 'Role of Agriculture Development', *The American Review*, 92(2): 160-164.

Government of India (2001): "Report of the Working Group on Horticulture Development for the Tenth Five Year Plan (Main Report)." Planning Commission, June, Sr. No.14/2001, p. 12.

Government of India (2007): "Report of the Working Group on Agricultural Marketing Infrastructure and Policy Required for Internal and External Trade for the XIth Five Year Plan 2007-12", Agriculture Division, Planning Commission, New Delhi , January.

Government of India (2011), Economic Survey of India, 2010-11, Ministry of Finance, New Delhi.

Griffin, Keith, Azizur Rahman Khan, and Amy Ickowitz. 2002. "Poverty and the Distribution of Land." *Journal of Agrarian Change* 2(3): 279-330.

Griliches, Zvi (1957). "Hybrid Corn: An Exploration in the Economics of Technical Change". *Econometrica*. 25 (4): 501–522. doi:10.2307/1905380. JSTOR 1905380. S2CID 154018839.

Gulati, A., & Ganguly, K. (2011). Feeding India: Vast Challenges, Vast Opportunities. *Global Asia*, 6(1), 42-45.

Haque, T. 1996. Sustainability of small holder agriculture. New Delhi: Concept Publication Company

Haque, T. 2001. Impact of tenancy reforms on productivity improvement and socio-economic status of poor tenants. Policy Paper 13, New Delhi: NCAP.

Hildreth, H.; Houck, J. (1968). "Some Estimators for a Linear Model with Random Coefficients". *Journal of the American Statistical Association*. 63 (322): 584–595. doi:10.2307/2284029. JSTOR 2284029.

Jorgenson, D. (1963), "Capital Theory and Investment Behavior", *American Economic Review*, vol. 53, no. 2, 247-259.

Karl A. Fox (1987). "agricultural economics," *The New Palgrave: A Dictionary of Economics*, v. 1, pp. 55–62.

Keynes, M., (1936), *The General Theory of Employment, Interest and Money*, Macmillan.

Kollavalli, S. L. and J. Kerr. 2002. Mainstreaming participatory development. *Economic and Political Weekly* 37(3): 225-242.

Kumar, N. (2005). Focus on the Farm Sector: The Ramachanna Reddy Panel Report highlights the dangers of neglecting the agricultural sector in Andhra Pradesh. *The Hindu*, December, 22, 2005.

Land Reform? Defects in Agrarian Structure as obstacles to Economic Development, United Nations, New York, 1951, P.4-5.

Lipton, M. (2009). *Land reform in developing countries: property rights and property wrongs*. Routledge.

Mani, H., Bhalachandran, G., & Pandit, V. N. (2011). Public investment in Agricultural and GDP growth: Another look at the inter sectoral linkages and policy implications. *Working Paper*, (2011).

Manjunath, A. V., & Ramappa, K. B. (2017). Farmer Suicides: An All India Study. *ISEC, Bengaluru*, July.

Marshall, Alfred. 1956. *Principles of economics*. London: Macmillan.

Matsuyama, Kiminori, "Agricultural Productivity, Comparative Advantage, and Economic Growth," *Journal of Economic Theory* 58, no. 2 (1992), 317-34.

Migration data, Census 2001.

Mishra, S. N. and Ramesh Chand (1995), "Public and Private Capital Formation in Indian Agriculture: Comments on Complementarity Hypothesis and Others", *Economic and Political Weekly*, Vol 30, No. 25, June,

Mordecai Ezekiel (February 1938). "The Cobweb Theorem" (PDF). *Quarterly Journal of Economics*. 52 (2): 255–280. doi:10.2307/1881734. JSTOR 1881734. Archived from the original (PDF) on 2015-06-16. Retrieved 2015-03-05.

Murthy, R. R., & Misra, R. (2012). Pricing Of Paddy: A Case Study Of Andhra Pradesh. *Department of Economic and Policy Research, Reserve Bank of India*.

Narain, Dharm (1977), 'Growth and Productivity in Indian Agriculture', *Indian Journal of Agriculture Economics*, Vol.32, No.1, January-March: 1-44

National Crime Records Bureau.(2015). Crime in India.

Newberry, D. M. G. 1974. Crop sharing tenancy in agriculture. *American Economic Review* 64(5): 1060-1080.

Nurkse (1953); Schultz (1953); Rostow (1960); A.H. John (1965); and more recently Irz et al. (2001) and Kogel & Prskawetz (2001).

Pal, S., R. P. Singh and M. L. Morris. 1998. Case Study-India. In *Maize seed industries in developing countries*, M. L. Morris (ed.), Colorado: Lynne Rienner Publishers, pp. 251-267.

Pandiyan, A. 1996. Land alleviation in Tirunelveli district. *Economic and Political Weekly* 31(51): 3291-3294.

Patterns of Development in India; A Study of Andhra Pradesh, SER Division Planning Commission, New Delhi Government of India, <http://planning.commission.nic.in/reports> (accessed on 4-1-2010)

Press Trust of India. (2018, January 09). Government Policies Responsible for 'Agrarian Distress': Farmers' Bodies. Available: <https://www.ndtv.com/india-news/government-policies-responsible-for-agrarian-distress-farmers-bodies-1797525> NDTV.

R. Jadhav, (2019, March 19). 32 Years after First Farmer Suicide in Maharashtra, 'Nothing has Changed'. Available: <https://www.thehindubusinessline.com/news/32-years-after-first-farmer-suicide-in-maharashtra-nothing-has-changed/article26583162.ece>

Rajan, Raghuram, and Luigi Zingales. 2003. "The Great Reversals: The Politics of Financial Development in the Twentieth Century." *Journal of Financial Economics* 69(1): 5-50.

Ramakumar, R. (2012), "Large scale Investments in Agriculture in India", *IDS Bulletin*, Vol 43, No S1, July

Rao, Hanumantha (1994), "Reforming Agriculture in the New Context", *Economic and Political Weekly*, Vol. 29, No. 16/17 (Apr 16-23).

Rao, N. C. (2003). Liberalisation and Suicides of Farmers in India. *Indian Journal of Agricultural Economics*, 58(3), 395.

Rao, V.M. H.G. Hanumappa (1999), 'Marginalisation Process in Agriculture - Indicators, Outlook and Policy Implications', *Economics and Political Weekly*, Vol.34, Issue no., December 25: A133-A138

Reddy, A. S., & Rao, B. V. (1998). The gathering agrarian crisis: Farmers' suicides in Warangal District (AP) India. *MS, Centre for Environmental Studies, Hanamkonda, AP* <http://www.artsci.wustl.edu/~stone/suicide.html>.

Reddy, D. N. 1997. Economic reforms, entry of corporate sector and the small farmer economy. In *Economic liberalization and the small farmer*, ed. Y. V. K. Rao. New Delhi: AIKSA and International Labour Organization.

Reddy, D. Narasimha (2006a), 'Changes in Agrarian Structure and Agricultural Technology: Is Peasant Farming Sustainable under Institutional Retrogression', in R. Radhakrishna, S.K. Rao, S. Mahendra Dev and K. Subba Rao (eds.), *India in a Globalising World: Some Aspects of Macro economy, Agriculture and Poverty, Essays in Honour of C. H. Hanumantha Rao*, Academic Press, New Delhi

Reddy, D. Narasimha and Srijit Mishra (2009), 'Agriculture in Reforms Regime', in D Narasimha Reddy and Srijit Mishra (eds.), *Agrarian Crisi in India*, Oxford University Press, New Delhi

Reddy, D. Narasimha, Srijit Mishra (2008), 'Crisis in Agriculture and Rural Distress in Post-Reform India', in R. Radhakrishnan (ed.) India Development Report, Oxford University Press, New Delhi, IGIDR, Mumbai

Reddy, D. Narasimha, Srijit Mishra (2008), 'Crisis in Agriculture and Rural Distress in Post-Reform India', in R. Radhakrishnan (ed.) India Development Report, Oxford University Press, New Delhi, IGIDR, Mumbai

Revathi, E. (1998). Farmers' suicide: missing issues. *Economic and Political Weekly*, 1207-1207.

Revathi, E. (1998). Farmers' suicide: missing issues. *Economic and Political Weekly*, 1207-1207.

Rostow, Walt Whitman, The Stages of Economic Growth: A Non-Communist Manifesto (Cambridge: Cambridge University Press, 1990).

Rueschemeyer, Dietrich, Evelyn Stephens, and John Stephens. 1992. Capitalist Development and Democracy. Chicago: University of Chicago Press.

Sanyal, Kalyan (2007) Rethinking Capitalist Development: Primitive Accumulation, Governmentality, and Post-Colonial Capitalism, Routledge, London.

Shameem, G. P. (1998). Suicides of cotton farmers in Andhra Pradesh: An exploratory study. *Economic and Political Weekly*, 33(8), 720-726.

Singh, A. K. (2013). Income and livelihood issues of farmers: A field study in Uttar Pradesh. *Agricultural Economics Research Review*, 26(conf), 89-96.

Srinivasan, P.V. (2005), 'Impact of Trade Liberalisation on India's Oilseeds and Edible Oil Sector', Research Report, Indira Gandhi Institute of Development Research, Mumbai

Swaminathan, M. S. (Ed.). (2007). *Agriculture cannot wait: new horizons in Indian agriculture*. Academic Foundation.

Thiesenhusen, W. C. (1989). *Searching for agrarian reform in Latin America* (No.DERAJ-586). Allen and Unwin.

Tripathy, K. K. (2011): "India's Agricultural growth and stagnation: A Review", Kurukshetra, A Journal of Rural Development, Publication Division, Ministry of I & B, Government of India, New Delhi, Vol. 60, No. 2, December, pp. 4-5.

V Ratna Reddy, and S Galab (2006) 'Agrarian Crisis: Looking beyond debt trap', *Economic and Political Weekly*, Vol. 41, No. 19, May 13-19 PP.1838-40.

V. Sridhar, (2006) "Why Do Farmers Commit Suicide? The Case of Andhra Pradesh", *Economic and Political Weekly*, April 22, p. 1559.

Vaidyanathan, A. (1986), 'India's Agricultural Development in a Regional Perspective', R.C. Dutt Lectures on Political Economy, Centre for Studies in Social Sciences, Calcutta

Vamsi, V. (2004). *Immiserizing growth: globalization and agrarian change in Telangana, south India between 1985 and 2000*. University of Massachusetts Amherst.

Varshney, A., 1995, *Democracy, Development, and the Countryside: Urban-Rural Struggles in India*, Cambridge: Cambridge University Press.

Vernon Wesley Ruttan, "Technological Progress in the Meatpacking Industry, 1919-47," USDA Marketing Research Report No. 59, 1954.

Vidyasagar, R., & Chandra, K. S. (2004). Farmers' Suicides in Andhra Pradesh and Karnataka.

Vijay, R (2012). Structural Retrogression and Rise of 'New Landlords' in Indian Agriculture: An Empirical Exercise. *Economic and Political Weekly*, XLVII (5): 37-45.

Vyas, V. S. (1994). Agricultural policies for the nineties: issues and approaches. *Economic and Political Weekly*, A54-A63.

Vyas, V. S. 2001. Agriculture: second round of economic reforms. *Economic and Political Weekly* 36(10): 829-836

Walker, T. S. and J. Ryan. 1990. Village and household economics in India. U.S.A.: John Hopkins University Press.

Waugh, F. (1928). "Quality Factors Influencing Vegetable Prices". *Journal of Farm Economics*. **10** (2): 185–196. doi:10.2307/1230278. JSTOR 1230278.

APPENDIX

No:..... Village:.....Mandal:..... Dist:.....Date:.....

Caste:.....

1. Name of the HH:.....

S.No	Name	Age	Sex	Education	profession	Remarks: Migrated long back/ handicapped / married
1						
2						
3						
4						
5						
6						

2. Type of Farmer: Owner-Cultivator ☐ Tenant ☐ Owner-Tenant ☐
Uncultivating Landowner ☐ Landless Labourer ☐

3. Land Holdings(acres)

Land Owned			Land Leased Out		Land Leased In		Total land cultivated
Total	dry	wet	Dry	Wet	dry	wet	

4. Land Ownership History

- Is the land owned : inherited / self-acquired
- How many years (approx) ago land is acquired:
- If purchased: at what price?:..... From whom:.....
- If inherited: is it from father or grand-father?
- How much your grandfather owned?.....
- How much through wife's property:..... acres
- If acquired through government allotment/ land reforms: Year:.....

5. If land is leased-in:

- How long since you have been a tenant farmer?:.....
 - Nature of Lease Agreement: Share Cropping / Fixed Rent: Cash or kind:.....
 - Rent in case of fixed rent:.....
 - Terms in case of share cropping:.....
-
-

-
-
- e. Duration of tenancy?;.....
- f. Have you taken a tenant identity card?.....
- g. Any loan given by banks / Primary Agricultural Coop Society?.....

6. **Type of irrigation:** Canal ☐ ; Borewel ☐ ; DugWell ☐ ; Tank ☐
- a. If borewell dug: - No. of borewells dug so far:.....
- b. Expenditure incurred for each borewell:.....
- c. Debt incurred due to borewells:.....

7. **Production (bags) in 2012-13**

	Variety	Kharif Yield 2012-13	Rabi Yield 2011-12	Summer Crop 2011-12
	Paddy			
	Cotton			
	Maize			
	Sugarcane			
	Black Gram			
	Red Gram			
	Vegetables			
	Any other			

8. **Cost of Cultivation: Operational Cost per Acre:**

	Operation	First Crop:.....		Second Crop:.....		Summer
		Casual Rate	Piece rate	Casual Rate	Piece rate	
	Tractor ploughing					
	Bullock Ploughing					
	Paid-out Labour Costs (excluding family labour)					
	Sowing					
	Weeding					
	Spraying					
	Harvesting					

	Threshing					
	Any other					
	Total paid-out Material Cost					
	Manure Cost					
	Seed cost					
	Fertiliser cost					
	Pesticide cost#					
	Harvester cost					
	Transport cost					
	Fixed Costs *					
	Total Costs					

#Pesticides: a. Monocrotophosl: Rs..... b. Ispace + Cantaph:Rs. Uplad: Rs.....

Beam Rs..... d. Gulikalu:Rs..... ; Anti-rodents (rats): Rs.....

Weedicide : Rs..... ; Total: Rs.....

*Fixed Costs:

- Borewell digging + Motor cost+ Capacitor+ Connection cost=.....
- Failed borewells no:.....Cost:..... Pipes Rs.....
- Tractor + tiller: Rs.....Sprayers:Rs.....
- Bullocks Rs.....Carts: Rs.....Ploughs :Rs.....
- Any other :.....

9. **Value of the grass:** from paddy:...Rs..... from maize: Rs.....

10. **Food grains retained for home consumption:**..... Bags

11. **Credit Taken for Agricultural Purpose in 2012-13**

Source	Amount	Type : Crop loan/ development loan	Rate of Interest
Bank			
Cooperative Bank			
Commission Agent			
Relatives			
Friends			
Finance Cop			
Gold Loan			
SHG loan			

Money Lender			
--------------	--	--	--

12. Marketing:
- First Crop Sold to: Price received:.....
 - Second Crop sold to :.....Price received:.....
 - If sold to Commission Agent, reason given:.....

13. Agricultural Employment (days):

	June-Dec		Jan – April	
	Men	Women	Men	Women
Sowing				
Weeding				
Spraying				
Harvesting				
Winnowing				
Transporting				
Any other:				

14. Wage Rates for Agricultural Work:
- Peak Piece Rate : for Male:..... for Female:.....
 - Slack piece rate: for Male:.....for Female:.....
 - Peak Casual Wage for Male: for Female:.....
 - Slack Casual rate: for Male:.....for Female:.....
15. As farmer, how many bags of food grains retained:.....

16. Monthly Expenditure of Household:.....
- Food:.....
- Non-Food:.....

17. Other Major Expenditures incurred in last two years
- Marriage of daughter/son:.....
 - Education :.....
 - Health:.....

- d. Housing:.....
e. Any other:.....

18. Education of Children:

School / College: Private / Govt; Name of the Institution:..... Monthly Fee:.....
Distance:..... Mode of Travel:.....

19. Agricultural Diversification of HH

i. No. of Buffaloes:..... ii) Cost of a Buffalo:
Rs.....

iii) Litres of Milk yield per day:..... ltrs; iv) Duration :.....

v) Home consumption of milk per day:..... vi) Milk sold :
Ltres

vii) Price:.....per litre

viii). Chicken grown in No: ix) home consumption / sold in market ?

x) Fishing:

.....
.....

20. Agricultural Households Diversification into Non-Agriculture

	Name	sex	Activity	Place	Investment Approx	Monthly Income Approx	

Code: 1.1. – Govt Job, 1.2 – Private Job, 1.3 , 1.4 – Private Business, 1.5,

Code-1: 1. Male 2. Female

Code-2: 1.Kirana Store 2. Petty trade 3.Teastall 4.Dairying 5. Tailoring 6.Black Smith 7.Pottery 8. Barber 9. Money lending 10. Butcher 11. Vegetable Vending 12.Flowers selling 13.Oil shop 15. Handi craft 16. Washer man 17.Milk Selling 18.Poultry working 19.Cloth seller 20.Village servant 21. Carpenter 22. Priest 23.Brick making 24.Weavers 25.Agricultural traders 26. Agarbatti making 27. Bamboo goods making (baskets) 28.Construction workers 29.Restaurants 30. Government job 31. Working in Private schools 32.Cycle shop 33.Motor mechanic 34. Ration shop 35. Contractor 36.RMP Doctor 37.Nurse 38. Jute Mill workers 39.Rice mill workers 40. Flour mill & Grinding

Code-3: 1. Full time 2. Part time, Code-4: 1. Daily, Weekly, monthly, piece rated.

21. ASSET OWNERSHIP

ASSETS		Value	Acquired thru Finance	Interest rate
Agricultural land	Acres			
House	Sq yards			
Any Houring Plot	Sq yd			
TV	Inche			
Refrigerator				
Telephone/cell phone	No.			
Motor cycle	No.			
Cycle	No.			
Car/Jeep				
Bullock cart				
Tractor				
Gas Stove				
Rice Cooker				
Air Conditioner				
Air Cooler				

22. Microfinance/SHGS

Members	Loan received in 2012-13	Loan received in 2011-12	Purpose of Utilisation

Any Remarks on functioning/Problems:.....

.....

.....

.....

23. Financial Savings Modus

Do you have a bank account	Which bank	Do you participate in Chit funds	Deposits with private people	Do you give money for finance in the village	

24. Employment profile (Per annum):

No	Names	Age	Sex	Days of Agricultural Employment	Days of Non-Agricultural	Days of Agricultural Employment	Days of Employment in	Total Day of Employment
----	-------	-----	-----	---------------------------------	--------------------------	---------------------------------	-----------------------	-------------------------

				in Kharif	Employment in Kharif	in Rabi	MNREGA	
1								
2								
3								
4								
5								

25. Wage Rates

	Wage Rate in Agriculture	In non- Agriculture Work	MNREGA
Male			
Female			

26. Number of People Migrate / Migrated in the Family

	Names	age	sex	Employment Description	Destination	Salary	Wages Rate
Permanent Migrants							
1							
2							
Seasonal Migrant						Duration	
1							
2							
3							
Non-Migrants							
1							
2							
3							

Has MNREGA reduced migration?:.....

27. Type of social welfare benefit:

	Received yes / no	Using yes/no	Amount Received	Reason for being denied

Ration card holder				
Adhaar Card				
Pension holders				
Farming loan weaver				
Indira awas yojana				
Ps. 25 interest scheme				
Arogya Sri				
NFBS				
NMBS				
ICDS				
Midday meals				
Scholarships				

Write 1 for not applied, 2- for application denied, 3 – application pending, 4- lost due to migration, 5- for not knowing, 6-

28. Information related to MGNREGA:

	Story of the MNREGA Participant
Date of registration	
Issuance of card	
Gap b/n registration and Issuance of job card	
Job card	
Provision of employment	
Gap b/n issuance of job card and employment provision	
Others factors involved : (Political / Social /caste..etc)	
Unemployment allowance	
Work site facilities	
Water	
Shade	
Crèche	
First aid	
Type of Works	
Land works	
Irrigation works	
Plantations	
Bush clearance	
SC/ST lands	
IAY works	
Agriculture link-up	
Distance of work place	
Work tools given	
Regularity of employment	
Major breaks	
Payments under MGNREGA	
Wage basis	

Wage rate	
Mode of payment	
Time of payment	
Delay in payment	

Emmadi Naveen Kumar

(Ph.D Economics, 09SEPH02)

List of Publications and Conferences Participated

- Published a book “Agrarian Crisis: Farmers’ Suicides in Warangal District” through Cambridge Scholars Publishing, UK. **(ISBN(13): 978-1-4438-4040-8)**
- An Article (Joint Paper) “Declining Profitability of Paddy in Andhra Pradesh: An Inter-regional Study of Costs and Returns” is published in the book “Agrarian Crisis in India: The Way out” edited by Prof.K.Suman Chandra, Dr.V.SureshBabu and Dr.Pradip Kumar Nath(**ISBN:9789332700321**),Academic Foundation, New Delhi
- Participated in an International Seminar on “Pharmaceuticals in Developing and Emerging Economies: Production, Innovation, and Access to Medicines in the Wake of TRIPS” conducted by University of Hyderabad, Hyderabad, India and Deakin University, Melbourne, Australia (17th Sep 2010 to 19th Sep 2010)
- Participated in a National Seminar on “Sustainability of SHG-Issues and Challenges: The Way Forward” conducted by SMS, University of Hyderabad and NABARD Bank India (25th March 2010)
- Presented a paper “MGNREGA as Social Protection: Evidences from Andhra Pradesh” at the 53rd Annual Conference of The Indian Society of Labour Economics, organized by Department of Economics, MohanlalSukhadia University, Udaipur, Rajasthan (December 17th-19th,2011)
- Presented a paper “Small Farmer Economy and their Crisis in Rural Andhra Pradesh: A Study in Three Villages” in the National Seminar on Economic Growth and Marginalised Groups: A Search for Inclusive Policy (24th-25th March 2014)
- Participated in an International Conference on “Rethinking Education Policy” (November 16th to 18th 2011) organized by Comparative Education Society of Indian (CESI) and Department of Sociology, University of Hyderabad
- Participated in the 17th Annual Conference of “The Indian Political Economy Association” organized by School of Economics, University of Hyderabad (November 9th-10th , 2013)
- Presented a paper on “Nutritional Trends, Food Security in India” in the National Seminar conducted by Kakatiya University, Warangal, India, on “Social Development in India: Policies, Strategies and Challenges”(25th and 26th April 2011)
- Participated in a National Seminar conducted by Centre for Agrarian Studies & Disaster

Mitigation, NIRD, Hyderabad on “Agrarian Crisis in India: The Way out” (November 5th-7th, 2012) and submitted a Joint paper “Declining Profitability of Paddy in Andhra Pradesh: An Inter-regional Study of Costs and Returns.

- Participated in the “Data Dissemination Workshop on Primary Census Abstract-Census of India-2011” (December 26-27, 2013) conducted by Directorate of Census Operations, Andhra Pradesh
- Participated in the three day International Conference at Institute of Development Studies Kolkata on “The Return of the Land Question: Dispossession, Livelihoods and Contestation in India’s Capitalist Transition” (March 4th -6th ,2014), organized by University of Melbourne, Institute of Development Studies Kolkata and Indian Institute of Management Calcutta
- Presented a Paper “ Agrarian Crisis: Farmers’ Suicides in Warangal District” at The First Annual Conference of Agriculture and Agri-Business conducted by ECO-ENA, Inc. Canada On 30th May 2014 at University of London, London.
- The Paper presented at the First Annual Conference of Agricultural Economics and Agri-business at University of London is saved as the proceedings of the conference: **ISBN: 978-0-9869581-3-7: Library & Archive Canada.**
- Presented a paper “Small and Marginal Farmer Economy and Their crisis in Rural Andhra Pradesh: A Study in Three Villages” at the Second Annual Conference of Agriculture and Agri-Business conducted by ECO-ENA. Inc. Canada on 28th January 2015 at Harvard University, USA
- Co-authored an article “Steps To Resolve the Suicide Crisis among India’s Farmers” in a New York (USA) based online magazine “Carnegie Council” for Ethics in International Affairs (June 19, 2017)

**Agrarian Crisis:
Farmers' Suicides in Warangal District**

By

Emmadi Naveen Kumar

**CAMBRIDGE
SCHOLARS**

P U B L I S H I N G

**Agrarian Crisis:
Farmers' Suicides in Warangal District,
by Emmadi Naveen Kumar**

This book first published 2012

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Copyright © 2012 by Emmadi Naveen Kumar

All rights for this book reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner.

ISBN (10): 1-4438-4040-8, ISBN (13): 978-1-4438-4040-8



Dr. K. SUMAN CHANDRA
Professor & Head

Centre for Agrarian Studies &
Disaster Mitigation (CAS & DM)
Teletax : 040-24008515
Tel (R) : 040-40020314
Mobile : 09848987643

राष्ट्रीय ग्रामीण विकास संस्थान

ग्रामीण विकास मंत्रालय, भारत सरकार का संगठन
राजेन्द्रनगर, हैदराबाद - 500 030 (भारत)

NATIONAL INSTITUTE OF RURAL DEVELOPMENT

(Ministry of Rural Development, Government of India)
Rajendranagar, Hyderabad - 500 030 (India)

No.CAS&DM/12/9
7th November, 2012

Participation Certificate

Shri E.Naveen Kumar participated in the National Seminar on "Agrarian Crisis in India: The Way Out" held at NIRD during 5-7 November, 2012. Shri E.Naveen Kumar presented a paper titled "Declining Profitability of Paddy in Andhra Pradesh: An Inter-regional Study of Costs and Returns", during the Seminar.


(K. Suman Chandra)

Shri E.Naveen Kumar
Research scholars in Department of Economics,
University of Hyderabad
Hyderabad-46

फोन : कार्यालय: 24008526, तार : ग्राविक, फैक्स : 91-040-24016500/24015277, E-mail : sum@nird.gov.in
Phone : 24008526, Grams : Gravik, Fax : 91-040-24016500/24015277, Website : www.nird.org.in

We care for the environment



ECO-ENA: Economics & ECO-Engineering Associate, Inc., Canada

Certificate of Conference Presentation

This is to certify that

Mr. Emmadi Naveen Kumar

has successfully presented at the 2nd Annual Conference of Agricultural Economics & Agribusiness that was held in the Joseph B. Martin Center; Harvard University, USA on January 30th, 2015

Ghoda Gama

ECO-ENA, Inc., Canada's Executive Director

ECO-ENA, Inc.

M. Handley-Schaefer.

Vice President of Research &
Policy Analysis

DD-27/D, Sector-I, Salt Lake, Kolkata - 700 064

Certificate of Participation

This is to certify that.....*Emmadi Naveen Kumar*.....

has participated in the three-day international conference on *The Return of the Land Question: Dispossession, Livelihoods, and Contestation in India's Capitalist Transition* organized by the Faculty of Arts and Australia India Institute, University of Melbourne, Institute of Development Studies Kolkata & Indian Institute of Management Calcutta between 4 – 6 March 2014.

Anthony D'Costa -

Anthony D'Costa
(University of Melbourne)

3

Mritunjoy Mohanty
(IIM, Calcutta)



Achin Chakraborty
(Director, IDSK)

SMALL AND MARGINAL FARMER CRISIS IN (UNITED) ANDHRA PRADESH (1981-2014)

by Naveen Kumar Emmadi

Submission date: 22-May-2021 04:17PM (UTC+0530)

Submission ID: 1591785466

File name: Naveen-Thesis-Plagiarism-Final_1.pdf (2.34M)

Word count: 55924

Character count: 291261

SMALL AND MARGINAL FARMER CRISIS IN (UNITED) ANDHRA PRADESH (1981-2014)

ORIGINALITY REPORT

9%

SIMILARITY INDEX

9%

INTERNET SOURCES

1%

PUBLICATIONS

1%

STUDENT PAPERS

PRIMARY SOURCES

1

ir.amu.ac.in

Internet Source

2%

2

fincomindia.nic.in

Internet Source

1%

3

ageconsearch.umn.edu

Internet Source

1%

4

www.isec.ac.in

Internet Source

1%

5

nehu.ac.in

Internet Source

<1%

6

www.anveshi.org.in

Internet Source

<1%

7

m.epw.in

Internet Source

<1%

8

economics.mit.edu

Internet Source

<1%

9

m.rbi.org.in

Internet Source

<1%

10	www.cambridgescholars.com Internet Source	<1 %
11	viacampesina.org Internet Source	<1 %
12	www.fao.org Internet Source	<1 %
13	baadalsg.inflibnet.ac.in Internet Source	<1 %
14	www.openthesis.org Internet Source	<1 %
15	shodhganga.inflibnet.ac.in Internet Source	<1 %
16	www.economywatch.com Internet Source	<1 %
17	core.ac.uk Internet Source	<1 %
18	Submitted to The University of the West of Scotland Student Paper	<1 %
19	docplayer.net Internet Source	<1 %
20	"Revitalizing Indian Agriculture and Boosting Farmer Incomes", Springer Science and Business Media LLC, 2021 Publication	<1 %

21	krishikosh.egranth.ac.in Internet Source	<1 %
22	www.epw.in Internet Source	<1 %
23	India Studies in Business and Economics, 2015. Publication	<1 %
24	www.iibf.org.in Internet Source	<1 %
25	Submitted to Indian Institute of Technology, Bombay Student Paper	<1 %
26	"Development Challenges of India After Twenty Five Years of Economic Reforms", Springer Science and Business Media LLC, 2020 Publication	<1 %
27	K.N. Ganesh. "Ownership and control of land in medieval Kerala: Janmam--kanam relations during the 16th-18th centuries", Indian Economic & Social History Review, 09/01/1991 Publication	<1 %
28	agricoop.gov.in Internet Source	<1 %
29	en.wikipedia.org Internet Source	<1 %

30	luanvan.co Internet Source	<1 %
31	Namrata Chindarkar. "A Comparative Analysis of Farmers' Suicides in Andhra Pradesh, India", Methodological Innovation Online, 2007 Publication	<1 %
32	www.iipa.ernet.in Internet Source	<1 %
33	Submitted to Symbiosis International School Student Paper	<1 %
34	Submitted to Institute of Technology, Nirma University Student Paper	<1 %
35	vietnam.actionaid.org Internet Source	<1 %
36	www.cabi.org Internet Source	<1 %
37	www.rediff.com Internet Source	<1 %
38	India Studies in Business and Economics, 2016. Publication	<1 %
39	Submitted to Tata Institute of Social Sciences Student Paper	<1 %

40

hillagric.ac.in

Internet Source

<1 %

41

"Changing Contours of Indian Agriculture",
Springer Science and Business Media LLC,
2017

Publication

<1 %

42

scholarworks.lib.csusb.edu

Internet Source

<1 %

Exclude quotes On

Exclude matches < 14 words

Exclude bibliography On