



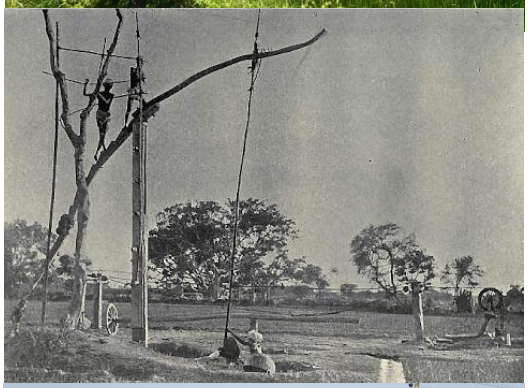
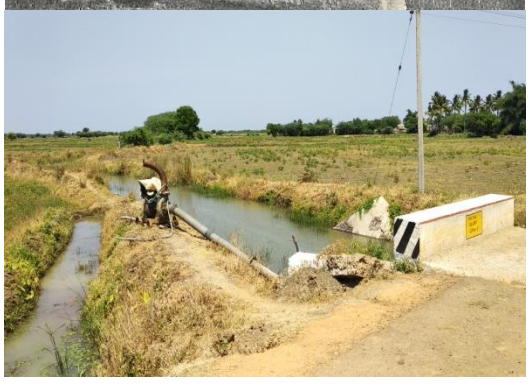

Study No.170

Palakurichi: A Resurvey (2019)

Dr. K. Jothi Sivagnanam
T. Priya

Submitted to
Department of Agriculture, Cooperation and Farmers Welfare
Ministry of Agriculture and Farmers Welfare
Government of India, New Delhi

Agro Economic Research Centre (AERC), Chennai
For the States of Tamil Nadu, Kerala, Pondicherry and Lakshadweep
Ministry of Agriculture and Farmers Welfare, Government of India, New Delhi
University of Madras, Chennai, Tamil Nadu

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Chapter-I

Introduction

1.1. Introduction

Rural development has been receiving increasing attention of the government across the world. Rural development is necessary not only for an over-whelming majority of the population living in villages, but the development of rural activities is essential to accelerate the pace of overall economic development of the country. India is a country of villages and its development is synonymous with the development of the people living in the rural areas. This is because, about two thirds of the population still lives in villages and there cannot be any progress as long as rural areas remain backward. Also, the backwardness of the rural sector would be a major impediment to the overall progress of the economy. And hence, the village surveys have been carried out to analyze the caste-economy linkages, to examine the local power structures in villages and their relationship with micro and macro political systems, and to capture the changing dimensions of caste, property rights, agrarian structures and occupational shifts along with their inter-relationships

1.1.1 Need and scope of the present study

Village study is an in-depth social-anthropological research of certain village. Village studies are important means for understanding the socio-economic dynamism of villages and resurveys helps in understanding the socio economic and agrarian changes that have occurred during the time period from the previous survey.

The data collected over time on the social and economic aspects of village communities becomes the source for analyzing various changes taking place and provide the base for evidence-based agricultural development policies**.** The village surveys once an important mode of research have largely been neglected in the field of modern research.

The Palakurichi village of Nagapattinam district, Tamil Nadu was one of the Slater villages and it has been studied through survey and resurveys at various time periods by different authors to understand the developmental changes taken place over a century. Most of these studies have mostly focused on agrarian changes. In this scenario, this study focus on the

changes in demography, socio-economic, agrarian and village infrastructure over the time period of last ten years.

Gilbert Slater has surveyed 12 villages, with the help of his students, from the then Madras Presidency during the year 1916; of these 12 villages, 5 were namely Eruvellipet, Vadamalaipuram, Gangaikondan, Palakurichi, Dusi from Tamil Nadu. It is crucial to note that, of these 5, 4 were fully urbanized and developed as witnessed from the shift of most occupations from farm to non-farm activities. Hence, it becomes obvious to choose Palakurichi for the present study, in order to understand the socio-demographic and developmental changes taken place in Palakurichi in recent years.

1.1.2 Objectives of the present study

The objective of this resurvey is to study the socio-economic, demographic and ecological changes that have taken place in recent years. The study mainly focuses on the structural changes in the social and economic arena of production, natural resource use, land use pattern, demography, and public institutions.

The overall objective of the study is to create a longitudinal panel dataset, to capture the socio-economic dynamics of the villages. The purpose is to assess the pace, process and pattern of rural change by means of repeated survey in the selected villages followed by re-surveys of the same villages at an intervals of 5 years.

The focus would be on agricultural change and changing pattern of rural livelihoods and its implication for future development. The study will also evaluate the efficacy of government interventions in rural areas and key drivers of changes in village economy.

1.2 Background Information

1.2.1 Background information about the survey

India has a long record of village surveys and resurveys, one of the best known village studies in the pre-Independent period is ‘Slater Villages’ of the south India by Gilbert Slater, the first Professor of Department of Economics, University of Madras. His students surveyed a number of villages in south India during 1916-17and they were Eruvellipet, Palakurichi (surveyed by his research student K. Soundara Rajalu a native of the Palakurichi), Dusi,

Vadamalaipuarm and Gangaikondan all in Tamil Nadu and Thettupalli and Vunagatla in Andhara Pradesh and Gowripalli in Karnataka (Salter 1918).

Some of these Slater villages were resurveyed by PJ Thomas and K.C. Ramakrishnan in 1937 (Thomas and Ramakrishnana 1940). Under their direction S. Thirumalai carried out the resurvey of Palakurichi village during the year 1940.

The resurveying of these villages continued even after independence: the Agro-Economic Research Centre, Chennai of the University of Madras organized a resurvey of two of these villages of the Tamil Nadu villages, Vadamalaipuram and Dusi in 1959.

M.R. Haswell, from University of Oxford conducted a resurvey and prepared a brief note on the Palakurichi village of the Tamil Nadu in 1961 and a more detailed resurvey of these five villages were conducted by the faculty members of Madras Institute of Development Studies (MIDS), Chennai in 1983-84 (Guhan and Mencher 1982; Guhan 1983; Guhan and Bharathan 1984; Athreya 1984; and Athreya 1985).And Dr. S.Guhan of Madras Institute of Development Studies has resurveyed the Palakurichi village in 1983.

During 2004 Dr. Surjit V, Agricultural Economist from National Institute of Rural Development and Panchayati Raj, Hyderabad has conducted a resurvey of Palakurichi village as a part of his Ph. D research work on "Farm Business incomes in India: A Study of Two Rice Growing Villages of Tanjavur Region, Tamil Nadu.

At present Agro Economic Research Centre, Chennai, of the University of Madras has carried out the resurvey of Palakurichi Village, under the direction of Ministry of Agriculture and Farmers' Welfare, Government of India, to study the changes that have occurred in the socio economic system and agrarian system of the village after 2004.

1.2.2 Historical profile of the Palakurichi village

Palakurichi is a village of Nagapattinam district that falls within the Cauvery delta region, which is historically known for its prosperous rice production systems. The alluvial soils of the delta are very good for wet rice cultivation. The only source of irrigation was the water from the network of canals branching out of Cauvery. The irrigation system in the Cauvery delta is one of the oldest water-control facilities in India and dates back to the Chola period of the second century AD. Within the delta region, there is a sharp divide between the upper delta and lower

delta region. This is mainly due to the usages of water by the upper delta leaving the residual water to the lower delta. In the recent decades, there have been problems of inadequate water as well as irregular supply of water in the Cauvery irrigation system. The lack of adequate irrigation water in the entire Cauvery delta, and Nagapattinam district in particular, has been because of low levels of inflow into the Cauvery irrigation system due to low rainfall, and a reduction in the supply of water to the lower reaches of the command area in recent years. This seriously affect the cultivation process of paddy which is the only crop cultivated in this village for than ten decade.

1.3 Brief Review of Literature:

K. Soundara Rajalu, under the guidance of Gilbert Slater, has explained the History and prospects of the village, and briefed the village administration of Palakurichi in his book Some South Indian Villages (1918). He has narrated on the Population, Caste and occupational structures of the Palakurichi village and has reported that the major crop cultivated in the village was a single crop of rice, followed sometimes by pulses (mainly black gram and cowpea) when there is less availability of water from the irrigation system. The author has also explained about the emigration of the poor tenants or peasant, proprietors to foreign cities, such as Colombo, Rangoon, Singapore and Penang etc.

Two decades later, with lot of changes having taken place, Thirumala, under the direction of PJ Thomas and Ramakrishnan resurveyed the Palakurichi village and have illustrated the changes in the demographic, economic and agriculture pattern of the Palakurichi village and published in his work, Some South Indian Villages Revisited (1940). He has narrated the changes based on the caste dominance along with the changes in basic infrastructure of the village. It is significant to mention that, he was the first to have suggested forming a Panchayat board for the administration purpose in Palakurichi village to take up necessary active village improvement measures like protected water supply, reserving at least one tank exclusively for drinking purpose and to build a rural dispensary, to avoid the economic deterioration of the village.

It was during 1967, in the Independent India, Margaret Haswell conducted a resurvey in the Slater villages of Tamil Nadu and prepared a brief note on the Palakurichi village in his “Economics of Development in Village India”, in which she has highlighted that in the early 1960s, Palakurichi was selected as a “Package Village” for implementation of the Intensive

Agricultural District Programme (IADP). This meant that a package of improved seeds, chemical fertilizers, and easy credit support were provided to cultivators in order to increase productivity levels in the areas where optimum potential for agricultural production exist. As the result of implementation of IADP, during 1963-64 the cultivators began to raise a second crop (*thaladi*) of rice, from October–November to February–March. This was made possible mainly by the introduction of short-duration varieties of rice, which were suited to a limited amount of water available for a short period of time.

There have also been several other studies undertaken by different economists which have highlighted the developments in the coastal delta region. For instance, Francine R. Frankel in his book "India's Green Revolution: Economic Gains and Political Costs" in the year 1971 stated that, the availability of I.R.8 and other exotic paddy varieties could do little to change the dim prospect for the agricultural economy of Thanjavur. The short-duration imported strains were high yielding than the short-term local variety, ADT-20, but significantly inferior in their ability to withstand flooding and heavy rains during the northeast monsoon.

The resurvey of Palakurichi village was yet again carried out by Dr. Guhan in the year 1983 wherein he has noted that the irrigation infrastructure of the village which was prone to floods and droughts has improved considerably with the completion of the Mettur project and this has resulted in "steady growth" in output. Prior to the construction of the Cauvery-Mettur scheme in 1934, Palakurichi was frequently subjected to floods. The waters of Odampokki, the Kaduvayar, the Vellayar and a stream called the old Yedaiyar used to combine and form one sheet of water at the time of heavy floods or rains.

He also stated that the use of tractors for first ploughing has become universal as it helped to overcome the constraints imposed by the short span available for *Kuruvai*and *Thaladi*. In terms of rental cost, they are competitive with that involved in the use of bullocks at the prevailing wage rate. He further stated that Kudirai Sevagnar canal irrigated a net area of around 800 acres and Terkodi canal irrigated a net area of 150 acres .Though the regularity of irrigation has deteriorated over years, these two canals form the major source of irrigation for the village.

It has been observed by him that the wage agitation at the time of ploughing in 1978 was a factor that encouraged large cultivators to mechanize cultivation in terms of mechanization. The use of tractors for ploughing and diesel pumps replacement of manual methods of bailing

diesel pumps for first has become universal because it helps to overcome the constraints imposed by the short span available for Kuruvai and Thaladi. In terms of rental cost, they are competitive with that involved in the use of bullocks at the prevailing wage rate"

Bouton, M. M in his work "Agrarian Radicalism in South India", has classified the Thanjavur region into five different zones based on two major criteria, the nature of irrigation facilities, and the nature and composition of the agricultural work force. To characterize the nature of irrigation facilities, Bouton examined (a) whether there is irrigation at all or not; (b) the "pervasiveness" of canal irrigation; and (c) the quality and dependability of water delivered through the irrigation system. For characterizing differences in the composition of the agricultural work force, Bouton looked at the share of agricultural labourers and cultivators in the agricultural work force and in total population, as well as the agrarian density, defined as the number of agricultural workers per unit area of land. The five agro-ecological zones identified by the author are (1) the Old Delta Cauvery zone, (2) the Old Delta Central zone, (3) the Old Delta Coastal zone, (4) the New Delta CMP (Cauvery–Mettur Project) zone, and (5) the Dry Area Upland zone.

The Palakurichi village has been surveyed even in the beginning of 21st century by DrSurjit V, in the year 2004 as a part of his Ph.D research wherein he has accounted for the major changes in cultivation practices supported the "stability" of the cropping pattern. He also narrated changes in farm input/practices that, introduction of tractors, have completely replaced the use of domestic animals for ploughing. And transplanting paddy seedlings has been replaced by broadcasting seeds, and there was universal application of chemical fertilizers and pesticides during crop cultivation. Utilization of water from the canal irrigation system, which requires the use of diesel-fuelled pumps, has increased the costs of irrigation. Lastly, while harvesting is done manually, the harvested produce is now transported and threshed using tractors instead of bullocks.

He has also, emphasized that 2003-04, a year of severe drought in Palakurichi. An exceptional situation in respect of availability of irrigation water had exceptional implications in terms of not only of agricultural yields and profitability but also affected cultivation practices and the labour process. This resulted in higher average losses of Dalit households than non-Dalit households. On account of the deterioration in the irrigation system – in terms of adequacy,

reliability, and timeliness – agricultural production has suffered. And concluded that the aspects of both continuity and change in agricultural practices over the last century in Palakurichi village.

J Jeyaranjan et al., in his study on Land, Labour and Caste Politics in Rural Tamil Nadu in the 20th Century: Iruvelpattu (1916-2008), 2010, reports and discusses a 2008 resurvey of Iruvelpattu, one of the five Slater villages in Tamil Nadu. What may distinguish Iruvelpattu and rural Tamil Nadu generally from other parts of "today's 'south'", including much of the rest of India, is the level of state intervention in the interests of social security – through primary healthcare provision, and schools in which teachers are actually present, and through the maintenance of a universal public distribution system, as well now as the operation of the NREGS. These have made for some improvement in well-being in the last quarter century (as Djurfeldt et al also find: 2008) and for such political change as has occurred – and that has played a part, in turn, in ensuring the delivery of welfare provisioning.

J Jeyaranjan et al., Rural Urbanism in Tamil Nadu also noted on a "Slater Village": Gangaikondan, 1916–2012: Have restudied another Slater village Gangaikondan, a village outside Tirunelveli in southern Tamil Nadu, to traces the story of agrarian social change in the village through the 20th century. It was inferred that the, agricultural economy of the village has declined fairly steadily, and it might be described as being now "post-agrarian" in the sense that only a small minority of households depend primarily upon agriculture.

J Jeyaranjan (2015): in his recent note on the Palakurichi Village has projected the changes in the employment pattern, irrigation pattern, crop cycling pattern in the village during the recent decade. And he has given a detailed note on the history of land lease system and income of landlords in Palakurichi. He has highlighted that there has been a sudden surge in the number of people who holds lands which was a significant happening in the history of Palakurichi and the reason behind this change was a sarvodaya service organization named LAFTI (Land For Tillers Freedom).

1.4 Scheme of the Chapters

This study is divided into eight chapters. In the first chapter, general introduction about the issues, objective, need and scope of the study, background information, historical profile, brief review of literature are given.

Some basic definitions and concepts used in this the study are highlighted in Chapter 2. The Data base, sampling design, survey approach, and dimension covered and analytical tools used for this study are also discussed in this chapter.

Chapter 3 presents a detailed overview of the village, demographic profile, agriculture status, village infrastructure, developmental institution and infrastructure, cultural profile and its uniqueness.

The social dynamic indicators like population, sex composition, caste, religion, literacy pattern, food security and perception of the people about the changes in the village have been discussed in Chapter 4.

Chapter 5 is the most important chapter of the report. It includes an in-depth study of economic resources of Palakurichi, their production system, household economy and the potential of economic viability and sustainability of various activities performed by the villagers in Palakurichi.

In Chapter 6 the ecology, vulnerability and sustainability issues of the village, particularly during last five years are discussed. It also analyses the frequency with which the village is facing.

The policy and governance of the village detailing the nature and coverage of government schemes, people's perception about those schemes, awareness about the local governance and their attitudes towards rural change have been are discussed in Chapter 7

A brief on the findings of the study and emergent policy recommendations for improving socio-economic and environmental conditions of the village has been given in the Eighth chapter.

Chapter-II
Methodology of the Study

2.1 Definitions and Concepts

Some of the basic definitions and concepts used in this report are as follows:

- **Village:** A village is a small settlement usually found in a rural setting. It is generally larger than a "hamlet" but smaller than a "town".
- **Household:** A household is a group of family members/ persons normally living together and taking food from common kitchen.
- **Census Method:** Census method refers to the complete enumeration of a universe. Census Method is necessary in some cases like Population Census, Agriculture Census and Animal Census to get accurate first hand primary data.
- **Agricultural Labourer**: All those persons without any land but having a homestead and deriving more than 50 per cent of their income from agricultural wages have been termed as agricultural labourer.
- **Primary vs Secondary Occupation:** Primary occupation has been taken as the one among the listed occupations from which a household derived maximum percentage of income, i.e. greater than 50 percent of the total household income. Secondary occupations have been taken as those among the listed occupations from which a household derived meagre percentage of household income (i.e. less than 50 per cent).
- **Size of Holding Categories:** The Directorate of Agricultural Census has classified the farmers of Tamil Nadu into the following four categories viz., marginal, small, medium and large farmers, on the basis of their land holdings.
    a. **Marginal Farmers:** All households with a land holding of <1 hectare have been termed as marginal farmers;
    b. **Small Farmers:** All households with a land holding of 1-2 hectares have been considered as small farmers;
    c. **Medium Farmers:** All households with a land holding of 4-10 hectares have been termed as medium farmers and
    d. **Large farmers:** All households with a landholding of above 10 hectares have been considered as large farmers.

- **Household income:** Household income includes current income of all members of the household from all sources. It consists of both farm and non-farm income.
- **Labour Force:** The standard definition of labour force includes the males and females falling in the age group of 18-59 years, but males and females falling in the age group of 9-18 years as well as 59-65 years also perform some light household activities, hence they have also been considered in the labour force (after converting them in to standard man-days) in order to avoid the underestimation of the magnitude of unemployment and/or under-employment in the present study.
- **Operational Holdings:** An operational holding includes all land which is wholly or partly used for agricultural production and is operated as one technical unit by one person alone as well as with others without regard to title, legal form, size or location. The technical unit is that, which is under the same management and has the same means of production such as labour force, machinery and animals.
- **Literacy:** Literacy is an important demographic trait which portrays the quality of the population and provides impetus to the economic development. In Census, population aged seven and above years, who can both read and write with understanding in any language is treated as a literate.
- **Ecology**: Ecology is the science that studies the biota (living things), the environment, and their interactions. It comes from the Greek oikos = house; logos = study. Ecology is the study of ecosystems. Ecosystems describe the web or network of relations among organisms at different scales of organization.
- **Vulnerability** is defined as a function of three elements viz. Exposure to physical effects of climate change, sensitivity of the natural resource system or dependence of the national economy upon social and economic returns from that sector and adaptive capacity which is the extent to which a system enables these potential impacts to be offset
- **Sustainability:** Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. In addition to natural resources, we also need social and economic resources.
- **Panchayat:** Institutions of local government at the village level
- **Taluk:** Administrative sub-division in the revenue administration, below a district and comprising contiguous villages.

- **Kar:** Short-duration variety of rice mostly grown as first crop
- **Kuruvai:** Short-duration crop of rice cultivated from June-July to September-October
- **Thaladi**: Short-duration crop of rice cultivated from October-November to February – March
- **Samba:** Long-duration crop of rice cultivated from July-August to January-February

2.2 Data Base

The study is based on both Primary and Secondary data. The primary household data was collected though the well-structured questionnaire issued by the coordinating Centre (AERC, Shantiniketan). The secondary data for the study was obtained from the Village Administrative Officer of Palakurichi Village and the 2011 Census data published by Census of India has also been used in this village. The existing village level institutions like Schools, Health Care Centre and Public Distribution Store, Bank, were also enumerated in detail. The village level functionaries, like, Ward Members, Panchayat Secretary and Thalaiyari were also consulted to know the functions of the village system

Apart from this, information collected through group discussion held with senior citizen of the village has also been used. Data from pre-published articles and reports related to this study during different time period by different authors has also been used in this study.

2.3 Sampling Design

2.3.1 Criteria for selection of the village

Out of the five Slater villages in Tamil Nadu, Palakurichi is the only village that is less urbanized where people still survive with agriculture as main occupation whereas the other Slater villages namely Vadamalaippuram, Dusi, Iruvelpattu, Gnagaikondapuram have been urbanized due to the development of modern technologies and increase in the number of factories and industries. Agriculture has not been the major occupation in theses villages. In fact, these developments indicate the relative difference in development between these four slater villages and Palakurichi where agriculture continues to be the main occupation. The people of these villages have also shifted their livelihood from agriculture to industry side for want of better standard and quality of life. And for this reason, Palakurichi Village has been selected for conducting of a resurvey so that developmental changes taken place at village level can be understood.

2.3.2 Criteria for selection of households

Considering the size of the village, the census method was adopted for the data collection. Since the village had 490 household the survey was carried out in all the households of the village. However, out the total 490 households only 477 households were able to be met in person, as the remaining 13 household stayed out of town for varied reasons during the survey. Though frequent visits have been made they could not be contacted. Hence, for this reason the sample size of the study has been confined to 477 households.

2.4 Survey Approach

2.4.1 Village level information

Village level information was obtained from the Village Administrative officer of Palakurichi village and from Census 2011 data which was obtained from the Department of census. Village Information from the published articles and reports related to this study during different time period by different authors have also been used in this study

2.4.2. For group level information

Group discussion was carried out in each street with the elderly persons of the village. The places where the senior citizen used to gather were identified to carry out the group discussions in order to obtain the group level information to know the past history and trend of changes in the village over the decades.

2.4.3. For household level information

Household survey was carried out using structured survey schedule issued by the coordinating center (AERC, Shanthiniketan)

2.5 Dimensions Covered

The study was framed in such way to cover the following dimensions:

- Demographic profile of the village, agriculture status, village infrastructure, developmental institutions and infrastructure, cultural profile and uniqueness of the village etc., and the changes over the decade.
- Social change - in the social dynamic indicators like population, sex composition, caste, religion, literacy pattern, food security and perception of the people about the changes in the village

- Agrarian change - livelihood changes; economic changes;
- Ecological change - the vulnerability and sustainability happenings during last five years in the village, its frequency and the adaptation strategies for recovery are discussed in detail.
- The policy and governance of the village detailing the nature and coverage of government schemes, people's perception about those schemes, awareness about the local governance and their attitudes towards rural change
- A brief on the findings of the study and emergent policy recommendations for improving socio-economic and environmental conditions of the village In all the areas the driving forces of changes to be identified

2.6 Analytical Tools

2.6.1 Decadal Growth rates

Decadal Growth rates give an overview of the percentage of total population growth in a particular decade and hence it is termed as "Decadal Growth Rate". To find the growth rate of the population for the decade, the following Simplified Decadal Growth Rate equation has be used

$$\text{Decadal Growth Rate (DGR)} = \left(\frac{P_n - P_o}{P_o}\right) * 100$$

DGR = Decadal Growth Rate in %

P_n = Population now

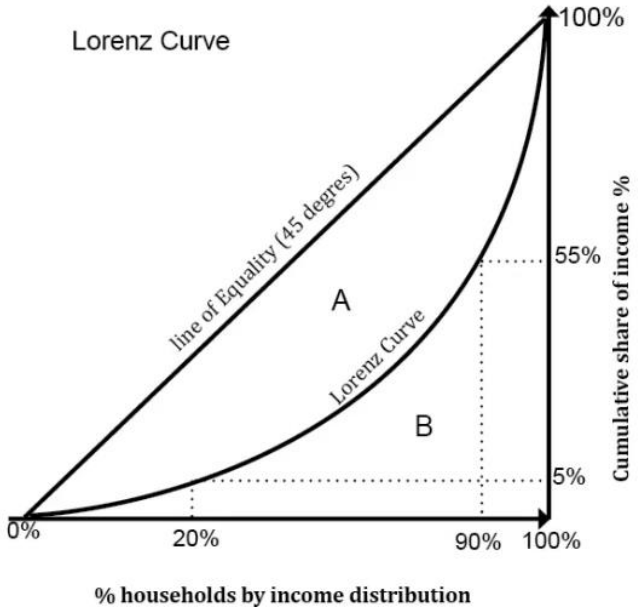
P_o = Population originally P

P_n and P_o are ten years apart

Thus, the decadal growth rate was used to observe the overview of the total population growth during the last two decade in Palakurichi Village.

2.6.2Gini co-efficient & Lorenz curve

The Gini Coefficient or Gini Index measures the inequality among the values of a variable. Higher the value of an index, more dispersed is the data. Alternatively, the Gini coefficient can also be calculated as the half of the relative mean absolute difference. The coefficient ranges from 0 (or 0%) to 1 (or 100%), with 0 representing perfect equality and 1 representing perfect inequality.



The Gini coefficient is usually defined mathematically based on the Lorenz curve, which plots the proportion of the total income of the population (y-axis) that is cumulatively earned by the bottom X% of the population.

The Gini Coefficient has been used in the study to measures the inequality operational land holdings among the cultivator of Palakurichi Village.

2.6.7. ASER toolkit for reading and arithmetic competency

The Annual Status of Education Report (ASER), a nationwide survey of reading and math achievement of children from rural India. ASER provides basic and critical information about rural Indian children's foundational reading skills and basic math ability. Given its scale and comprehensive coverage, it is a path breaking initiative as it is the only nationwide survey, albeit rural, which assesses the learning achievement of children in the age group 5-16.

The ASER test inference is about a child's level of foundational reading skills (letter identification, word decoding, etc.) and basic math ability (number recognition, subtraction, and division).The content of the ASER-reading test, i.e. the selection of words, length of sentences and paragraphs, and use of vocabulary is aligned to Grade 1 and Grade 2 level state textbooks and the ASER-math test is aligned to Grade 1, 2, 3, and 4 level state textbooks.

The tests are orally and individually administered and require about 10 minutes of administration time. They are designed as criterion-referenced tests that categorize children on an ordinal scale indexing mastery in the basic skills of reading and number operations. The tests are designed to understand what students can do and the skills they have mastered. For instance the ASER-reading test classifies children at the 'nothing', 'letter', 'word', 'paragraph' (grade 1

level text), and ‘story’ (grade 2 level text) level based on defined performance criteria or cut-off scores that allow examiners to classify children as masters or non-masters of any given level. The ASER testing tools have several advantages: they are simple, quick, cost-effective, and easy to train examiners to administer.

The ASER Toolkit test used to access the level of reading competency and arithmetic competency of the children (age group 5-15 years) of Palakurichi village during this study is attached in the Annexure.

2.6.8. Graphs and Charts

Graphs are a common method to visually illustrate the relationships in the data. The purpose of a graph is to present data that are too numerous or complicated to be described adequately in the text and in less space. **Charts** are used in situations where a simple table won't adequately demonstrate important relationships or patterns between data points. Both Graphs and charts are widely used in the report to explain various situations of the Palakurichi Village.

2.7 Limitations of the Study

The data of village and farm business surveys in India are too inaccurate to be of use in the analysis of the rural economy or the changes therein. This unsatisfactory nature of the data stems from the difference in outlook and interests of the cultivator and the investigator, the problem of memory, the problem of indifference in a context of hierarchical loyalties and conflicts, and the problem of motivation toward accurate replies on the part of the respondent when he has many reasons to mislead in many directions and few, if any, reasons to be conscientiously helpful.

Some data, those which can be gathered by counting or by limited observation, are usable, but the gathering of quantitative data on farm operations will require a great effort over an extended period of time on a village at a time. Otherwise, the foreign scholar or visiting expert must restrict himself to employing the small amount of the bench-mark data as a base from which to work in constructing a description of the structure of aspects of the rural economy without hope of being able to employ quantitative methods on any but the most limited scale.

Limited recorded available with local governance level.

2.8 Summary of the Chapter

The chapter dealt with the methodology adopted for conducting of the study viz., defining the various concepts/variables like Village, Household, Labour Force, operational holding literacy etc., that were used in the study have been explained for the easy understanding of the study.

The availability of various others villages similar to that of the one finalized for project study and the reasons for its selection for conducting resurvey has been explained.

The study is based on both Primary and Secondary data. The primary household data was collected though the well-structured questionnaire issued by the coordinating Centre (AERC, Shantiniketan).

The sources of secondary data used for the study was obtained from the Village Administrative Officer of Palakurichi Village and the 2011 Census data published by Census of India has also been used in this village. Data from pre published articles and reports related to this study during different time period by different authors has also been used in this study.

The Sampling Design that was used for the data collection was adopted as per the census method considering the size of the village of Palakurichi. Out the total 490 households we could able to meet only 477 household, as the remaining 13 house hold stayed out of town for many reasons during the survey. Hence, for this reason the sample size of the study will be confined with 477 households.

The various survey approaches relating to the collection of information for preparation of this study has been detailed below:

- **Village level information** was obtained from the Village Administrative officer of Palakurichi village and from Census 2011 data which was obtained from Department of census. Village Information from the published articles and reports related to this study during different time period by different authors has also been used in this study
- **For group level information:** Group discussion was carried out in each street with the elderly persons of the village. And senior citizen gathering places was identified to carry out the group discussion to obtain the group level information to know past history and trend of changes in the village over the decade.
- **For household level information:** Household survey was carried out using structured survey schedule issued by the coordinating center (AERC, Shanthiniketan)

The various types of Analytical Tools used in the study to explain certain variables.

- Decadal Growth rates
- Gini co-efficient & Lorenz curve
- ASER toolkit for reading and arithmetic competency
- Graphs and Charts

Chapter-III

An Overview of Palakurichi Village

3.1. Village Profile

3.1.1 Geographical & administrative location of the village

The Palakurichi village is located in the Old Delta Costal Zone, at the tail end of the Cauvery delta region where the river Cauvery empties into the Bay of Bengal. Palakurichi village belongs to Kilvelur taluk of Nagapattinam district in the Tanjavore region (which has been known as the "Rice Bowl of South India', on account of its thriving rice production system) of Tamil Nadu, India. It is situated 15KMs away from the sub-district headquarter Kilvelur and 20km away from district headquarters Nagapattinam. Palakurichi comes under the Keeliayur block of the Kilvelur taluk.

Table 3.1: An overview of the Village

Particulars	2019
Location code (as per 2011 Census)	637 750
Geographical area of the Village	502.72
Total Household	490
Total Population	1405
Post office and Pincode	611 109
Gram-Panchayat	Palakurichi
Assembly constituency	Kilvelur
Parliament Constituency	Nagapattinam
Block/Tehsil	Keelaiyur
District	Nagapattinam
State	Tamil Nadu
Nearest Primary School(With distance)	State Government Primary School; (Distance < 1KM) located within the Village
Nearest Secondary/Higher Secondary School (with distance)	State Government Higher Secondary School; (Distance < 1KM) located within the Village
Nearest College(With distance)	Private College; (Distance < 5 Km) located outside the Village
Nearest Health Centre/Hospital (with distance)	Primary Health Care Centre; (Distance < 1KM) located within the Village
Nearest City or Town (with distance)	Velankanni (Distance 15Kms)
Nearest Railway Station	Velankanni Railway station
Nearest Airport (with distance)	Tiruchirapalli airport (Distance 160km)

Source: Census Hand book, 2011

The total geographical area of the village is 502.72 Hectares. In 2019, Palakurichi has a total population of 1405 people. There are about 490 households in Palakurichi village. The

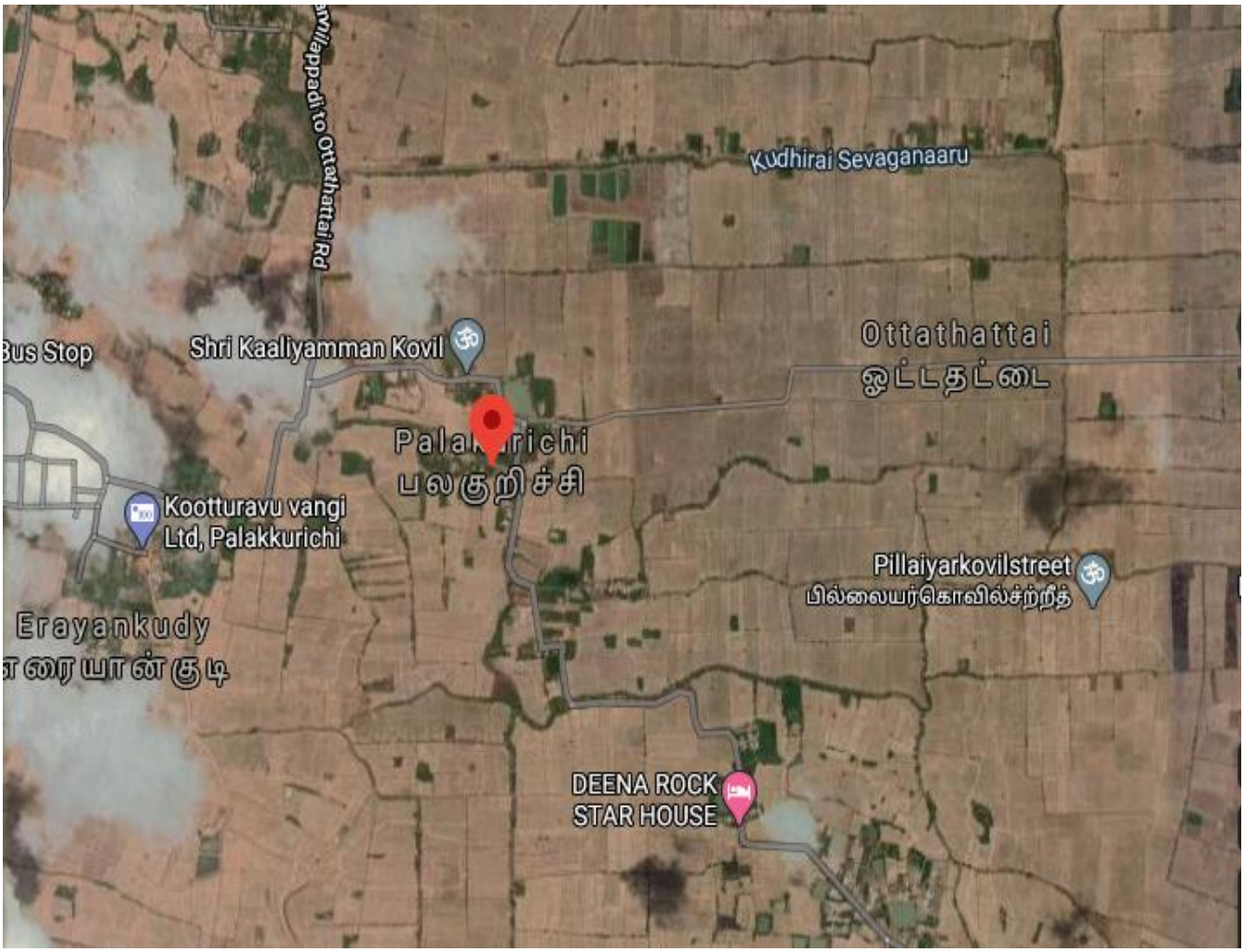
postal pin code of the village is 611 109. Velankanni, a tourist attraction is the nearest town to Palakurichi. The nearest railways station from Palakurichi village is Velankkanti Railway station which is located 15 KMs away from the village. There is no airport located near the village; the village can be reached through Tiruchirapalli airport which is the located 160 kms away.

3.1.1.1 Geographical Location of Palakurichi Village

Latitude : 10.6671

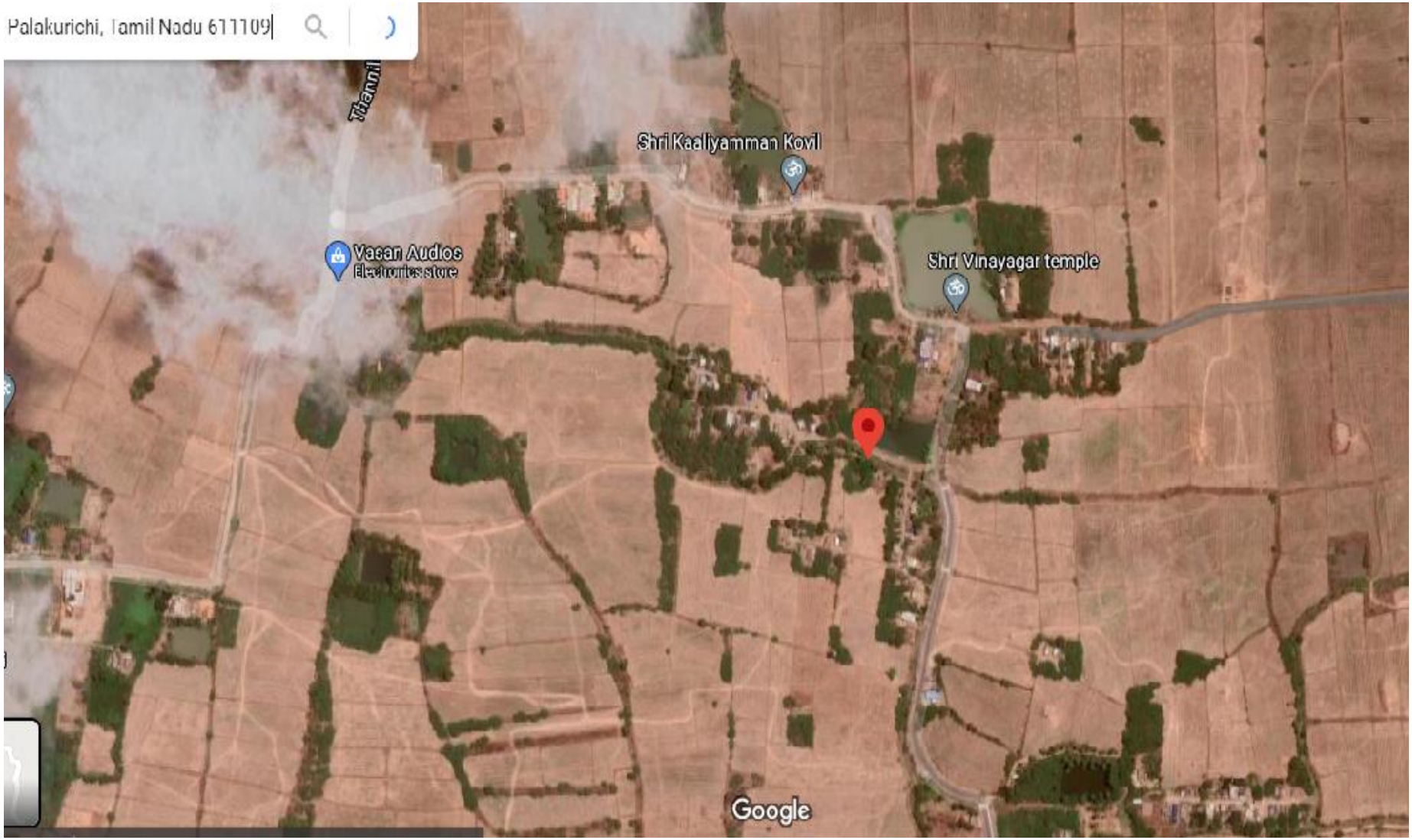
Longitude : 79.7722

Figure 3.1: Map of Palakurichi Village



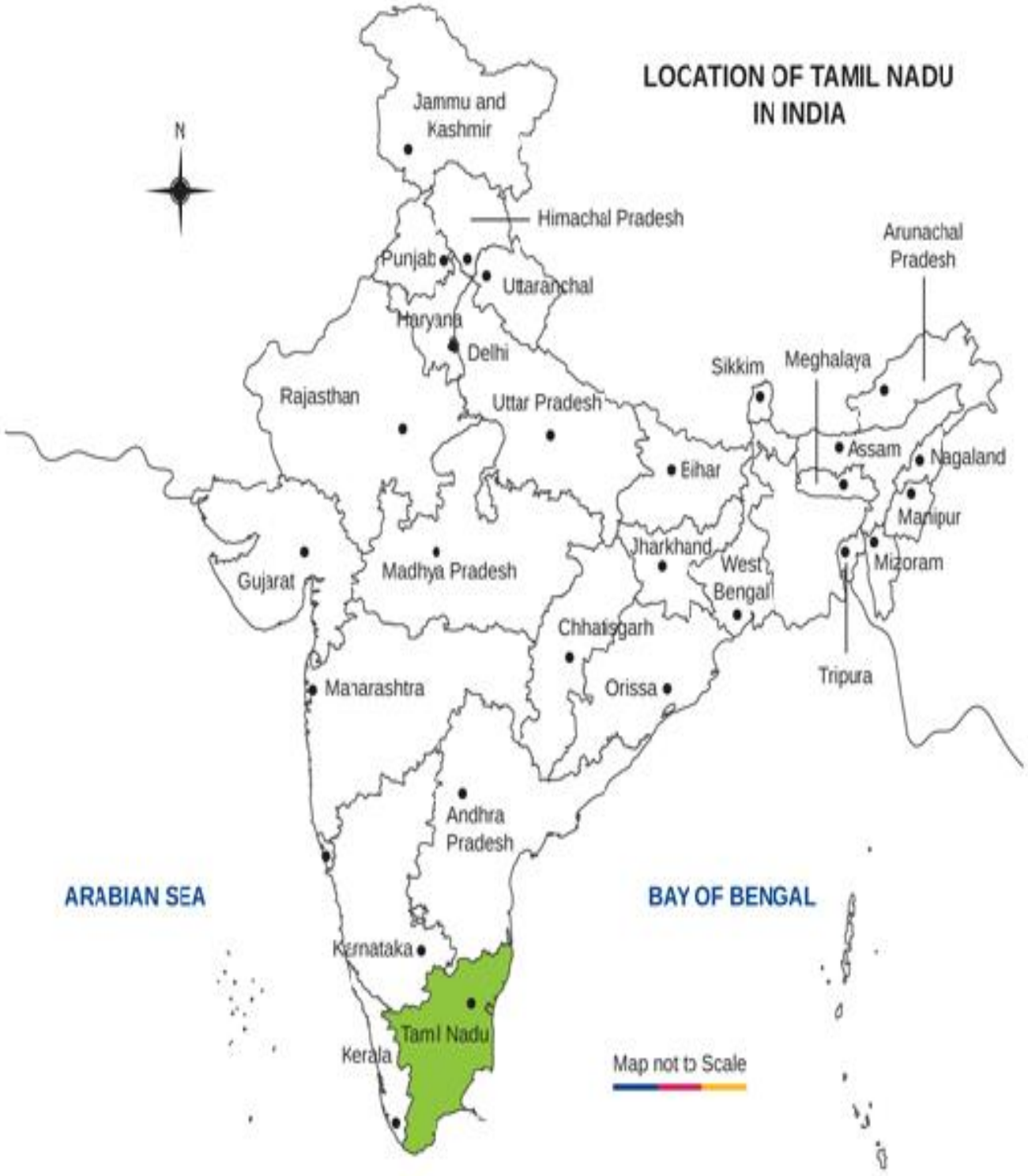
Source: https://villageinfo.in/tamil-nadu/nagapattinam/kilvelur/palakurichi.html

Figure 3.2: Map of Palakurichi Village



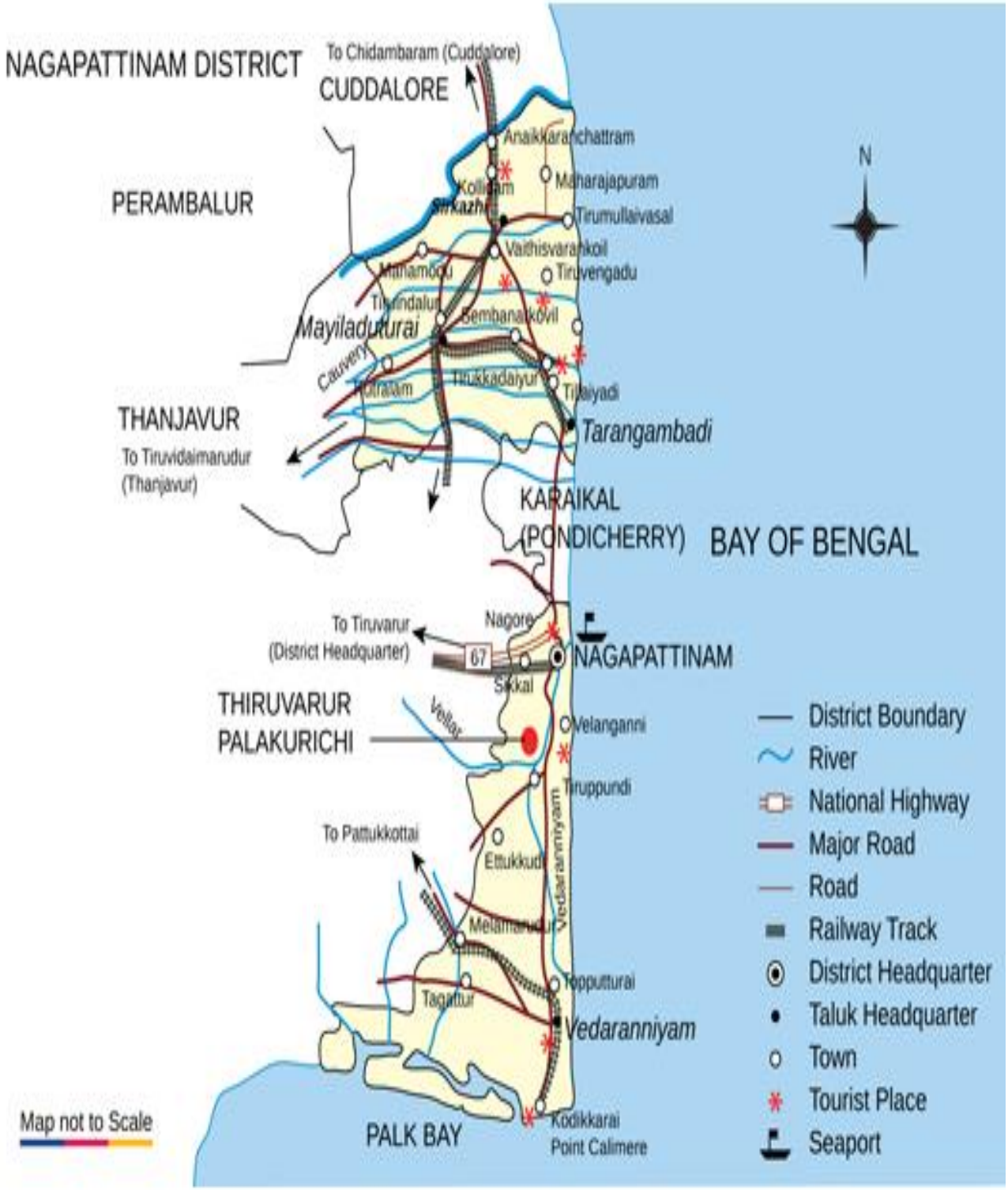
Source: https://villageinfo.in/tamil-nadu/nagapattinam/kilvelur/palakurichi.html

Figure 3.3 : Map of India showing location of Tamil Nadu



Source: Maps of India

Figure 3.4: Map of Nagapattinam district showing Palakurichi village



Soruce: From the research paper on Cropping Pattern and Farming Practices in Palakurichi Village, 1918–2004 by Dr.V.Surjit

Figure 3.5 : Map showing the course of the Cauvery river in Tamil Nadu

Source: From the research paper on Cropping Pattern and Farming Practices in Palakurichi Village, 1918–2004 by Dr.V.Surjit

3.1.2 Climate and Rainfall

The Palakurichi village follows the same pattern of climate and rainfall as the Nagapattinam district. The village enjoys humid and tropical climate with hot summers, mild winters, and moderate to heavy rainfall as that of the Nagapattinam district. The relative humidity ranges from 70–77% and the temperature varies from 40.6 to 19.3°C with sharp fall in night temperatures the during monsoon period.

The village receives major portion of its annual rainfall during the north eastern monsoon period, and a moderate amount of rainfall during the south west monsoon period. A good part of the rainfall occurs as very intensive storms resulting mainly from cyclones generated in the Bay of Bengal, especially during northeast monsoon. This high rainfall supplements the Cauvery water for the high water requirements of paddy, which is the main crop of this village.

3.1.2.1 Agro-climatic Zone: Old Cauvery Delta zone:

The Palakurichi belongs to the old delta zone. The only source of irrigation was the water from the network of canals branching out of Cauvery and the region suffered from low levels of water availability, poor drainage facilities, floods and uncertainty in availability of water through canals.

3.1.3 Soil

The village falls within the cauvery delta region and the soil is alluvial soils. Generally the alluvial soils of delta regions are highly suitable for rice cultivation. And because of this major reason rice cultivation is considered as the primary and important occupation of the village.

3.1.4 Communication: Telecommunications

Most of the household in the village have mobile phones. This is the major technological upgradation this village has witnessed in the recent decade. There is a Cell phone tower available within this village which helps the people to access 4G for any network without any issues. There is no BSNL office available within the village. There were few households which have landline connections till some five year before, but now the mobile phones have replaced the landlines.

Image 1: Cell Phone Tower in the Village

Source: Field Survey, 2019

3.1.5 Transportation facilities: Road/Rail/Others

3.1.5.1 Bus Services:

One bus stand is available in the Palakurichi district and only four government buses are under operation for the two routes. That is, three buses to Nagapattinam district which does shuttle service maximum of four times a day on particular timing and one bus to Thiruvarur district) which is being operated only once in a day.

Image 2: Bus Stand of Palakurichi Village

Source: Field Survey, 2019

There are no private buses for this village. Most of the households in the village have two wheeler which keeps them connected with the nearest town/city for their needs.

3.1.5.2 Train Services:

There is no train service for Palakurichi village. People of this village can use Velankanni railway station which is situated some 13 kms from the village, where only one train is being operated. In order to reach out to more trains one must travel to Nagapattinam Railway station which is 24 kms aways from the village.

3.1.5.3 Others:

There is no other mode of transportation (Air/Water transports) available for this village. Nearest airport to Nagapattinam is at Tiruchirappalli which is 150 km away and Nagapattinam is very nicely connected by road the Palakurichi village can be reached by hiring a cab or a bus.

3.1.6 Natural resources: Rivers/Pond

Palakurichi is located at the tail end of Cauvery delta. The major source of irrigation to this village is the tributaries from the River Cauvery. Three streams from the Cauvery irrigation network flow near Palakurichi: Odampokkiyar, Kaduvayar and Vellayar (Shown in Figure 3.5).

Image 3: Entry of Kudirai Sevagnar canal to Palakurichi Village

Source: Field Survey, 2019

Since 1934, Palakurichi has been irrigated by two canals: the Kudirai Sevaganar canal, which branches out from Odampokkiyar, and the Terkodi canal, which branches out from Kaduvayar. Most of the land in Palakurichi is irrigated by the Kudirai Sevagnar canal. This canal enters the village at its northern end and flows southwards before emptying into the Vellayar river, which flows along the southern boundary of the village.

3.1.7 Demographic Profile of the Village

The demographic profile of the Palakurichi village is as simple and same as any other village of Tamil Nadu. Some of the basic attributes have been discussed as follow:

3.1.7.1 Religion

100% populations of the Palakurichi Village are Hindus, there are no Muslim or Christian household found in the entire village but two Muslim families were accounted in the resurvey carried out by Guhan (1983). Though there is one family reported as Christian during the survey, they are not officially Christians, they are just converts of their faith from Hinduism to Christianity. This pattern of religious settlement in this village is being observed

during the last decade. It is really interesting to note that, the village despite being surrounded by a important Christian (Vellankanni) and Muslim (Nagapattinam) location and also that there are people who attend the prayer meeting of other faiths, the village has not been affected by the proximity of two such religious locations.

3.1.7.2 Village settlement pattern

The village has 8 streets in total, Namely Keezhakarai Street, Kachadakottagam Street, Attrangarai Street, South Street, Keezhatheyru, Meylatheyru, Ponnanganni Thidal and J Jnager Street. Keezhatheyru and eylatheyru are the streets were the General (Naidu, Saiva Pillai, and Brahmin) and OBC (Padayachi, Thevar, Konar, Asari and Chettiars) category of population are highly concentrated of which only one is Bhramin family. J JNager is the area where equal numbers of OBC and SC populations are residing. And the SCs being the dominant population of the village lives in the remaining 5 streets. Though different category of people lives in different streets there were no disparities or ill treatments based on caste and community in the recent decade for which Palakurichi is known for during early nineties.

3.1.7.3 Literacy

From the Census 2011 data it was observed that only 25% of the household of Palakurichi village was illiterates and 75% of the households are literates which includes the 50% of SC population as the proportion of the Scheduled Castes to the total population was in the of range 51-75%. It is clearly observed that discrimination against the Scheduled Castes in terms of access to educational facilities, which was reported in all the resurveys carried out earlier, has been fully changed now. No such incident is heard of during the last four decades.

3.2. Livelihood/Employment and Migration Status

Agriculture is the important and primary occupation for the major portion of people of Palakurichi. And many people of Palakurichi are agriculture labor and casual labors which they doing it as secondary occupation. Fewer percentages of people have their income from private and government sectors. Migration has been observed in some of the households who are gone to the cities in search of better standard and settlement of life. Most of the cultivators have milch cattle which also yield income for them

3.3 Developmental Institutions & Infrastructure

3.3.1Panchayat

The people of Palakurichi village are satisfied with the service of the Panchayath office which is located in the main locality of the village. People pay their property tax at panchayat office and address their issues regarding their properties here; they feel the settlement of issues is satisfactory to an extent. The Village Administer office is the important place of the village where most of the disputes

Image 4: Village Administrative Office of Palakurichi Village

Source: Field Survey, 2019

at village level are at solved smoothly by the Village Administrative Officer. The VAO has a good and healthy relationship with the people of Palakurichi village

3.3.2 Co-operative Society

There is one co-operative society functioning within the village. Most of the people are availing the credit services rendered by the society mostly for agriculture credit and jewel loan. It is well observed that the people are not happy with service rendered by this society as they feel the transactions are not much transparent since all the records are still maintained in hand written form.

3.3.3 Schools

The village is having one government Anganvadi, one government primary school and one government higher secondary school and all are situated within the village. Both the schools have only vernacular medium, most of the children of residents of this village are studying in these school and some of the children are studying in the government school at Nagapattinam town. Very few people i.e., parents of those children who have graduated and belong to the current generation have admitted their children at private school which have English medium at Nagapattinam.

Image 5: Government Higher Secondary School, Palakurichi Village

Source: Field Survey, 2019

3.3.4 Financial Institutions

Bank of India is the only bank available within the village. The people are much satisfied with the service rendered by this bank and they trust this institute more than cooperative society because of the transparency in transaction and the way they make their programmes to reach the people of the village. Mostly all the households of this village are maintaining a saving account with this bank.

3.4 Village Infrastructure

The village lacks basic infrastructures like good connecting roads and drinking water, but still equipped with the some infrastructure provided by the government and people are very well utilising it.

3.4.1 Market/Hat

There is no market available within the village. There is a weekly trade fair organised in the village on every Saturday of the week, in which all major essential goods like fruits, vegetables, cooking and home needs can be purchased. The traders are mostly from Nagapattinam. For any bulk purchase for some good occasions or festival people need to travel to Nagapattinam. Other home electronic essentials can only be purchased from Nagapattinam.

3.4.2Post Office

Image 6: Post Office at Palakurichi Village

Source: Field Survey 2019

There is one post office that serves for more than a decade for this village which is also located in the main area of the village and every household have easy access to it i.e., the post office is at the reach of maximum 1 km from all the streets of Palakurichi village. Many people are also making use of General Post office at Nagapattinam.

3.4.3 Health facilities

The village has a Primary Health Care centre, where doctors and nurses are available 24X7. All the residents expressed their satisfaction about the service of this health care centre and hence they don't prefer private hospitals outside or nearby the village.

Image 7: Primary Health Care Centre at Palakurichi Village

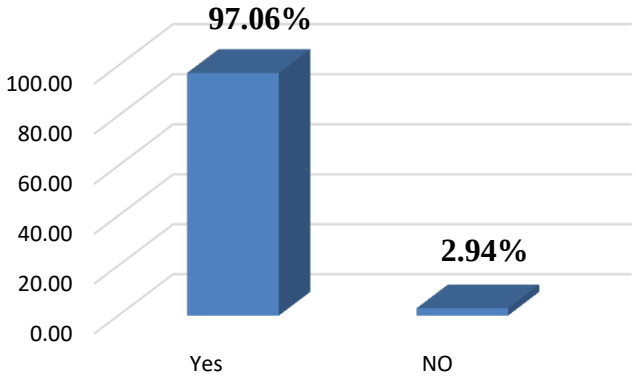
Source: Field Survey 2019

Simple illness like cough, fever, viral fevers, insect or dog bits and normal deliveries have been treated in a good manner. Also, most essential medicines are available at any time. In case of major medical emergencies, people are being directed to the General Hospital of Nagapattinam. There are very few households who consult private doctors from nearby village. Very important thing to be noted is that more than 95% of the household has a medical insurance card issued by the State Government of Tamil Nadu and all the households have applied for Ayushman card issued by the Central Government of India, which implies that the local government plays a good role in delivering the government schemes to the people.

3.4.4 Electricity

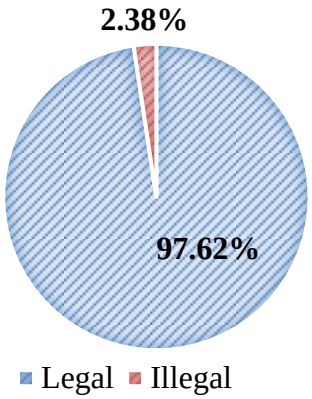
The electricity board office which has jurisdiction over this village is located at Keelaiyur which is located at 5 km from the village. The people register their issues with

Figure 3.6: Household with Electricity Connection



Source: Field Survey data, 2019

Figure3.7: Legality of Electricity connections



Source: Field Survey data, 2019

electricity at Panchayath office from where such issues will be addressed to the electricity board and resolved. It is observed that 98% of the household has electricity connection, of which only 97.62% are legal connections and the remaining 2% of household having electricity are illegal connections. All these households are kutcha house in very bad condition where only one or two old aged people living alone. They hardly use only one light. And 2% of houses don't have electricity connections at home. This is because of the same reason as mentioned above i.e., those are the kutcha house where hardly single senior citizen reside. The village faces more power cut issues during both summer and rainy seasons.

There is a Xerox shop available in the village and most of the people pay their electricity bill at the shop and the shop keeper pays it online after charging some minimal amount of Rs.20 for making the payment.

3.4.5 Drinking water supply and Tube wells/Piped water supply

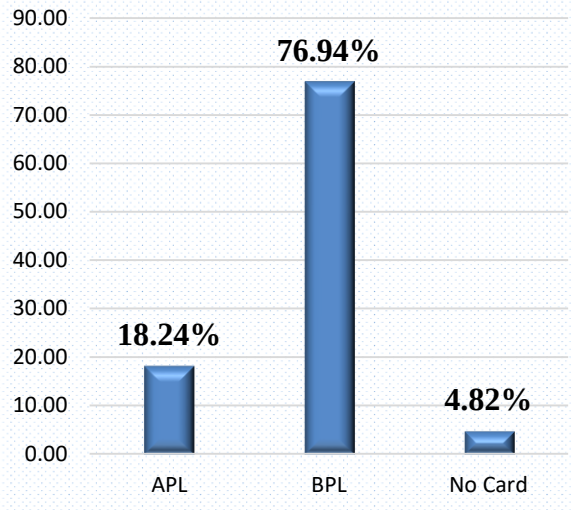
There are two water tanks available within the village of which only one is functional and the water was distributed to the village through water pipe lines from the water tank. The water pipe line connection was not given to the entire village, only four street of the village namely South Street, Mela Theyru, JJ Nager and Attrangarai Street have the pipe line connection. Remaining four streets have a hand pump in common for which the people of this four streets need to walk for minimum of 200m to maximum of 800ms.

3.4.6 Public Distribution System:

Image 8: PDS Shop, Palakurichi

Source: Field Survey data, 2019

Figure 3.8 Number of Households with Ration cards



Source: Field Survey data, 2019

There is a Public Distribution System available within the village, which provides food grains at subsidized rate as per the norm of government of Tamil Nadu. All the household who possess ration card are availing all the schemes and subsidies provided under this and they feel satisfactory with this service. APL (Above poverty line) and BPL (Below Poverty line) are the available two common ration cards. Out of entire household 76.94% household has BPL card and 18.24% of household has APL card. The remaining 4.82% of household has no ration cards, of which many of them have applied for new cards and waiting for it.

3.5 Cultural Profile of the Village

People of Palakurichi village speak a common language Tamil. Very few people speak (Nadiu families) Telengu which is being their mother tongue was spoken among the family members. They have a common and normal food habit of having rice, pulses, cereals, vegetables and meat, egg, chicken and fish as a part of their food. They follow the same tradition of dresses and ornaments which is being followed in the state of Tamil Nadu.

3.5.1Fairs and festivals

All the traditional Hindu festivals of the state like Pongal, Diwali are being celebrated by the people of Palakurichi village. Apart from this all monthly occasional festivals/ Thiruvizhas of Hindu temples are also being celebrated. Christian festivals like Christmas are being celebrated by a single Christian household in the village. Since there are no Muslims in the village no Muslim festival are being celebrated in the village.

3.5.2 Temples/Mosques/Churches

There are seven temples in the village out of which two major temples (one lord Siva temple and lord Perumal temple) are being maintained by Hindu Arakatali of Government of Tamil Nadu.

Image 9: Vishnu Temple, Palakurichi

Source: Field Survey data, 2019

The remaining five small temples are being maintained by the village people. There is no church or mosques available in the village. The single Christian family in the village

have a prayer hall where they are conducting their prayer meetings every Sunday of the week and on other Christian festivals.

3.6 Caste systems & rituals/Untouchability

The Palakurichi village was once dominated by the people belonging to the community of Naidu (OBC); during that time, the SC people are denied to have some basic right of livelihood and standard of life. After 1940 this group of people started to decline and at present only very few household of that particular category is accounted. The residents who are presently there are also mostly elders where majority of Naidu people migrated to other cities, states and countries in search of better standard of life. The trend of migration of this community has started to happen since 1960's. The improvement in levels of education and resultant better employment opportunities were the initial reasons for the cause of migration. The reduction in their population has also resulted in the communities' power. At present there are no such issues in the village.

3.6.1 Dowry system

Though this system has been abolished legally in the state, dowry in some cases are still in practise in the village. This is common among the wealthy people of the village which they do voluntarily without any pressure from the bride groom side. There are people who consider this as a prestige issue for their status and family. But no discrimination or ill treatment was observed based on this.

3.6.2 Political establishments & openness

DMK, ADMK and Communists are three common and active political parties of the village. Most of the people of this village are supporters and followers of DMK. And there are few people still support communists in the village. The current panchayat president of the village belongs to ADMK.

3.7 Others

3.7.1Library

The village has a well maintained library, which remains closed for the past two years as the librarian who worked there had passed away. The youngsters of the village benefitted by the library by making

Image 10: Library, Palakurichi

Source: Field Survey, 2019

use of the employment newspaper which was available in the library. There are many people who use to visit library on daily basis for reading newspapers and magazines. But for the past two years, the people of the village are missing much as they are not able to access the library. They are continuously requesting the panchayat office to appoint a librarian to the library so that they can access the available resources which is now kept locked for no use.

3.7.2 Agro-processing (Mills/forms/factories)

There is no such agro processing units available within the village. Farmers need to approach Keeliayur or Nagapattiam to avail such facilities for their harvest. Since majority of the people are selling directly to the state government immediately after the harvest there is no storage facilities in the village.

3.7.3 Play grounds

There is no common playground or park available in the village. The higher secondary school in the village has a small playground which is being used by the public on weekends without the permission of the school.

3.7.4 Illegal activities

There is no complaint of illegal activist within the village. The only issues which cannot be controlled by the village people is the illegal sand mining from the lake without any permission of the government authorities. It is being sold at the shop for building purpose which is not at all suitable for building purpose because of the saline nature of the salt. But the shop keeper mixing this sand with the good sand selling it for building purpose

3.7.5 Government schemes

It can be well observed that many schemes of both state and central government have been implemented by the local governance and all the households are being benefitted by many schemes for which they are eligible for. All the households have medical card issued by both state and central government. All the farmers of the village are enrolled under Uzhavan Uayarvu Thittam. Thalikkuthangam, mudhal pattadhari, and many central government schemes are the schemes being implemented in the village. The details of name and coverage of these schemes are discussed in detail in Chapter 7.

3.7.6 Occurrence and frequency of natural calamities

Tusamni is the major and worst world known natural calamity that shook Velankanni during the year 2015. But this has not affected the Palakurichi village by any means though it is situated just 12km away. The recent Gaja cyclone has taken away the shelters of 90% of

the kutcha households but had caused minimal loss to paddy crops. It took some time for the village to recover from this. State government, NGOs and many volunteers have helped the village people to overcome the situation. Now the local governance of the village is working for a target of achieving 100% kutcha free village by integrating both central and state schemes. Apart from this, a part of the village suffers from the flood from Vellaiyar every year because of which the entire crop gets destroyed, but recently after de-silting of the ponds this has been considerably brought under control. The detailed discussion about the frequency of natural calamities, severity of damages and adaption strategies by the government has been given in Chapter 6.

3.8 Uniqueness of the Village

Agriculture is the predominant occupation of the villagers of Palakurichi for almost ten decade with the single crop system. Thought the cultivator face many problem like water shortage, labourers shortage etc. they continue with cultivation of paddy with the upgradation of technology and science. There is no crop diversification observed in their cropping pattern during the last ten decade.

Palakurichi is a Hindu dominance village with the 100% of household belonging to Hindu region. Though this was the pattern being observed during the last decade, the people of Palakurichi have the habit of visiting the famous Velankanni Church and Nagro Dharga irrespective of different religion. Though less than 5 Muslim was reported in the Guhan (1983) report, during the current survey period there is no Muslim or Christian household in the Palakurichi village.

3.9 Summary of the Chapter

The Palakurichi village is located in the old delta coastal zone, at the tail end of the Cauvery delta region where the river Cauvery empties into the Bay of Bengal. Palakurichi village belongs to Kilvelur taluk in the Nagapattinam district in the Tanjavore region (which has been known as the “rice bowl of South India’, on account of its thriving rice production system) of Tamil Nadu, India. It is situated 15KMs from sub-district headquarter Kilvelur and 20 KMs from district headquarters Nagapattinam. Palakurichi is the gram panchayat of Palakurichi village. Palakurichi comes under the Keeliayur block of the Kilvelur taluk.

The study describes the agro-climatic zone of the Palakurichi village besides its coastal eco-system with its climate and rainfall details, the nature of soil, topography of the land area with its geographical co-ordinates. The telecommunication channels available with

the households of Palakurichi village besides the physical infrastructure connectivity details viz., rail, road and other transportation means have also been given.

The composition of the natural resources –rivers, ponds, with its demographic profile relating to its people and a brief about their religion, village settlement pattern, the percentage of their literacy rate, livelihood pattern, and the sources of income and prevalence of poverty among the households has been highlighted.

The available developmental institutions with details of existing schools, financial institutions, market place, post offices and other village infrastructure has been mentioned in brief.

The details relating to the quantum of electrified homes of the Palakurichi village is enumerated by way of graphical representation. The households with drinking water supply and tube wells/piped water supply and access to public distribution system (PDS) augments better understanding of the economic situation of the Palakurichi village.

The cultural profile of the village with the kind of fairs and festivals that take place annually, details on the temples, mosques and churches that are present as well as the political establishments and situation of openness prevailing in the village have been described. Presently, as per study, DMK, ADMK and Communists are three common and active political parties of the village. Most of the people of this village are supporters and followers of DMK. And there are few people still support communists in the village. The current panchayat president of the village belongs to ADMK.

The study also provides inputs on the library available in the village of Palakurichi, the other agro processing industries (mills/forms/factories), details of playground and even insights on the illegal activities happening. The government schemes of both the central and the state governments that are implemented in the Palakurichi, the details of the eligibility in respect of the household for claiming it have also been mentioned in this chapter.

The aspects relating to the occurrence and frequency of natural calamities and severity of the damage caused is briefly mentioned. It could be seen that apart from the state government, many other NGOs and private players are also co-opting in providing relief measures in such calamities.

Chapter-IV

Social Dynamics

The Social dynamic indicator like population structure, sex composition, caste, religion, literacy pattern, food security and perception of the people about the changes in Palakurichi village have been discussed in this chapter.

4.1 Population Structure:

The population structure of the Palakurichi village in the form of sex ratio for the period from 1901 to 2019 is given in the Table 4.1. There has been a marginal increase in the population of the village from 769 in 1901 to 869 in 1911. However, the table indicates that for over a decade from 1911 to 1921 there has been a steady decline in the population of the village due to the emigration of large number of poor peasants and tenants to cities like Colombo, Rangoon, Singapore and Penang to work as labourers in Plantations. There was very little increase in population during the time period 1921-1931.

Table 4.1 Population structure of Palakurichi Village by sex from 1901 to 2019, (in Numbers)

Year	Male	Female	Total
1901	349	420	769
1911	406	463	869
1917	NA	NA	851
1921	366	383	749
1931	364	406	770
1937	426	443	869
1951	693	732	1425
1961	781	801	1582
1971	668	631	1299
1981	722	689	1411
1983	710	713	1423
1991	762	754	1516
2001	846	803	1649
2004	846	801	1647
2011	837	787	1624
2019	725	680	1405

Source: Guhan(1983), for date up to 1983, Surjit,(2004); Village Directory, Census of India 2011, Field survey data 2019

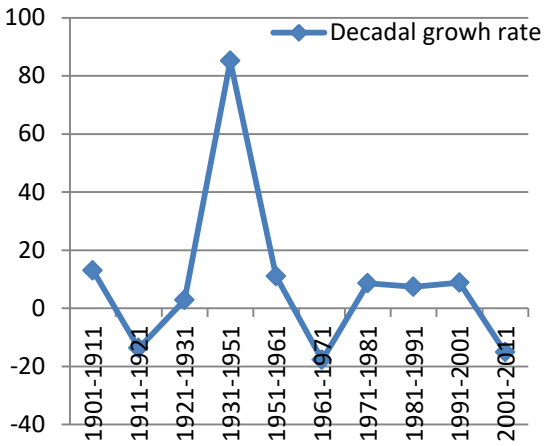
During the year 1934, the Mettur dam project came to existence and it was of great boon to the village of Palakurichi which was prone to floods and drought was saved and helped in the considerable improvement in the irrigation infrastructure of the village that resulted in “steady growth” in output. This increased the scope of employment for hired

labour and hence there was a large scale immigration resulting in constant increase in the population growth rates from 770 to 1582 for over three decades from 1931 – 1961.

Table 4.2 Population growth rates of of Palakurichi Village (in%)

Period	Decadal Growth rate
1901-1911	13.01
1911-1921	-13.7
1921-1931	2.8
1931-1951	85.1
1951-1961	11
1961-1971	-17.8
1971-1981	8.6
1981-1991	7.4
1991-2001	8.8
2001-2011	-15.16

Figure 4.1 : Decadal Growth rate of Population Palakurichi Village (1901-2011)



Source: Guhan(1983), for date up to 1983, Surjit,(2004); Village Directory, Census of India 2011, Field survey data 2019

There was a launch of Intensive Agriculture District Programme (IADP) during the year 1960-61 which saw a success in creation of demand across regions in the agriculture sector paving way for agricultural labourers to seek job opportunities resulting in considerable decline in the population level from 1582 in 1961 to 1299 in 1971. This is the only decade wherein there has been a decline of as much as 283 people in the population. Since then, till the year 2001 we could see a marginal trend in the population during the years 1981 (1411), 1983 (1423) and 1991 (1516). The figure 4.1 shows the trend of population of the Palakurichi village.

During the year 2001, the population of Palakurichi village was 1649 and has been the highest ever of this century. The population growth has been on the decline from thereon in very small numbers due to the migration of people to the cities in search of better standard of education and quality of life. In the current study period, the population of Palakurichi village stands at 1405 with 725 males and 680 females.

4.2 Sex Composition and Age Distribution

The Age and sex distribution of the population in the Palakurichi village is given in the Table 4.3 as:

Table 4.3: Age and sex distribution of the population in the Palakurichi village during 2019

Age group	Male	Female	Total
0-1	5	2	7
1-5	41	24	65
6-15	65	80	144
16-35	266	228	494
36-55	206	229	435
56 -60	27	25	52
60 and above	115	92	208
Total	725	680	1405

Source: Field survey data 2019

The total population of Palakurichi Village is 1405 as observed from the table above. The age group between 0-15 and that of 60 and above are basically considered as dependent population as they comprise of infants, school going kids and senior citizens. Accordingly, the dependent population is 424 constituting 30% of the overall population. The remaining 70% of the population can be categorized with the age group from 16 – 60 who are 929 of which there is a very small difference in the proportion of male (499) and female (482).

4.3 Caste/religion wise Distribution

The Population characteristics include population size, population density, population spacing, and age structure of the population. The Population characteristic of Palakurichi Village by caste and religions during 2019 has been discussed in Table 4.4.

Table 4.4: Population characteristics by Caste and Religions in the village during 2019

Groups	Male	Female	Total	Sex ratio	Average size of households
Caste Hindu	1	3	4	33	4
Scheduled Caste	376	348	724	108	4.9
Scheduled Tribe	0	0	0	0	0
OBC	348	329	677	106	4.2
Minorities (Muslim)	0	0	0	0	0
Minorities (Others specify)	0	0	0	0	0
Others	0	0	0	0	0
Total	725	680	1405	107	4.4

Source: Field Survey 2019

Palakurichi is a Hindu dominated village with 100% Hindu households. Though it is situated around the major Christian and Muslim shrine (Velankanni and Nagore) no Christians or Muslim household is found in Palakurichi Village. Though there is one family that reported themselves as Christian during the survey, they are not officially Christians but are just converts of their faith from Hinduism to Christianity.

It is observed from the above table that, during 2019, there is only one Brahmin family is present in the Palakurichi village with an average household size of 4. Out of the total population, Scheduled Caste constitutes the major portion with 724 people among which 376 are male and 348 are female. The rest of available population with 677 people belonging to the Other Backward Castes with 348 male and 329 female population.

4.4 Literacy Pattern by Sex

Literacy is a key for socio-economic progress of rural population. It is a fundamental human right that is very essential for social and human development and provides individual the skills and empowers them to transform their lives, in turn, an improved standard of health and ability to earn a higher income. The distribution of literacy pattern during various sections in Palakurichi Village has been discussed here.

During the early nineteen's SC (Dalits) households in Palakurichi have been discriminated in terms of access to educational facilities. In the study undertaken by Tirumalai (1940), he has observed that Paraya and Pulaya children were not admitted to school till the year 1937.

After independence and with various reform measures, the caste system in India has undergone severe changes striving to pave way for social upliftment of all the castes equally. The study of the Palakurichi village made during the year 1983 by Guhan reports that 89 per cent of the caste Hindu and 58 per cent of Dalit children belonging to age group of five to fourteen attended school. He observes that the facilities in the schools were very poor and as the rich and upper caste households sent their children to far away district headquarter, Nagapattinam or private schools in nearby villages, there was complete neglect in the efforts for improving the facilities in the available schools in Palakurichi.

Over the period of ten decades, the point that has been emphasized by various authors at different time interval is SC (Dalits) households in Palakurichi have been discriminated in terms of access to educational facilities. The same scenario has continued to prevail as reported in the resurvey carried out by Surjit during 2004 that Dalit literacy rate is less than half of that of non-dalit population. But the situation has changed to an extent which was evident from the Census 2011 data in which it was observed that only 25% of the household of Palakurichi village were illiterates and majority 75% households were literates which included the 50% of SC population as the proportion of the Scheduled Castes to the total population was in the of range 51-75%.

Table 4.5 Educational status by sex during Census 2011

Educational Status	No. of Male	No of Female	Total
Literate	679	511	1190
Illiterates	158	276	434

Source: Village Directory, Census 2011

Table 4.6: Educational status by sex during 2019

Educational Status	No. of male	% of total	No of female	% of total	Total	% of total
Illiterate	138	13	141	19	**279**	**21**
Upto Primary	116	15	102	16	**218**	**16**
Upto Secondary	207	34	163	34	**370**	**27**
Upto Intermediate	118	17	98	15	**216**	**16**
Technical	89	12	49	7	**138**	**10**
Graduates	58	8	63	7	**121**	**9**
Post graduates & professionals	8	1	10	2	**18**	**1**
Total	**734**	**100**	**626**	**100**	**1360**	**100**

Source: Filed Survey data 2019

Table 4.6 explains the current education situation of the Palakurichi Village. Out of the total adult population, 21 % are illiterates and the female population is more than that of males in the illiterate percentage. When we compare this with the Table 4.5, we could observe, that there is a significant fall in the percentage of illiterates in the Palakurichi village. The reason for this is due to the improved educational infrastructure in the village during the last ten years.

The male population with 17% had education up to intermediate level which is slightly high when compared to that of female (15%) population. Though the intermediate qualification forms the base for pursuing further education and career growth, the table shows that there is significant decline in the overall percent of the population from 27% at secondary level to the intermediate level which is only 16%. In the category of population with technical qualification it can be seen that 12% of male and 7% of females have acquired it while equal percentages of male and female population have a graduate qualification.

In rural villages like Palakurichi, it is a rare phenomenon to see people acquiring post-graduation and professional qualifications. It was observed during the field survey that being in the agrarian family system, even the awareness regarding the post-graduation educational qualification and other professional courses is very less among the population. However, we could see from the table that 2% of the female population and 1% of the male population in

the village are either post-graduates or professionals which accounts to 1% of the overall population.

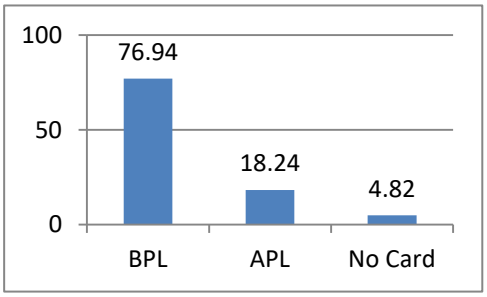
The village has witnessed significant transformations in terms of the infrastructure like schools and achievements in education over the recent decades mostly due to the proactive social sector initiatives of the state government supported by the Union government.

4.5 APL/BPL wise Distribution

Public distribution system is a government-sponsored chain of shops entrusted with the work of distributing basic food and non-food commodities to all the sections of the society at very subsidized prices.

Palakurichi has one PDS shop in the village. APL (Above poverty line) and BPL (Below Poverty line) are the two common pattern of ration cards present in Palakurichi village. Out of entire household 77 % household has BPL card as majority of them are small farmers and agricultural labourers. Almost 75% of the households fall under below poverty line card (BPL Card) category and 18 % of household has APL card. The population holding APL cards are mostly the large farmers of the village. Only 5 % of household has no ration cards. But many of them have already applied for new cards and waiting for it.

Figure 4.2 Distribution of APL and BPL cards in Palakurichi Village



Source: Field survey data 2019

The state has Universal PDS where no one will be excluded to avail the benefits of the ration which one mostly free

4.6 Birth and Deaths

The stability of the population in the Palakurichi Village seems to be stable over many decades as the village has not encountered any severe natural or manmade disaster which is a cause for increased death rate. The birth and death rate by categories of households in the last five years have been shown in Table 4.7.

Table 4.7: Number of Births and Deaths by categories of households during 2014-2019

Particulars	Numbers of births/household				Numbers of deaths/household			
	APL	MAPL	BPL	Overall	APL	MAPL	BPL	Overall
General Caste/Caste Hindu	0	0	0	0	0	0	0	0
OBC	2	0	14	16	4	0	14	28
Scheduled Caste	3	0	34	37	8	0	10	18
All Categories	5	0	48	53	12	0	24	46

Source: Field survey data 2019

There were about 16 new born in OBC category of household of which two are from above poverty line category and 14 are from below poverty line category (BPL). This is because the most of second generation in the APL households are not in village as they are shifted to other cities or other country for the better opportunities and livelihood. In the case of SC category of households 37 new births have been recorded among which 3 new births is from form APL household which is high when compared with that of OBC, APL Category. And the remaining 34 births are recorded under BPL category of SC households.

In terms of death rate in the Palakurichi village during the last five years, overall 28 deaths have been recorded under the OBC household of which people below the poverty line (BPL) category has the highest death rate recorded with 28 deaths whereas the APL category had only 4 deaths in the last five years. In the SC household there were 18 deaths recorded under BPL category and 8 deaths under APL category which is highest among the APL category of both the households.

The causes for death are most common ones like old age which could be seen from the table with as many as 29 households have reported the ageing of the person as the reason for death. About 6 households recorded the deaths because of the major health illness viz., cancer disease. 8 cases of deaths have occurred because of heart attack and 3 are due to accidents. The important thing to be noted here is, of the total 46 deaths about 17 deaths are in the age category of (20-40).

It can be inferred from the table that, the difference between the total number of births (48) with that of the total number of death (46) is very thin with which it can be concluded that the population of the Palakurichi Village has remained stable during the last five years.

4.7 Enrollment and drop outs in different educational level (gender-wise)

The enrollment level of children in the village of Palakurichi undertaken during the study has been satisfactory. It could be seen from Table 4.8 that almost majority of boys and girls from all the communities of the village are enrolling for education in schools both government and private. The Palakurichi village has a panchayat level school and

government high school which is based on the vernacular ie., Tamil as its medium of education. Almost 73% of the male children and 78% of the female children from the SC community enroll to the government schools and only 27% of male and 22% of female children among them opt for private schools wherein the medium of education is English. As majority of the SC community fall under the Below Poverty Line (BPL) category, it is natural that they prefer to put their children to government schools as the fees for English medium in private schools are high. Contrarily, in the OBC community, though they too fall under BPL category, they prefer to send their children to private school as shown in the table. 62 % of the male children and 58 % of the female children. The children enrollment to government schools from OBC Community stands at 38% of male and 42% of female children which is very less in comparison to that of SC community. However, the most significant aspect that could be noted here is that there are no dropouts of children either male or female who are enrolled with the government or private schools.

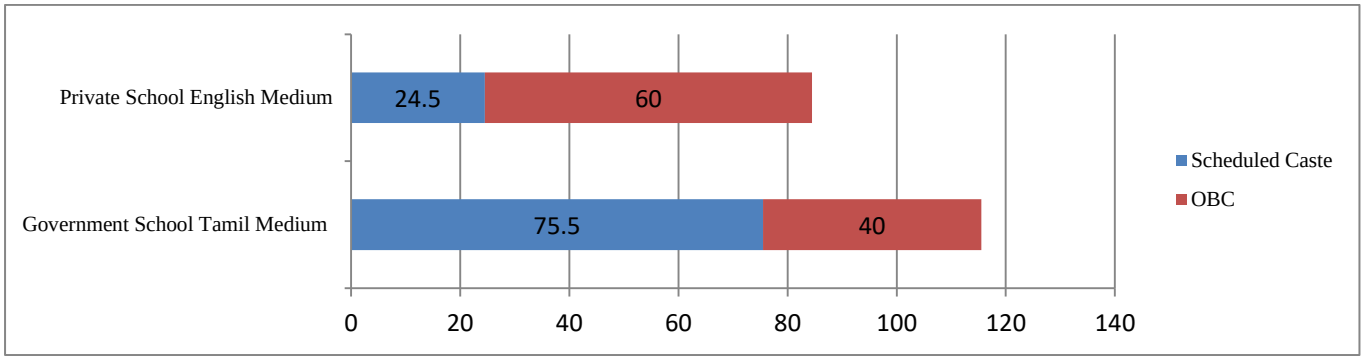
Table 4.8 Enrollment levels of children (aged 5-15 years) in schools by caste, sex and type of school (%)

Children categories	Govt. school		Private school		Other schools	Out of school	Total
	Vernacular	English	Vernacular	English			
Male Children							
Caste Hindu	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SC	**73**	**0**	**0**	**27**	**0**	**0**	**100**
ST	**0**	**0**	**0**	**0**	**0**	**0**	**0**
OBC	**38**	**0**	**0**	**62**	**0**	**0**	**100**
Minorities	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Female Children							**0**
Caste Hindu	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SC	**78**	**0**	**0**	**22**	**0**	**0**	**100**
ST	**0**	**0**	**0**	**0**	**0**	**0**	**0**
OBC	**42**	**0**	**0**	**58**	**0**	**0**	**100**
Minorities	**0**	**0**	**0**	**0**	**0**	**0**	**0**
All Children							
Caste Hindu	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SC	**75.5**	**0**	**0**	**24.5**	**0**	**0**	**100**
ST	**0**	**0**	**0**	**0**	**0**	**0**	**0**
OBC	**40.0**	**0**	**0**	**60.0**	**0**	**0**	**100**
Minorities	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Source: Field survey data 2019

Figure 4.3 represents that overall 75.5% of the children under the age category of 5-15 who gets enrolled with government schools are from the SC community as against 24.5% in the private English medium schools. It is the opposite case with the OBC community where the percentage of male and female children (60%) enrolled with private English medium schools is higher than that of those enrolled with government schools (40%).

Figure 4.3: Enrollment level of children (aged 5-15 years) in schools by caste(%)



Source: Field survey data 2019

The caste wise enrollment level of children between the age group 5 - 15 in schools (Government and Private) of Palakurichi village is explained in the above figure (3). As discussed in the earlier chapter, Palakurichi village has one government primary and higher secondary school that are vernacular medium schools in which the majority of the children of the village are enrolled. Out of total enrolled students 75.5% belongs to SC category of households and only 40% belongs to OBC category of households. Similarly, 60% children those who have enrolled in the private school which are English medium schools are belongs to OBC category. Only less than 25% of SC children have been enrolled in private English medium school which is located outside the village.

This situation implies that, though good education system is being followed in the government school most of OBC category people enrolled their children in the English medium school that are run by private institution in a hope that the English Medium School at an early age can help them a lot to work in any environment confidently which is very important for their kid's future. Though, the parents of SC category children are also have similar opinion, the high level of fees for English medium education prevents them in sending their wards to such schools.

4.8. Quality of basic educations (ASER Toolkit)

The level of reading and arithmetic competency of children of different standards by school types is represented in the following graphs.

Figure 4.4 and 4.5 represents the different level of reading and arithmetic competency of the children attending the government school (vernacular medium) of Palakurichi village and other private schools (English medium) located outside the village.

Figure: 4.4 Level of reading competency of Children by school types (As per ASER Toolkit test)

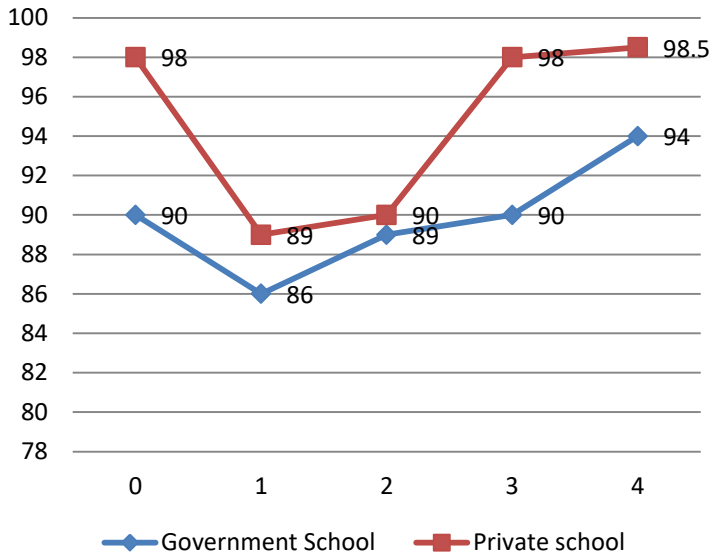
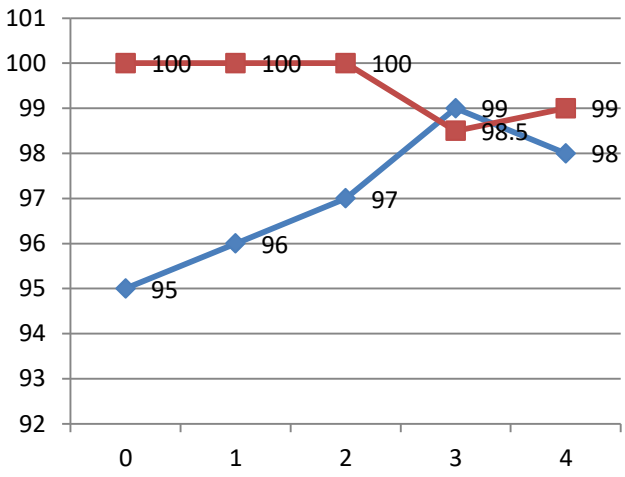


Figure 4.5: Level of arithmetic competency of Children by school types (As per ASER Toolkit test)



Source: Field survey data 2019

From Figure 4.4, it can be inferred that, among the students of government school only 10% of the students cannot identify the basic alphabets whereas in case of private school only 2%students cannot identify the basic alphabets. Almost 86% of Government school students and 89% of private school students are in a position to recognize the basic letters.

In the case of such students who could read simple words, private school students are performing well. Again, 98% of private school students can read simple sentences and only 90% could do so in the case of government school. Also, only 94% of government school students could read the paragraphs without any error. But in the private schools, almost 98.5% students are in a position to read paragraphs without any stumbling or struggle.

Figure 4.5 explains the arithmetic competency of the children from different school environments. It is no surprise to note that 100% of children in the preschools of private school identify the numbers (from 1 to 100) as they are being trained for this since from their kinder garden classes. But, with children from varied backgrounds and economic vulnerability comprising the government schools, 99% of school students are able to perform the basic arithmetic like addition and subtraction without difficulty, whereas in the case of private school students only 98.5% can able to do the same which shows the potential of government schools to impart knowledge at par with that of private schools.

It could be well observed from the field survey that, there is a preconceived notion among the people of Palakurichi village, that the government schools are not good enough to impart quality education. As per the survey it could be seen from Table 4.9 that there is no

much difference with regard to the level of reading and arithmetic competency of the children studying in the government school (vernacular medium) of Palakurichi village and private school (English medium) located outside the village as the performance of the both the category of students are more or less the same.

Table 4.9: Level of reading competency of children (age group 5-15 years) by sex (As per ASER Toolkit test)

(% of total in particular category)

Class of study	Boys					Girls				
	0	**1**	**2**	**3**	**4**	**0**	**1**	**2**	**3**	**4**
Pre school	94	6	0	0	0	92	8	0	0	0
Standard-I	28	0	0	0	0	32	0	0	0	0
Standard-I I	6	38	32	0	0	0	8	13	0	0
Standard-III	0	59	64	0	0	0	19	32	0	0
Standard-IV	0	74	89	0	0	0	100	90	18	2
Standard-V	0	100	100	22	0	0	99	98	11	9
Standard-VI	0	100	100	28	26	0	100	100	62	32
Standard-VII	0	100	100	64	39	0	100	100	79	46
Standard-VIII	0	100	100	82	67	0	100	100	90	90
Standard-IX	0	100	100	79	82	0	100	100	99	94
Standard-X	0	100	100	98	92	0	100	100	99	99

Source: Field survey data 2019

Note: Levels: 0=Nothing; 1=Can recognize letters; 2=Can recognize words; 3=Can read simple sentence; 4=Can read paragraphs

The level of reading Tamil language competency of children was tested using ASER Toolkit (Appendix) at anganwadi, primary (Tamil medium) and higher secondary (Tamil Medium) government school of Palakurichi, as these are the schools located within the village. The results of the test have been tabulated in the table above. At the Pre-school level only 6% of boys, 8% of the girls were able to recognize the letter whereas it was 28% of boys and 32% of girls in the standard-I level.

From Standard II to Standard IV the average of 62 % boys alone can read simple sentences in Tamil. In case of girls among IV standard level 18% reads simple sentences and even 2% of girls are capable of reading paragraphs.

At V standard level only 22% of boys are able to read the paragraphs. As we go up to the VII standard level 67% of boys and 90% of girls are capable of the reading the paragraphs in a good flow. Finally, at X standard level most of the boys (92%) and girls (99%) are good enough in reading their vernacular language with great speed without any difficulty.

Similarly, the level of arithmetic competency of children between the age group 5-15 years as per ASER Toolkit is tested form the students of the same schools as mentioned earlier. It is interesting to note that most of the children in the Preschool are able to identify

the numbers. The percentage of the boys and girls who are not aware of numbers is very less at 30% and 20% respectively.

Table 4.10: Level of arithmetic competency of children (age group 5-15 years) by sex (As per ASER Toolkit test)

(% of total in particular category)

Class of study	Boys					Girls				
	0	**1**	**2**	**3**	**4**	**0**	**1**	**2**	**3**	**4**
Pre school	30	0	0	0	0	22	0	0	0	0
Standard-I	46	13	0	0	0	25	17	0	0	0
Standard-I I	0	62	68	13	0	0	71	67	6	0
Standard-III	0	80	95	19	0	0	89	89	19	0
Standard-IV	0	89	100	22	0	0	100	100	27	0
Standard-V	0	100	100	29	0	0	100	100	31	0
Standard-VI	0	100	100	30	32	0	100	100	42	6
Standard-VII	0	100	100	82	74	0	100	100	99	32
Standard-VIII	0	100	100	88	89	0	100	100	99	74
Standard-IX	0	100	100	96	95	0	100	100	99	89
Standard-X	0	100	100	100	97	0	100	100	100	98

Source: Field survey data 2019

Note: Levels: 0=Nothing; 1=Can recognize letters; 2=Can recognize words; 3=Can read simple sentence; 4=Can read paragraphs

From Table 4.10, it can be observed that at I standard level, 13% of boys and 17% of girls recognizes the two digit numbers 29% of boys and 31% of girls at V standard level are able to do simple subtractions and at VIII standard level 88% of boys and 74% of girls are able to perform simple divisions. It is to be noted that 97% of boys and 98% of girls does all kind of arithmetic operations without any struggle.

It was mentioned in the earlier surveys that, educational rights to the children of SC household were denied and now that scenario has changed entirely. Free education is being provided by the Government schools situated in Palakurichi village for the all the children of the village to all economically backward groups without any discrimination on caste basis in the Palakurichi village. It is a noteworthy fact that almost more than 85% of the children of Palakurichi are having their schooling in these schools.

The important thing to be noted here is that no child has dropped out from the school during the last five year in Palakurichi village. There is 100% awareness about the education among the household of the village, which was evident from the decreasing trend in the number of illiterates in the village (Table 4.5). One of the major social welfare programme of the state government is the provision of nutritious noon meals as well as breakfast to all the children. This has been a major incentive for parents to send their children to schools. Government of Tamil Nadu has made lots of other initiatives to bring down the drop out level

of children from school by providing 100% free education, which includes 2 sets of uniforms with slippers, entire set of text books with text notes along with school bags, stationery kit which includes brown sheets for binding, labels and colour pencils etc. Apart from this free laptops and bicycles (for girls) have been issued to the higher secondary students at free of cost. Tamil Nadu government has put 100% efforts to give standard free education to all children of the society which has yielded desired results. All these initiatives have been successfully translated into outcomes as evident in most indicators not only for the village but for the state as a whole.

4.9. Food Security

Food Security is the state of having reliable access to sufficient quantity of affordable, nutritious food. The major attributes of food security are food availability, access to food and utilization of food. Agriculture being a predominant occupation of the Palakurichi village, the food security issues are not much during the last five years as it is explained well in Table 4.11. 85 % of the respondents have told that they have never gone a whole day and night without eating due to poverty. 8 % of respondents have reported that they face such situation rarely whereas 4 % have experienced such one. Only 3 % have told that often they spend a whole day and night without eating due to poverty.

About 83.37% of people have reported that they have never slept hungry due to reason of their inability to purchase food while 2.5% have replied positively to the same. It was observed that the latter were mostly casual labours and the reason reported by them was whenever there was lack of employment they used to starve without food.

It is surprising to note that 67% of respondent never worried about whether or not their households had enough food. However, 33% of the respondents have rarely worried about the same.42% of respondents offered food to their neighbors and guests during festivals and functions and the remaining 68% of respondents don’t have such habits.

Almost 81% of the respondents never eat packed foods like ice-cream, cool drinks etc. only some 19% of respondents have mentioned that they prefer using /eating packed food like sweets, ice-cream and cool drinks during family gatherings/function etc.

Table 4.11: Food security issues at village level

(% of respondents)

During last 12 months any member of the household	Never	Rarely	Sometimes	Often	Total
Went a whole day and night without eating due to poverty?	85	8	4	2	100
Went to sleep hungry due to inability to purchase food?	83	11	4	2	100
Ever worried that the households would not have enough food?	67	13	16	5	100
Ate some poor quality foods that you really did not liked?	51	31	14	4	100
Were not able to eat the kind of food you preferred?	13	44	38	5	100
Did you offered food to your neighbors and guests?	50	8	42	0	100
Went for outside eating in hotel/restaurant?	86	11	2	0	100
Are you eating too much packed food/purchased food like ice-cream, cold-drinks, etc?	81	18	1	0	100

Source: Field survey data 2019

Above all, the point to be mentioned is that the villagers of Palakurichi never starved for food and they are satisfied with what they eat and they don't have a big opinion about food as they are busy with their own work.

4.10 Perception of various groups and households in the village about different changes in the village

4.10.1 Rigidity in caste system

The rigidity in caste is akin to that of caste discrimination. It restrains the individuals without choices and capabilities thereby limiting their opportunities to lead basic life. It can be classified at levels of both social, cultural on one hand and economic and political level at the other end.

The Palakurichi village comprises mostly of two categories namely SC and OBC. With the rise in the level of education, standard of life etc., there has been considerable shift in the caste inequalities. The SC community of the village which once was even denied basic rights and education are now large land holders, acquired educational qualifications and are leading better quality of life. Also they are part of the GramaSabha/Panchayats that are the primary decision making bodies in the village of Palakurichi.

4.10.2 Gender bias/Women empowerment

The Palakurichi has been an exceptional village with no gender bias prevalent which is evident from the fact that there is no mention about it in any of the studies undertaken previously. However, with time the women empowerment is very much visible and as per the

study, it could be inferred that the schemes like LAFTI and recent Self Help Group systems has proved significantly for the improvement and empowerment of women folks in the village.

4.11 Summary of the Chapter

The chapter deals with the social dynamics of the Palakurichi Village located in the state of Tamil Nadu. The population structure of the village has been studied since 1901 to 2019 wherein the rise and fall of the population of the village can be seen in detail. The reasons for upward and downward trend affecting the population structure has been analyzed at various phases and it ranges from lack of job opportunities, water scarcity, drought, flood etc., resulting in the migration of people from the region decline in the population. Similarly, the efforts of the government and other factors that led to the increase in population and the period of its sustenance has also been explained in detail.

The sex composition of the current population level in the Palakurichi village and the distribution of the same among the different age groups have been discussed in details with relevant data inputs. It is seen that the working population between the age group of 16-55 is high among the total population. The distribution of male and female constituting to the work group is very much similar.

The caste and religion wise distribution of the population of Palakurichi village has been studied and observed that there are only groups constituting the overall population of the village. With 724 people in the SC community is the large prevalent group and the OBC community comes close-by with 627 people. However, there are also a negligible number of people representing the caste Hindus with no minorities or people belonging to the other religion lives in Palakurichi village.

The education pattern of the village among male and female population has been studied by virtue of the literacy rate and almost 82% of the overall population of the village are literates. It could also be seen that female population of Palakurichi represent more percentage (63%) in terms of illiteracy. The study also reveals that most of the male and female population of the village has acquired educational qualification up secondary level and very few percent have moved on up to post graduation and as professionals.

The study also details that Palakurichi village comprises majority of the population with almost 77% who are under Below Poverty Line (BPL) category. Only 18% of its population is Above the Poverty Line. The birth and death rates of the village have also been discussed and it is seen that there is a very thin difference between the birth and death rates.

The schooling pattern and the quality of education imparted with that of the level of students in different standards has been analysed using the tables as per the data obtained through ASER Toolkit Test. It is seen that the standard and quality of education at both the government school in Palakurichi with that of the other private schools in the region is more or less the same. The reason attributable to this has been stated in the study as efforts of the initiatives and schemes by both the central and the state governments.

The study has also discussed the food security aspect and found that almost majority of the population in Palakurichi village are self-sufficient with the availability of food with a very few having faced with starvation. Above all, the point to be mentioned is that the villagers of Palakurichi never starved for food and they are satisfied with what they eat and they don't have a big opinion about food as they are busy with their own work.

Finally, the impact of caste system, empowerment of women and gender bias in the village of Palakurichi has been overseen and it can be concluded that with time and numerous measures undertaken at different time period, Palakurichi village is gradually fulfilling the parameters of socio-economic developmental aspects.

Chapter-V

Economic System

5. Livelihood and Employment

5.1 Occupational Structure in Palakurichi

The occupational structure refers to the percentage of a workforce employed in various economic activities. The total working population who are employed in agriculture and associated activities and how many of them are involved in private, government and other sectors can be identified from the occupational structure. The Table 5.1 explains the distribution of households by occupations/livelihood in Palakurichi village during the period of survey in 2019:

Table 5.1Distribution of households by occupations/livelihood 2019

(No of households and %)

Livelihood Groups	Caste Hindu		SC		ST		OBC		Minority		All	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Cultivator	0	0	141	46	0	0	78	45	0	0	**219**	**46**
Agricultural labour	0	0	109	37	0	0	52	34	0	0	**168**	**35**
Dairy/Fishing/Poultry keeping	0	0	0	0	0	0	1	1	0	0	**1**	**2**
Govt. Salaried	0	0	3	1	0	0	5	3	0	0	**8**	**4**
Private Salaried	0	0	9	3	0	0	12	6	0	0	**21**	**1**
Pensioner	1	100	0	0	0	0	2	1	0	0	**3**	**1**
Caste based profession	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Trade & business	0	0	0	0	0	0	4	2	0	0	**4**	**1**
Entrepreneur	0	0	0		0	0	0		0	0	**0**	**0**
Casual labour	0	0	29	11	0	0	14	6	0	0	**43**	**9**
Marginal labour	0	0	4	1	0	0	2	1	0	0	**6**	**1**
Household	0	0	1	<1	0	0	0	0	0	0	**1**	**<1**
Others	0	0	2	1	0	0	1	0	0	0	**3**	**1**
Overall	**1**	**100**	**302**	**100**	**0**	**0**	**171**	**100**	**0**	**0**	**477**	**100**

Source: Filed survey data 2019

Of the total 477 household in the Palakurichi village, there are 219 cultivators. Among 219 cultivators constituting 46% of the overall population, the SC community has a dominant representation with 141 households and 78 from OBC category. The agricultural labour constitutes 35% of the overall population of the village and has higher representation from SC community with 109 households and only 52 from OBC. Thus, cultivation continues to be the major occupation of this village as 81% of the household are engaged in it. This is in contrast to all the other slater villages in Tamil Nadu. In those villages, due to urbanization

and developments, cultivation has been reduced to insignificant part of the occupational structure.

Apart from the above, there are few people who work as casual labourers and this group constitutes 9% of the total population of the village among whom 29 are from SC and 14 are from OBC community totaling to 43. With majority of the village population engaged in agriculture, there are very few among both the communities who are engaged with the government and private sector. It could be seen from the table that, of the 8 persons employed with the government sector, 3 are from SC and 5 from OBC. Similarly, 21 people have been working with the private sector among which 9 are from SC and 12 from OBC. However, in comparison with the overall population, it is seen that only 4% are employed with government and very meager 1% with the private sector.

The analysis from the above table shows that, the number of persons having their livelihood from trade and business and dairy/fishing/poultry keeping is very less and has representation only from the OBC community with four person for the former and only a single person for the latter. It is also seen that its amounts to just less than 2% from among the total population under OBC community.

It is surprising to note that, during the field survey, none of the household from either of the major community comprises an entrepreneur or who are practicing their caste based profession as shown in the table above. Also, there is only one person belonging to general caste hindu who is a pensioner.

It can be summarized further that, the workforce engagement for livelihood from both the communities when compared among its own community, we could almost see a same pattern with 46% of SC community and 45% of OBC community engaged as cultivators. Likewise, among the overall population SC and OBC category 37% and 34% are agricultural labourers respectively. Further, there are less than 1% of people out of the total population who have engaged themselves for their livelihood as marginal labourers, house maids and other works.

Table 5.2 represents the distribution of population of various occupational groups in the Palakurichi village in terms of male and female members comprising both the major communities of SC and OBC. There is almost equal representation of male and female in various livelihood activities as seen from the table. Of the total 219 engaged as cultivators, 132 are female and only 87 are male. Contrarily, as many as 45% of the males and only 24% of females are engaged as agricultural labour.

Table 5.2: Occupational distribution of adult members by sex

(Nos. and %)

Livelihood Groups	Male		Female		Total	
	Numbers	%	Numbers	%	Numbers	%
Cultivator	87	35	132	57	219	46
Agricultural labour	112	45	56	24	168	35
Dairy/Fishing/Poultry keeping	0	0	1	0	1	0
Govt. Salaried	5	2	3	1	8	2
Private Salaried	8	3	13	6	21	4
Pensioner	1	0	2	1	3	1
Caste based profession	0	0	0	0	0	0
Trade & business	3	1	1	0	4	1
Entrepreneur	0	0	0	0	0	0
Casual labour	26	11	17	7	43	9
Marginal labour	4	2	2	1	6	1
Household	0	0	1	0	1	0
Others	1	0	2	1	3	1
Total	247		230		477	

Source: Filed survey data 2019

Among the pensioners living in Palakurichi village, 2 are females and only male belonging to the general caste Hindu. Among the 9% of the population engaged as casual labour 26 are male and 17 are female. Also, in the category of government salaried person 5 are male and 3 are females as against 13 females and only 8 males who are engaged in private sector.

It could be seen that neither male nor female in the village of Palakurichi are performing their caste based profession as well as any of them being entrepreneur. The only female members have engaged in other livelihood activities like house works, dairy/fishing/poultry as shown in the table.

It can be concluded that the there is an equal participation of the male and female population in the Palakurichi village in the livelihood activities and thus there are no bias on the basis of gender discrimination.

Table 5.3 represents the number of agriculture labours in Palakurichi Village from 1917 to 2019. It can be observed from the data that there was a steep increase in the number of agricultural labourers between 1937 and 1961 which had a sharp fall that can be seen from the data of 1971 census as shown in the table. Thereafter, the number of male and female population as agricultural labourers has remained consistent with gradual rise in numbers during the subsequent census of 1981, 1991 and 2001. With the Palakurichi village having faced a severe draught situation during 2004, there was of lack of employment in agriculture in the village that led to out migration of several workers resulting in decline of agricultural

labourers. The data shows that between the period of study in the year 2004 to current date the total agricultural labourer has had an abnormal decline with 62% from 2004-2011 and 68% from 2011 – 2019. As many of the labourers have also become cultivators, it attributed as a reason for decline in the availability of number of agricultural labourers.

Table 5.3 Number of agricultural labourers, by gender, Palakurichi village, 1917-2019

Period of Study	Male	Female	Total
1917(Rajalu,1918)	NA	NA	120
1937(PJ, Thomas & Ramakrishnana, 1940)	103	95	198
1961(Census, 1961)	312	236	548
1971 (Census, 1971)	211	172	383
1981(Census, 1981)	251	229	480
1983(Guhan, 1983)	249	227	476
1991(Census, 1991)	296	248	544
2001(Census, 2001)	328	282	610
2004(Surjit, 2004)	261	215	476
2011(Census,2011)	132	114	246
2019(survey Data)	112	56	168

Sources: Guhan(1983); Censes of India (1961,1971,1981), Guhan (1983); Census of India(1991and 2001) and Surjit (2004) and Field survey data 2019
Note:NA Not Available

5.1.1Changes in the Employment and Migration Pattern:

The change in the cropping pattern due to the availability of water and its distribution problem has brought a significant change in the life of the people who were engaged in the agriculture production. Firstly, there was usage of machines wherever possible in order to tap the potentially available water in the ponds. However, the permanent change in the form of less water availability has created a situation that without use of machines to distribute the available water, the scope for harvest is not possible. Further, there are machines now available and being used for even sowing of seeds and ploughing of fields which lead to joblessness.

Though a section of people opposed the engagement of outside labourers for above works, with time, the basic uncertainty owing to the water scarcity and cropping pattern change across the villages, the people engaged in the agricultural activity started migrating from place to place in search of employment. Further, the migration process has resulted in less number of skilled manpower available for delivering quality work due to which the quality of harvest has been badly hit. This is one of two reasons for overall lower productivity in agriculture in the village.

5.2. Agrarian System

5.2.1 Land ownership and changes therein:

The Palakuruchi village was once dominated by the people belonging to the community of OBC (*Naidu).* They were in natural possession of most of the lands in the village and also they used to lease their lands very rarely. They used to engage labour directly in their fields and were doing the harvest. Even the lands that belonged to the temples and other trust buildings were also used by the people of this community for harvesting. The decline in this community is visible in various studies. During the year 1917, there were around twenty eight (28) families which increased to forty three (43) in 1983.

However, in 2015 (Notes of Jayaranjan) it drastically reduced to just four (04) families in the entire village. Apart from these families, all others have migrated to either nearby cities or far off places. Few of the educated among them have moved to metro cities and several others have switched over to start their own businesses. This has resulted in lockdown of most of the houses of Naidus in the village of Palakuruchi. The residents who are presently there are also mostly elders.

The reduction in their population has also resulted in the communities' power in the slayings of the village at large. The trend of migration of this community has started to happen since 1960's which is stated by one of the current resident in the village. The improvement in levels of education and resultant better employment opportunities were the initial reasons for migration. When it was questioned as to whether that was the sole reason, it was stated that the uncertainty in the employment opportunity in the agriculture resulted in the faster look out for jobs elsewhere. The village now has a deserted look due to this sustained migration resulting in locked houses in the village.

5.2.2 Major land tenure system in the village and changes therein

There has been a sudden surge in the number of people who holds lands. This is being viewed as a significant happening and the reason behind this change was a sarvodaya service organization named LAFTI (Land For Tillers Freedom).

After the incident of a murder during 1968 in a place called Keezhvenmani, Sarvodaya society started functioning aggressively in the eastern districts of Thanjavur. When the leftist were working and giving support for the land rights of labourers and the lease holders, the society was silently working by conducting meetings and rallies across villages. This movement was led by Shri. Jaganathan who was the follower of

AcharyaVinobhaBhave and LokpriyaJayaprakashNarayanan.The other one assisting Shri. Jagannathan was his wife Krishnammal. Their protests were in line with that of Gandhiji in the ahimsa way. They advocated that landlessness was the reason behind unrest among farmers and labourers .They were successful in convincing the land holders who were owning excess lands to be distributed among agricultural labourers and lease agents. They highlighted the potholes in the labour act and also protested against the benami holdings of landlords in the east Thanjavur region.

The sarvodaya society also purchased lands at Keezhvenmani and distributed them to landless farmers. It was during this time the emergency period was imposed across country and the couples Shri. Jagannath and Krishnammal left to their home state of Bihar and returned back during 1980 after which they created LAFTI in 1982 wherein they took a new measure by obtaining loans from banks for acquiring land and distributing it among the landless farmers/labourers. The State Bank of India, Thirutharaipoondi assisted LAFTI in purchasing 25 acres of land at Rs.4500/acre for which the farmers who took land from LAFTI repaid the principal with interest. After this success, LAFTI further acquired 40 acres of land though bank loan and also tried to obtain subsidy from the government side and was even successful in getting Rs.2400/acre.

However, after couple of years LAFTI found that many of the beneficiaries of land were not sincere in repaying the loan amount resulting in stoppage of bank assistance to LAFTI for acquiring lands. In the meantime LAFTI had paid advance to acquire lands from few villages and the landlords had consented for the same which was hindered due to non-availability of assistance from banks. LAFTI raised the issue with the RBI which declined the request for the reason that land being an immovable asset unlike cattle or otherwise hence the decision of banks was also legally stable.

With the help of state government which came forward to provide 50% subsidy for the SC category apart from waiving the registration fee charges for transfer of lands through LAFTI enabling more savings. The documents were retained by LAFTI till the beneficiaries repaid the loan after which the same were handed over to them.

The movement of LAFTI was huge success as evident from the scale of transactions it made in land transfer. As much as 8000 acres of land were redistributed under LAFTI but this system saw its downfall eventually and several reasons are attributed to it.

This LAFTI scheme is exclusive for SC women on whose name the land transfer to the extent of one (1) acre is made and it was a major reason for change in the increase in the

number of women agricultural cultivators under SC category and so far and in Palakurichi village around 130 SC household have benefitted under this scheme.

5.2.3 Operational Holdings and Size Distributions in Palakurichi

The key determinant of livelihood in an agrarian economy is the access to land and the position of households in the economic structure of the village. The pattern of land operational holdings among households in Palakurichi, and changes since 1917 has been discussed below.

Historically, the inequality in distribution of ownership holdings has been high in Palakurichi. It is evident from the study of 1917, Rajalu (1918, p. 81) observed, “Evidence from tradition shows that the whole village was for generations in the hands of large landlords.” The resurvey in 1983 by Guhan showed that the inequality in ownership of landholdings had increased over time.

In the resurvey done by Surjit during 2004, “the inequality in distribution of ownership holding of land among the landed households declined marginally between 1983 and 2004. However, this decline of inequality in distribution of ownership holdings among landed households has been accompanied by an increase in the proportion of landless households. The proportion of landless households increased from 72.5 per cent in 1983 to 80 per cent in 2004.”

The pattern of landholding in Palakurichi during 2004 shows a picture of exceptionally high level of inequality, Surjit(2004). It can be observed from Table 5.4 that the landless household of Palakurichi Village was very high to the extent of 80% during 2004 but has significantly decreased to 59% during 2019.

Total number of households having operational holdings less than or equal to one have been doubled during the 2019, i.e., only 12% of the households had the operational holdings less than or equal to one (1) during 2004, but during 2019 it has increased to 25%. The land reform measures through various means are the major reason for this change in land ownership and land holding pattern.

Table 5.4 Operational holding and size distribution in Palakurichi village

Particulars	During the last survey	% of holding	During the current survey	% of holding
Total number of holdings	**2004**		**2019**	
0	341	79.9	281	59
0.01-1	54	12.6	117	25
1.01-2	13	3	46	10
2.01-4	5	1.2	17	4
4.01-10	12	2.8	10	2
10.01-20	1	0.2	4	1
>20	1	0.2	2	0.002
Total	427	100	477	100
Total area operated	**2004**		**2019**	
0	293	79.9	268	59
0.01-1	81	12.6	121	25
1.01-2	24	3	48	10
2.01-4	8	1.2	16	4
4.01-10	12	2.8	17	2
10.01-20	5	0.2	5	1
>20	3	0.2	2	0.002
Total	427	100	477	100
Average size of holdings	**2004**		**2019**	
0	NA	NA	-	-
0.01-1	NA	NA	0.97	-
1.01-2	NA	NA	1.81	-
2.01-4	NA	NA	3.31	-
4.01-10	NA	NA	6.76	-
10.01-20	NA	NA	14.40	-
>20	NA	NA	40.00	-
Total	NA	NA		-
Gini co-efficient of land holding distribution*	**0.61**[#]		**0.60**[#]	

Source: Surjit (2005-06); Field Survey data 2019

Note:[#]Gini coefficient excluding landless households; NA – Not Available

All other categories have had a marginal increase except that of the landholding in the range between 4.01 - 10 has witnessed a decline from 12 households in 2004 to 10 households during 2019.

Figure 5.1 Gini Co-efficient of land holding distribution during 2004

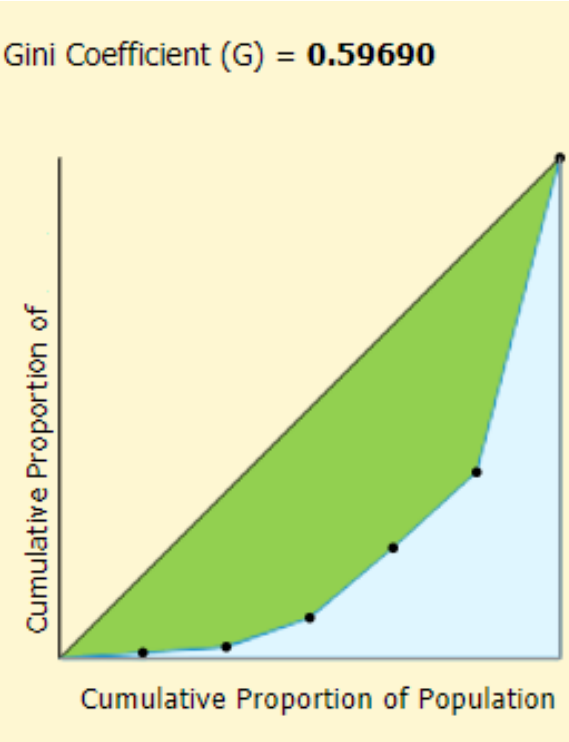
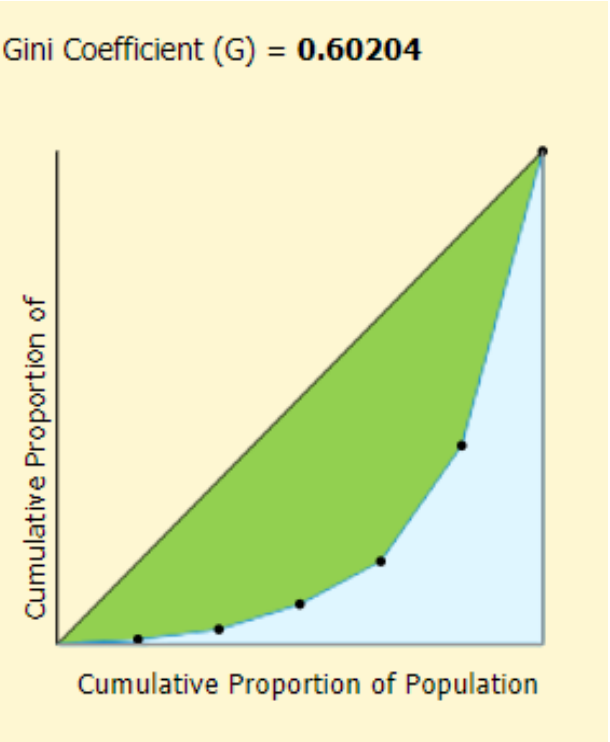


Figure 5.2 Gini Co-efficient of land holding distribution during 2019



Based on the Gini Coefficient value, inequality in operational holdings was of a similar magnitude during both the survey period 2004 and 2019. That is the Gini Coefficient represents a sever inequality in the distribution of operational holding.

5.2.4 Land utilization and changes therein

The village of Palakurichi has remained unchanged in respect of its geographical area for the last three decades. Despite this, the Table 5.5 shows that there has not been much improvement in the Net Sown Area for the period from 2011-2019 whereas the area for non-agricultural use has increased from 44.1 hectare to 110.85 during the same period. The decline in the net sown area from 431.62 to 390.80 hectares was mainly attributed to major problems of acute labour shortage and severe water crisis. However, with the main source for irrigation for crop cultivation being the canal irrigation (discussed in detail in Chapter V) which has been consistent to the tune of 100% all through the study period i.e., from 2011 to 2019 the area under cultivation is sustained with a marginal increase.

Table 5.5: Land use pattern of Palakurichi Village

(Unit: Hectares)

Particulars	In 2001	In 2011	In 2019 (during current survey)
Geographical Area	502.7	502.7	502.72
Agricultural/ Cultivable Land			
Net Sown Area	431.62	390.8	391.89
Area under Non- Agricultural uses	52.67	44.1	110.85
Uncultivated area			
Barren Land	0.00	0.00	0.00
Forest Area	0.00	0.00	0.00
Pasture and Grazing Land	0.00	0.00	0.00
Cultivable Waste			2.47
Misc. Trees & Crops	0.00	0.00	0.00
Current Fallow	0.00	67.8	11.00
Others	0.00	0.00	0.00
Other lands			
Gross Cropped Area	NA	NA	NA
Net Irrigated Area	430.08	390.2	391.89
Gross Irrigated Area	431.62	390.8	391.9
% area under irrigation	100%	99.8%	100%
% agricultural land in geographical area	85.55%	77.74%	77.95%
% current fallow in geographical area	NA	NA	2.19%
Main sources of irrigation – Canal	430.08	390.2	391.89

Source: Village Directory of Census 2001, Census 2011, Field Survey

Though there was no fallow land during 2001, it rose to about 67.80 hectare over a decade. But with the introduction of various schemes for agriculture and farmers by the Govt. of India in the form of Income and Insurance Support Schemes it has reduced drastically to 11 hectares. The 2.19% of the land area currently under fallow is for the reasons due to shortage of labour owing to migration and no better returns for their produce.

5.2.5 Major farming system in the village and changes therein

There have been several changes in the rice cultivation owing to fluctuations in the availability of irrigation water and other socioeconomic factors since 1917. In Palakurichi, today the samba crop of rice is sown during August and harvested during January and February. The timing of various operations in rice cultivation depends largely on the availability of canal water from the Cauvery river. Table 5.6 explains the various activities of paddy crop cultivation along with the distribution of relevant cost.

Table 5.6 Cost of Cultivation of Paddy Crop

S.N	Activities	Cost	Expense/Acre (Rs.)
1	Readiness of land	2 Labour @ 350/-	700.00
2	Ploughing during summer		1500.00
3	Ploughing before sowing		1500.00
4	Seed distributing labour		350.00
5	40 kgs of seeds		1500.00
6	Pesticide		1500.00
7	Labour		700.00
8	Irrigating - Diesel Water Pumps		750.00
9	Labour for irrigating		750.00
10	Weed Removal	9 Labour @ 165/-	1485.00
11	Fertilizer spraying		1800.00
12	Pesticide		830.00
13	Second weed removal	6 Labours	1000.00
14	2nd pesticide spraying		580.00
15	2nd Fertilizer spraying		1125.00
16	Harvesting rent		2250.00
17	Post-Harvest Labour		1900.00
18	Transportation		400.00
		Total	**20620.00**

Source: Jayaranjan (2015)

Land preparation and ploughing field preparation for rice cultivation starts with clearing of stubbles in the field, trimming and strengthening the bunds and clearing the irrigation channels. This process involves minimum of two labour costing 350/- per day per labour. After this, ploughing of the field is done for which tractors are used. In the 1930s, when availability of irrigation water was plentiful, wet ploughing of fields was the common practice (Tirumalai, 1940). But, during the draught year of 2003-4, cultivators ploughed the dry fields so as to utilise the limited quantity of water for critical stages of plant growth. In 2004, ploughing was done entirely by using tractors.

Tractors were introduced in Palakurichi for ploughing during the early 1970s (Guhan, 1983). Guhan (1983) noted that, during the period of his survey in the early 1980s, there were nine tractors in the village, of which seven were owned by Naidu households. Guhan observed that there were two factors that resulted in the use of tractors for land preparation in Palakurichi. First, a shift to double cropping resulted in an increase in demand for draught power. In particular, in view of limited availability of irrigation water, land preparation had to be done quickly and secondly to reduce the dependence on human labour and costs involved therein.

After the first round of ploughing, farm yard manure was placed on the field in small mounds. This was mixed with the soil during the next round of ploughing. The sowing pattern has remained the same among cultivators till 2004 which could be seen from the report of the earlier studies. In 1940, cultivators in Palakurichi normally raised a nursery of seedlings and transplanted them to the main field after one to one and a half months (Tirumalai, 1940) while Haswell (1967) found that some cultivators even followed the "Japanese method" of cultivation in which seedlings were transplanted in lines. Sowing in a nursery and then transplanting the seeds was also the general practice in 1983 (Guhan, 1983). In contrast, Surjit (2004) has stated that, broadcasting seeds in the main field was the common practice among cultivators in Palakurichi which was due to scarcity of water and were mostly done by male agricultural labourers.

It could be seen that the shift in the practice of transplanting to broadcast the need for maintaining the nursery especially by female labourers declined. However, the same was compensated in part by an increase in the number of weeding required when seeds were broadcasted directly instead of transplanting from the nursery. Since the crop is directly sown, two to three rounds of weeding is required for proper growth. The first round of weeding was done by female workers about one month after sowing. The second round of weeding was done just before the emergence of the panicle which is currently managed by applying insecticide at the beginning.

5.2.6 Cropping pattern and changes therein

Cropping pattern refers to the proportion of land under cultivation of different crops at different points of time. The change in the cropping pattern would cause change in the proportion of land under different crops. Such changes in the cropping pattern of Palakurichi village have been discussed here.

5.2.6.1 Cropping pattern of Palakurichi Village

The cropping pattern of Palakurichi village as observed during different time period has been given in Table 5.7. During 1918 Rajalu reported that the major crop cultivated in the village was a single crop of rice followed, sometimes, by pulses (mainly black gram and cow pea). The villagers grew coconut, plantain, lime and mango trees on garden land and some vegetables (chilly, brinjal and drumstick) on homestead land. During 1922-23, some land was cultivated with oilseed crops like sesamum and castor (Tirumalai, 1940, p. 128). By 1935-36, the area under oilseeds declined, but arecanut, Palmyra palms and turmeric were cultivated. During the 1930s, only rice was cultivated on any plot of land and there were three

different seasons during which rice was cultivated in the village. They were *samba* (September-October to February), *khar* (August to January) and *kuruvai* (August to October) No land in the village was double cropped during this period (Guhan, 1983).

Table5.7: Cropping Pattern in Palakurichi Village, during different time periods to 2019

(In acres)

Crop	1922-23	1935-37[1]	1974-78[2]	2005-06	2018-2019
Rice	879	942	995	948	968
Millets and Pulses	2	4	11	244	151
Oil Seeds	2	0.1	0	0	0
Other Crops and trees	7	13	0	4	3
Total[3]	890	959	1006	1195	1122

Source: Tirumalai(1940); Guhan(19893); Surjit (2005-06); Palakurichi village record 2018-19
Notes: 1. Average values for the period 1935-37, 2. Average values for the period 1974-78
3. Includes total of nanjai, punjai and poramboke land.

Even Haswell, who studied Palakurichi in 1961, did not mention a second crop of rice. By the early 1960s, Palakurichi was selected as a "package village" for implementation of the Intensive Agricultural District Programme (IADP). As part of IADP, improved seeds, chemical fertilizers and easy credit support were provided to cultivators in order to increase productivity levels (Haswell, 1967, p. 29).

Guhan (1983) who studied the village during the early 1980s notes that it was in 1963-64 that villagers started raising a second crop (*thaladi*) of rice from October-November to February-March. This was made possible mainly by the introduction of short duration varieties of rice which were suited to a limited amount of water available for a short period of time. In Thanjavur, it was the introduction of ADT-27, a locally developed short duration hybrid rice variety, which dramatically transformed the rice production rather than the 'wonder' hybrid of IR-8, which was a success in other rice growing areas (Frankel, 1971).

From the early 1960s, villagers started growing either a single long duration samba crop or two short duration crops; *kuruvai* followed by *thaladi*. "Taking the average of the last five years, the net sown area for paddy in Palakurichi consists of 307 acres of *kuruvai* and 688 acres of Samba with most of the *kuruvai* being replanted again with *thaladi* in a normal year" (Guhan, 1983, p. 43)A comparison of information available for 1935-37 and 1974-78 shows that there was some increase, from 4 acres in 1935-37 to 11 acres in 1974-78, in area cultivated with pulses (black gram and cowpea) over this period. Pulses were cultivated as a second crop after the harvest of samba rice.

Surjit (2004), highlighted that, in the late 1980s and early 1990s, Palakurichi shifted from multiple crops to growing a single crop of rice as the Cauvery river water crisis intensified, due to the non-availability of irrigation water from the Cauvery irrigation system. The double crop system once again evolved during 2006-07 as some cultivators raised two short duration crops of rice (*kuruvai* followed by *thaladi*) with release of water at the proper time from Mettur dam.

Based on the observations made at different points in time we can interpret that, cropping pattern in Palakurichi was characterized by the continued dominance of a single crop, i.e., rice, over a period of ten decades. Even during the current field visits, it could very well be observed that in the Palakurichi village, only one crop of rice (samba) is continued to be cultivated.

During 2018-19 the rice crop cultivation area had seen a gradual increase from 948 acres to 968 acres. In 2004-05, pulses were grown on 244 acres of land (nearly one-fourth of the area under rice) after the samba crop of rice. Over an one and half decade period there has been decline of about 39% in the area under pulses cultivation that stands at 151 acres. In addition, a few coconut trees that were grown along with other tress on the garden land were to the sum of 4 acres, which has decreased by an acre during 2018-2019. It is to be noted that the overall cultivable land has fallen from 1195 acres to 1122 acres due to water scarcity and lack of agriculture labours.

5.2.6.2 Changes in the Crop Pattern

Before the water dispute problem between the states of Karnataka and Tamil Nadu water has never been a problem for the Palakurichi village and flash floods were the only means of threat to irrigation. During these times samba rice was the major crop cultivated in this village which was practiced at single harvest in some areas and double harvest in other areas.

With changing times and scarcity in availability of water in the ponds, all areas have switched to single harvest. The water reaches ponds during the month of September and it availability till the month of January is a rare happening. Also, since only single harvesting is adopted in the entire agricultural area, production output, revenue, employment opportunities etc., have drastically been reduced. Most importantly, the uncertainty over the availability of water level in the ponds has resulted in the decline of production per acre.

5.2.7 Irrigated area by sources and changes therein

As detailed by Surjit (2004), Palakurichi is located at the tail end of Cauvery delta. Three streams from the Cauvery irrigation network flow near Palakurichi: Odampokkiyar, Kaduvayar and Vellayar. Since 1934, Palakurichi has been irrigated by two canals: the Kudirai Sevaganar canal, which branches out from Odampokkiyar, and the Terkodi canal, which branches out from Kaduvayar. Most of the land in Palakurichi is irrigated by the Kudirai Sevagnar canal. This canal enters the village at its northern end and flows southwards before emptying into the Vellaya rriver, which flows along the southern boundary of the village. Terkodi canal also enters the village at its northern end, flows southward but through the western side and empties into the Vellayar, which serves as drainage channel for the village. Irrigation water is carried to individual fields through field channels as well as from field to field. There has been considerable improvement in the irrigation infrastructure in the village after the construction of the Cauvery Mettur Project in 1934.

Image 11: Check Dam at Palakurichi Village

Source: Field Survey

Rajalu(1917) shows that there were two tanks in the village which always contained water and no land was irrigated by wells. There has been no mention of the constraints in the availability of irrigation water for cultivation in his study.

Tirumalai(1940) found that the only source of irrigation for the village were channels branching out from Kaduvayar river. He further mentions that three methods of irrigation existed 1) by flow directly from the channels to field, 2) by bailing where fields are at a

higher level and water cannot flow by force of gravity and 3) by percolation (ibid., 1940, p. 122).21 These methods of irrigation required substantial amounts of labour.

Haswell(1967) observed a change when she studied Palakurichi in the early 1960s. She noted that, "scarcity of labour at peak seasons of demand has recently been mitigated by the installation with grants in aid of six wells fitted with oil engines, which supply water for nursery beds in advance of the natural flow of water each season into irrigation channel."

During the 1970s, most of the manual methods of bailing were replaced by diesel pumps (Guhan, 1983). The pace of replacing manual methods of bailing with diesel pumps increased as availability of water in the Cauvery river decreased. He also described in detail about the impact of construction of Cauvery Mettur Project (CMP) on irrigation and water availability in Palakurichi village.

Prior to the construction of the Cauvery-Mettur scheme in 1934 Palakurichi was frequently subjected to floods. The waters of Odampokki, the Kaduvayar, the Vellayar and a stream called the old Yedaiyar (now abandoned) used to combine and form one sheet of water at the time of heavy floods or rains. With greater regulation and a more intensive use of water in the last ten decades, the problem now is one of too little water arriving too late and being resided too soon in the agricultural season. Being at the tail-end of the delta, the village receives water in a normal year three weeks after the Mettur Dam.

During the survey of Surjit in the year 2004, "almost all the land in the village was mono-cropped with a single crop of long duration rice (samba crop) grown between July-August and January-February. Cultivation of two short-duration crops of *kuruwai* and *thaladi* had almost completely stopped because of lack of access to adequate and timely irrigation. Even in the samba season, transplanting was often delayed on account of a delay in the arrival of irrigation water. In the months of October and November, the village lands were often flooded due to heavy North-East monsoon rains".

In 2003-04, most cultivators used diesel pumps (either own or hired) for bailing water from irrigation channels into their fields. Bailing the water was necessary because canals carried only a limited amount of water and that too for a very short duration of time. Over time, the expenses on irrigation among cultivators in Palakurichi increased substantially on account of the need to lift water using diesel pumps.

5.2.7.1 Current scenario and the changes in irrigation pattern

The major source of irrigation to Palakurichi village is the tributaries from the River Cauvery. These are named "Kudhirai Sevaganaar" and "Pudhu Vaigai" and accounts for

irrigating over 800 acres of landscape. The southern tip of the Pudhu Vaigai tributary is providing irrigation to over 150 acres of the land. These tributaries are major sources of irrigation that ply over the surface and in the recent times, the scarcity in the availability of water in these ponds has led to usage of motor engines for large scale tapping of the water to the fields. This has resulted in the dwindling of movement of water from one field to the other. It has reached such a situation where availability of water from these ponds is impossible without use of motors.

Image 12: Tapping of the water to the field using motor engines

Source: Field Survey, 2019

Apart from the above, there is delay in the reach of water from the main river cauvery to these ponds and also the availability of water in the ponds after it reaches from Main River is very limited. Also, geographically this village is situated in the far end of the water movement channel due to which the water reaches the village at the end which is not sufficient for the needs.

The amount of water release from Mettur dam gets reduced step-by-step from 45000cusecs to 10000cusecs which makes a cascading effect in the water distribution channel. Due to this insufficiency in the release of water from the Mettur dam, the authorities resorted to the practice of water diversion to ensure the availability of water right from the beginning of sowing season. There is a need for 475 cusecs of continuous water flow to fill these ponds to enable from the Vettaru to enable irrigation of the fields whereas in real sense

it is only 200 cusecs owing to the stagnation of water in low levels in the pond. This has become a regular sight these days in Palakuruchi village.

5.2.8 Average yield of Paddy crops and changes therein

The four most important factors that influences crop yield are soil fertility, availability of irrigation, climate and control of diseases or pests. The major factor that affects the yield level of rice crop in Palakurichi is the shortage of water for irrigation.

It was observed form the earlier studies that, during 1918, yield of paddy crop in the village of Palakurichi accounted for 1.13 tonnes of rough rice per hectare. In 1938, the yield rose to 2.32 tonnes per hectare due to improved facilities in the irrigation and better water control measures due to the construction of Mettur dam in 1934.

After the implementation of Intensive Agriculture District Program (IADP) yield levels during 1960s in Palakurichi increased to 2.72 tonnes per hectare because of the usage of modern inputs like high yielding variety of seeds, chemical fertilizers and pesticides that were distributed through IADP scheme. Guhan in his study during the year 1984 has reported the yield as 3.16 tonnes per hectare which was the highest ever recorded in the past seven decades.

Image 13: Paddy Field, Palakurichi

Source: Field Survey, 2019

The drought situation during the year 2004 resulted in the drastic downfall in the production resulting in 1.24 tonnes per hectare. The table 5.8 shows the yield of paddy crop of Palakurichi village over the decades:

Table 5.8: Yield of Paddy Crop in Palakurichi 1917-2019

Year	Yield (Tonnes/Hectare)
1917-1918	1.13
1938-1940	2.32
1967-1968	2.72
1983-1984	3.16
2003-2004	1.24
2018-2019	1.84

Source: Slater (1918); PJ Thomas(1940); Haswell (1967); Guhan(1983); Surjit(2004);As per official records of Village Administrative Office of Palakurichi Village, 2019

During the current survey it could be observed that the total yield of paddy crop per hectare is to the extent of 1.84 tonnes per hectare. The major reasons for the increase in comparison with previous years was due to the proper management system in the irrigation apart from the land distribution scheme without which such yield could not have been achieved given the scarcity of water and decline of soil fertility prevalent in the Palakurichi village.

5.2.9 Distribution of livestock resources and changes therein

The livestock plays very important economic role for the wellbeing of rural households, in terms of food supply, as source of income, asset saving, source of employment, soil fertility, livelihoods, transport, agricultural traction, agricultural diversification and sustainable agricultural production. The livestock details of Palakurichi village are given in Tabled 5.9.

Table 5.9 Livestock details of Palakurichi Village 2019

Livestock details	Numbers
Working cattle/Bulls	54
Milch	183
Young stock	432
Sheep/goat	1242
Pigs	0
Poultry/Duck	793

Source: Field Survey Data 2019 and official village records of Palakurichi

There are around 54 working cattle/bulls in the village of Palakurichi that are not being used for either agricultural purposes or for transportation. The shift has been due to the use of modern day equipment's like farm tillers; tractors etc., there are 183 milch cows which are mainly used for dairy purpose and form a source of income for the families. Also, there are 432 young stock available and are well maintained by the households. It can also be seen that there are 1242 sheeps which forms a part of income in the form of sales for meat. Poultry/Ducks numbers to 793 that are primarily used for purpose of eggs and meat both for

domestic household purpose and also constitutes to the source of income to the villages. Though pigs can be seen in the village, it is not under official record as no household own it.

5.2.10 Tools, implements and machinery use in agriculture

Farm equipment is any kind of machinery used on a farm to help with farming. tractors, power tillers, sprayers' etc., are the major equipments used in Palakurichi village which has been detailed in Table 5.10.

Table 5.10 Details of Farm Machineries in the village of Palakurichi

Farm Machineries	2019	Average value of farm asset (Rs.)	2004
Tractor	15	205466.7	2
Power Tiller	3	35000	NA
Bullock cart	0	0	NA
Plough	9	6133	NA
Water pump diesel	85	14944	16
Sprayer	55	7203.7	5

Source: Filed Survey data 2019;Surjit, (2004)

During the survey undertaken by Surjit (2004) during the year 2004 there were only 2 tractors that were being used for cultivation whereas it has substantially increased to 15 during the study period of 2019. The rise in number is due to the increase in the number of cultivators and the area of land under cultivation. There were also no uses of power tillers but presently 3 household are using in the ploughing activity. Since, tractors are more efficient in comparison to the primitive usage of bullock carts; even cultivators who do not possess a tractor are hiring it for agriculture purposes which also provide second income to the owners of the tractors. The speed and effectiveness of the plough with its usage through tractors have led to many households holding one as given Table 5.11. Similarly, the use of diesel water pump have significantly increased to 85 during 2019 from just 16 in the year 2004, owing to the severe water problem prevailing in the village of Palakurichi. The increased use of fertilizers and pesticides in the farm areas have resulted in increased use of sprayers which want up to 55 in 2019as against 5 during 2004.As could be seen from Table 5.11, the SC category has substantial improvement in the use of farm equipment's in assisting their agricultural activity with the major reason for it being the increase in the land holding among this category of people in the Palakurichi village.

Table 5.11 Details of caste-wise distribution of farm machineries in the village of Palakurichi

Category	2004		
	Tractor	Diesel Pump	Sprayer
Non-SC	2	15	4
SC	0	1	1
	2019		
OBC	9	38	32
SC	6	47	23

Source: Filed Survey data 2019;Surjit, 2004

With none of the SC category people holding a tractor during 2004, presently 6 households own it. Likewise, even in the case of diesel pumps and sprayers there is huge increase from just a single household in 2004 to 47 and 23 respectively during 2019.

Image 15: Tractor at ploughing activity in the Paddy Field, Palakurichi

Source: Field Survey, 2019

There is an increase in the number of tractors used by the NON-SC category from 2 to 9 and the use of diesel pump has almost doubled with 38 households having it in 2019 from 15 during 2004. The use of sprayer in this category has multiplied eight folds from just a 4 households in 2004 to 32 during the year 2019. It is pertinent here to mention that the state government has provided 50% subsidy for purchase of diesel water pumps which has been the primary driving force in its increased numbers on the whole.

5.2.11 Input use in agriculture and changes therein

5.2.11.1Fertilizer

During the first survey of the Palakurichi Village in 1917, the cultivators were using the farmyard manures and green manures like neem-cake etc, as plant nutrients, which Rajalu was noted as: "Very nearly 40 per cent of the manure used is cattle dung. Much of the cattle urine is wasted; but in the summer when there is no cultivation cattle are made to lie down in the fields. And recently people have come to understand the value of cattle urine and they have devised means to direct it to dung pit or dung hill. Green manure is obtained from trees, and avarai, wild castor and adutudai are grown for green manure (Rajalu, 1918, p. 79)".

During the resurvey carried out by Thirumala in 1940 it was observed that only 2 families of the village have tired the trial of using chemical fertilizer which was given up later as it didn't fetched any profit to them. Also, few cultivators showed interest in improving the methods of cultivation and with proper training they were ready to adopt the modern methods of cultivation. Thirumala mentioned about the agriculture practices of the village during 1940 as," there have been no recent improvements in the methods of cultivation, and the villagers being very conservative, it will be a difficult task to induce a majority of them to new methods" (1940, p. 129).

It was only during the early 1960s which was the period of Intensive Agriculture District Program, cultivators started using chemical fertilizers. According to Haswell (1967, p. 29), "since Palakurichi cultivators had already been applying fertilizers for two or three years before the village was selected under the scheme, their introduction as a part of the Package deal was not difficult since the demonstration effect had already made its impact." She further notes that fertilizer coupons were distributed to cultivators and adequate measures were taken to ensure availability of required quantities of fertilizer. This resulted in an increase in fertilizer use for rice cultivation. She also notes that tenant cultivators, who cultivated small areas of land, sold most of the 'package fertilizer' to large land owners. The large landowners applied these fertilizers in excessive doses and suffered losses from lodging of the plant as the straw was not strong enough to hold the ear head. In the estimates of the Cost of Cultivation of rice in East Thanjavur district during the period 1964-65 to 1968-69 provided by the Ganapatia Pillai commission, chemical fertilizers was the second largest category of expenses next to hired human labour (Pillai, 1969).

Guhan, 1983, has estimated that in the early 1980s nearly 20 per cent of the total cost of cultivation was spent on chemical fertilizers and pesticides.

Surjit 2004, has mentioned there was a widespread use of chemical fertilizers to provide nutrients for plant growth. Urea, Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP) and Super Phosphate were the common chemical fertilizers used by the cultivators. He also highlighted that, the average nutrient applied (in kilograms per hectare of cultivated area) was 95 : 28 : 40 of Nitrogen, Phosphorus and Potassium (N : P : K) respectively which is much higher (except in the case of Phosphorus) than the recommended dose of 75 : 50 : 37.5 of N : P : K for semi-dry (dry seeded irrigated un-puddled lowland rice with supplemental irrigation) rice cultivation by the Agricultural Department and State Agricultural University (GOT and TNAU, 2005, pp. 25- 6). The average quality and price of different types of Fertilizer used in Palakurichi during 2004 and 2019, is given in Table 5.12.

Table 5.12 Average quality and price of different types of Fertilizer used in Palakurichi Village (Rs/KG)

Type of Fertilizer	2004		2019	
	Average Quantity applied (in KG/Hectare)	Price(in Rs/Kilogram)	Average Quantity applied (in KG/Hectare)	Price(in Rs/Kilogram)
Di-Ammonimum Phosphate	132	9.75	185	33
Potash	79	5.05	62	5.6
Urea	148	5.01	124	10
Super Phosphate	8	3.23	8	NA
Gypsum	45	1.24	65	7
Neem Cake	18	16.70	24	18

Source: Surjit, 2004, Field Survey data 2019

Normally the fertilizers are applied in three doses. The first dose is applied two or three weeks after sowing, the second dose after the first weeding (one month after sowing) and the third dose just before emergence of the panicle. The current scenario of utilization of fertilizer was explained in the above table.

It is seen from the above table 5.12 that the usage of Di-ammonium phosphate, Potash and Urea are the three major fertilizers being widely used in the process of cultivation by the villagers in Palakurichi. An average of 132 kgs of Di-ammonium phosphate per hectare during 2004 has considerably increased to 185/kg/hectare. Contrarily, the usage of potash and urea has marginally decreased when compared with the 2004 study period. Super Phosphate is being used only by such cultivators whose soil lacks potash and hence there is no change in usage as per the table above. It is reported that Gypsum is used only by few cultivators in anticipation of a higher produce than normal. The usage of gypsum by the farmers has also increased despite its price increase as could be seen from the table. Neem cake is widely used by most of the cultivators.

5.2.11.2 Pesticide

During 1917, the villagers were unaware of measures or methods to control pests and diseases. Rajalu (1918).has stated that, “for insect pests and plants diseases no remedy is possible or conceivable to the villagers; many look upon the havoc wrought as punishment from Heaven”.

The level of awareness amongst the villagers was the same during the resurvey by Tirumalai. As mentioned earlier by Haswell (1967), with the introduction of IADP in the village, people started using short duration varieties of seeds, chemical fertilizers, and to a limited extent plant protection chemicals also. Surjit (2004) has mentioned that the conditions had changed substantially and the use of plant protection chemicals was widespread during 2004. During 2003-04, Surjit found that cultivators spraying fungicides like Benlate in advance as a precautionary measure against leaf blight disease.

After panicle initiation, irrigating the crop and spraying plant protection pesticides like karate insecticide are used as crop care activities carried out in paddy cultivation in Palakurichi village. The cultivators are very active in timely application of insecticides and pesticides as persuasive measures.

5.2.12 Production and disposal of farm outputs

5.2.12.1 Prevalent marketing channels and procurement arrangements

The farm outputs in the village of Palakurichi are procured mostly by the following channels:

1] Tamil Nadu Civil Supplies Corporation [TNCSC]

2] Milk Societies of the state Government

3] Intermediaries

The disposal of farm produces and price realization is given in Table 5.13. The harvested paddy after home consumption of about 18% is sold for the market which is about 82%. It is mostly procured by the Tamil Nadu Civil Supplies Corporation [TNCSC] and they collect it by themselves. The average yield per acre is about 30/35 bags of paddy per acre. A bag normally consist 50 kgs of paddy. The procurement rate offered by the state government is Rs.1000/- bag during 2019 and a farmer reaps a profit of around Rs,20,000/- to Rs.25,000/- which is observed from the data collected from the survey records. However, the official data says that the amount of profits varies from Rs.30,000/- to Rs.40,000/- per acre to a farmer in Palakurichi. Also, there are few farmers who sell their produce to the intermediaries for the reason that they provide same amount of price as that of the TNCSC. The basic difference noted here is that the quantify difference between the sale made to the government and

intermediaries which varies to an extent of 5 kgs. ie., a bag of paddy sold to intermediary contain 55 kgs whereas that of government contains only 50 kgs. As the harvest and procurement go hand in hand in Palakurichi village, in order to prevent any losses due to unexpected time delay in the procurement by single channel, the sale to intermediaries is preferred. The non-availability of storage facilities is also one factor for such a practice by the farmers.

Image 16: Tamil Nadu Civil Supplies Corporation Paddy procurement Centre, Palakurichi

Source: Field Survey, 2019

Table 5.13 Disposal of major farm produces and price realization

Particulars	% produce Sold	Average price received	Units	Sold to whom?
Crops				
Paddy	**82.15**	**1892**	Rs./Qtl	Government Agency only
Milk	**94.5**	**28**	Rs./lit	Government Agency only

Source: Filed Survey data 2019

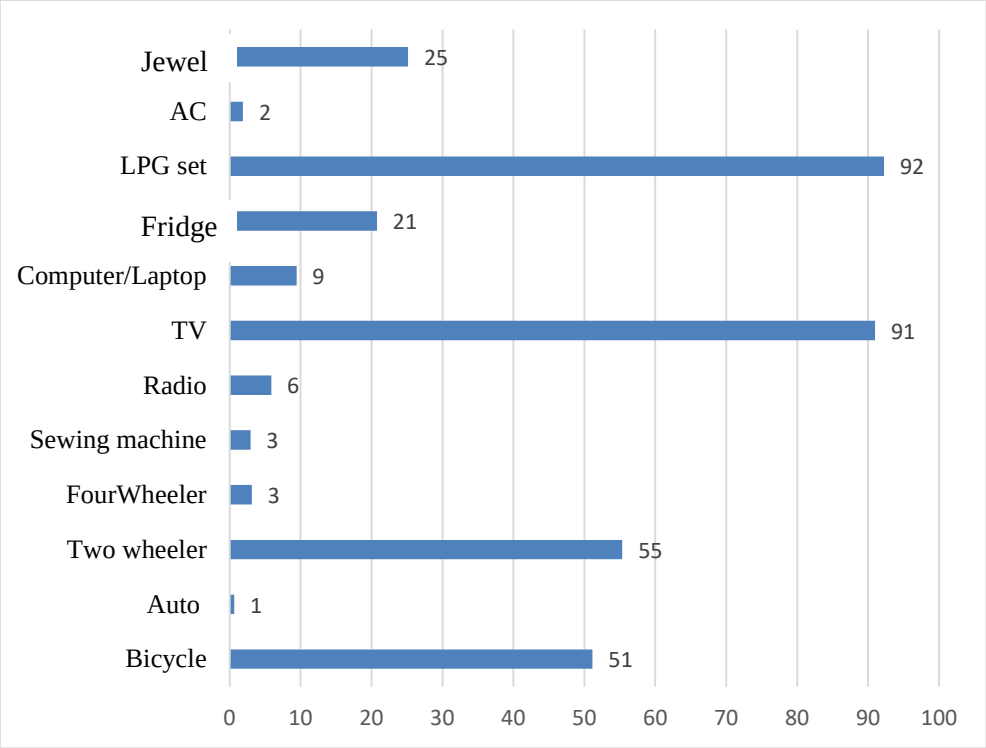
Milk is procured on daily basis by the government milk societies on daily basis. The cost of procurement is Rs.28/litre. After the in-house consumption, 95% of the produce is sold to the societies. The major reason for sales to the government societies is that the milk is tested and procured without least rejection which is the cause for non-preference of private players by the villagers.

5.3. Asset profile of the rural households

With the advent of technology, the usage of different kind of items by all economic group of households has become a common scenario. The village of Palakurichi is not exception to this. The schemes by the state government like providing free television, mixers and grinder have ensured that almost all the household have a television set. As the graph

shows, almost 91% of the household are having the same, against 6% of the household having radio, the cause being updation with technology. Jewelry

Figure 5.3: Asset Profile of the household of Palakurichi Village



Source: Field Survey 2019

Similarly, 92% of the household have LPG connection at home and the reason behind this is the huge success of the UJJWALA scheme of the central government.

Being a remote village with very less transport facility, there is a definite need for a bicycle or a two wheeler for commutation and almost 55% of the households have a two wheeler and 51% have bicycle. There are also 3% of households that have a four wheeler besides a 1% of household having an auto used for multiple purposes besides livelihood.

It can also be observed from the figure 5.3 that 21% of the household has a fridge which has become integral home need in rural areas. Though, the awareness about computers and its usage is prevalent among the people only 9% of the household possess laptop as it being provided at free of cost for the higher secondary students by the state government.

It is a customary tradition in the families of Tamil Nadu to wear Jewelries which are part and parcel of every festive and occasion like marriages and social gatherings that dates back to ages. Though, there will be a small bit of jewellery available in any house, the survey reveals almost 25% of household respondents have stated to hold jewellery as asset.

3% of the household have reported of having sewing machines, which was provided by the local governance welfare scheme and there are about 2% of the households that have air conditioner at home.

5.4 Pattern of income, expenditure and savings and changes therein

5.4.1 Income Pattern

Table 5.14 explains the income pattern distribution received from the farm and non-farm including that of the Off-farm in respect of the prevalent castes in the Palakurichi village.

Table 5.14 Composition of average annual income in Palakurichi village by Castes (Rupees per capita per annum)

Castes	Farm Income	Off-farm Income	Non-Farm Income	Total
Caste Hindu	**0**	**0**	**400000**	**400000**
Scheduled Caste	**226032.79**	**1489**	**300000**	**527521.79**
Scheduled Tribe	**0**	**0**	**0**	**0**
OBC	**149381.82**	**4400**	**250000**	**78781.82**

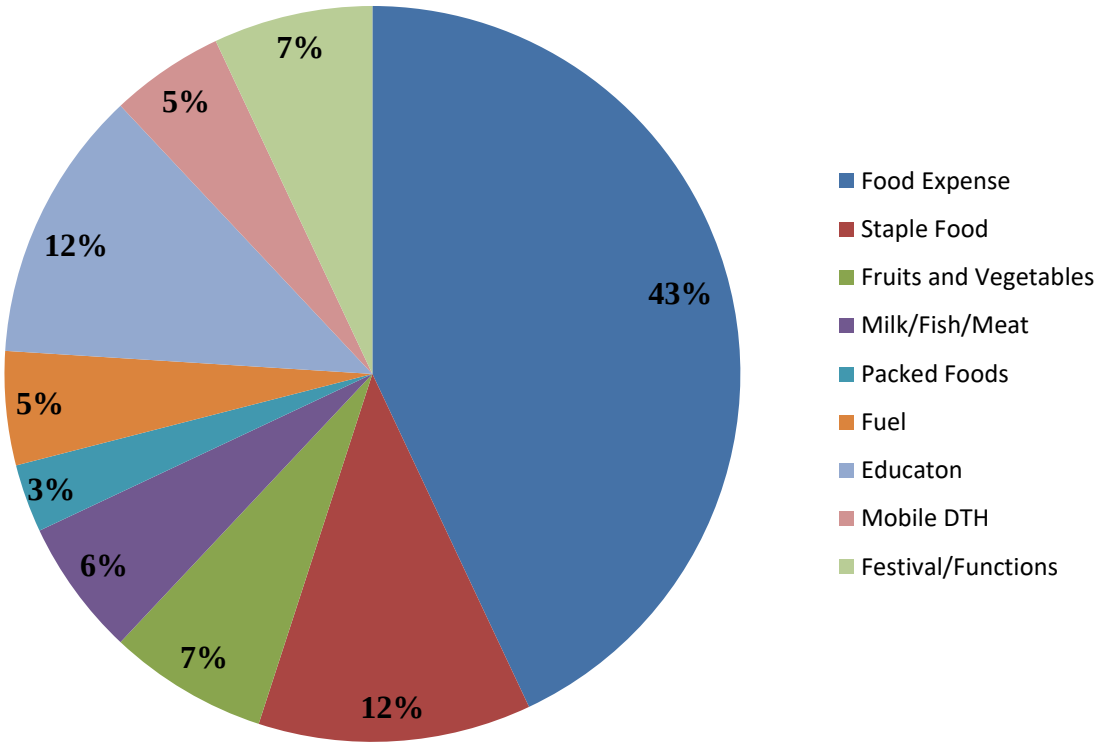
Source: Field Survey 2019

It could be observed from the above table that the farm income of an SC household on an average is around Rs.2,26,033/- per annum as against the non-farm income amounting to Rs.3,00,000/-. The average farm income of OBC community amounts to Rs.1,49,382/- and non-farm income of Rs.2,50,000/-. The average income of the lone caste Hindu household is Rs.4,00,000/-.

5.4.2 Expenditure Pattern

The Expenditure pattern of the people of Palakurichi village has been explained in the figure 5.4. About 43% of the expenditure is made toward the food and almost 12% of the expenditure was made towards staple food and medicine. For purchasing fruits/vegetables and family expenses during festival and functions 7% of expenditure was used. Only 3% was spent towards the packed foods. Though almost every household of the village has farm animals about 6% was spent towards it. Further, for other expenditures like recharging of mobile/DTH and fuel for vehicle 5% of expenditure is made. Hence, the people of Palakurichi village have a very simple pattern of expenditure according to their income, in which there is no change during the last five year. The people opines about expenditure as only expenditure is increasing every year not their income, which deteriorated their standard of living.

Figure 5.4: Expenditure Pattern of people of Palakurichi Village



Source: Field Survey data, 2019

5.4 .3 Savings and Borrowings

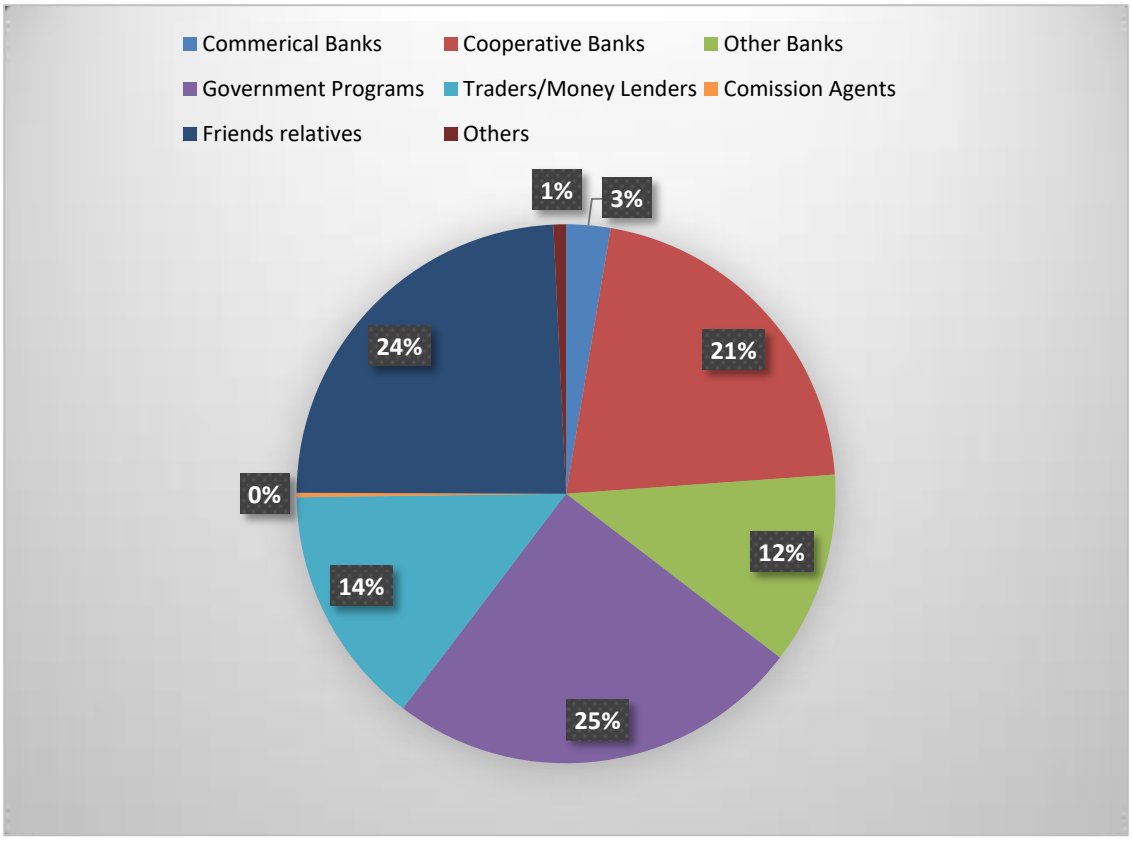
Though many studies on rural credit markets in different parts of India show that marginal and small cultivators primarily depend on informal sources of credit, the same scenario is been observed in the Palakurichi. More than 50% people of Palakurichi have been dependent on the formal sources of credit being lending from Government – commercial banks and government aided self-help groups. The households cultivating land through informal tenancy contracts those who do not have access to formal-sector credit are those who depend on Traders and Money lender constituting a very meager percentage.

5.4.4 Borrowings details during last 5 years

Figure 5.5 shows the details of borrowing of the households of Palakurichi village during the last five years. There are many sources available to the households for borrowing. However, majority of the households have borrowed from government banks (3%),

commercial banks (21%) and other co-operative banks (12%) which constitute 36% of the lending cycle.

Figure 5.5 Borrowings details during last 5 years



Source: Field Survey 2019

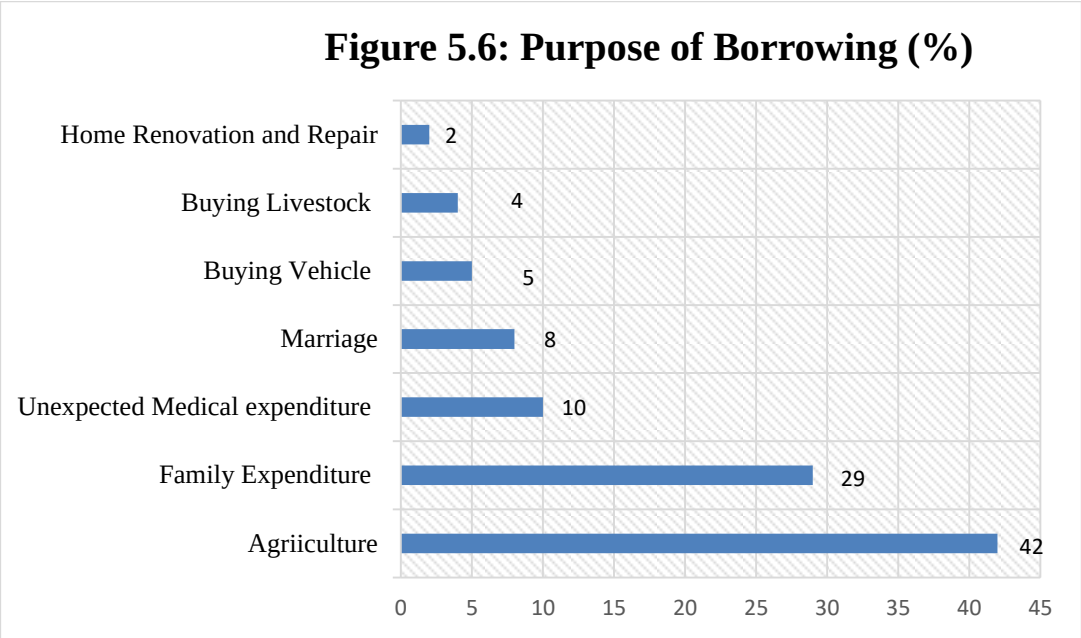
With various continued efforts that led to the land ownership to the people of Palakurichi village, it paved way for getting loans from banks with legal documents which was not prevalent before. There is also continued promotion from the bank side to create awareness to the people regarding various types of loans and assistance provided to them for different activities. It could be observed during the field study from the respondents that people are having the false perception that, availing of bank loans for agriculture purpose may have the benefit of waiver announcement from the banks/government in the future in the case of defaults.

Another 25% of the households have obtained credit from the government schemes/programs which are in the form of loans offered to the self-help groups etc., only 14% prefer to get loan from traders/money lenders. Another 24% of the households prefer the easiest from of credit which is to obtain loan from friends and relatives which are fast, reliable and with less procedural formalities. It could be observed from the Figure 5.5 that no

commission agents are being entertained for the purpose of borrowings in the Palakurichi village.

5.4.5 Purpose of Borrowing:

The major reasons for borrowing in the Palakurichi village are shown in the Figure 5.6:



Source: Field survey 2019

There is a need for credit in rural areas for the crop production that involves considerable costs on seeds fertilizers, pesticides, water electricity, repair of equipment, etc. Accordingly, agriculture is the predominant requirement of borrowing among the households in the Palakurichi village with almost 42% having availed for the same.

A portion of around 29% of the household have availed loans for meeting out the family expenditure. It may also be noted that though most of them avail the facilities issued through medical card by the government, as much as 10% of household avail loans for meeting unexpected medical expenditure. Though there are schemes for providing financial and other assistance to women for marriage by the state government, there is a need to borrow money for the marriage purpose during the time of marriage is observed particularly in the families having girls in the stage of marriage age. People also have taken loans for buying live stocks, purchase of new vehicles and for renovation and repair of house which all constitutes less than 5% households those who have borrowed.

5.4.6 Sale and purchase of assets

There have been very small transactions relating to the selling or purchases of assets in the Palakurichi village during last five years which is given in the Table 5.15:

Table5.15: Sale and Purchase of assets of Palakurichi Household during last 5 years

Type	Sold	Purchased
Residential land	4	7
Residential house	House allotted in Gaja cyclone	3 in next village 2 in Vellankanni
Commercial land	-	-
Cultivation land	Illegal selling of LAFTY land	

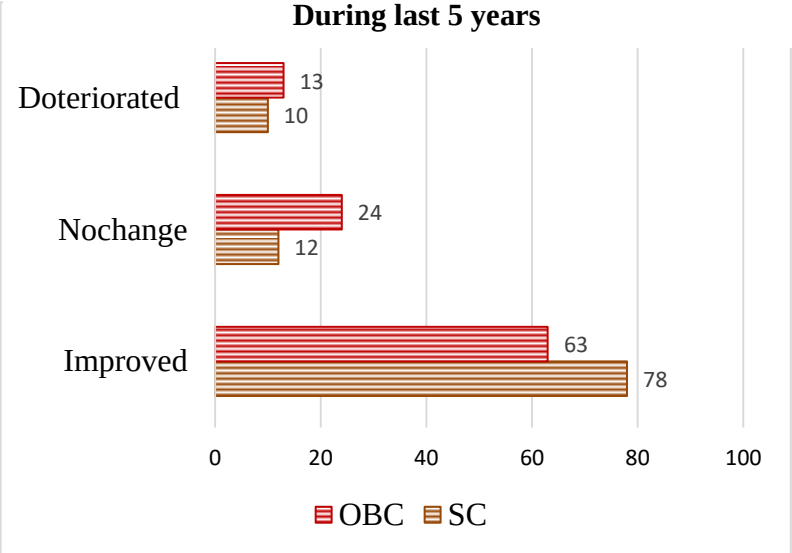
Source: Field survey 2019

There has been sale of residential land by four households and the reason being financial needs for two and other two have shifted to a nearby town. Also, there have been purchases made by seven households. There is a point of concern as it is observed that selling of cultivable land received under Land for Tillers' Freedom (LAFTY) scheme is illegally sold by some of the households despite that, Land for Tillers' Freedom (LAFTY) lands have many criteria before they can be sold off.

5.5. Perception of various groups in the village about economic changes in the village and the driving force for the change if any

The various schemes and initiatives by both the State and Union government have led to continuous improvement in the standard of living of people in the Palakurichi village. It is clear from the Figure 5.7 given below with as many as 78% of the SC category and 63% from OBC category have responded during the field study stating that they have felt overall improvement in all aspects of life. With agriculture being the predominant occupation of Palakurichi village, the reforms made under the LAFTY scheme, subsidies and incentive for farming from the government side etc. have significantly contributed to the overall economic development of the village. However, 12% of SC and 24% OBC category are of the opinion that they don't find any changes in the economic improvement or in the standard of living of people.

Figure 5.7: Perception of economic changes in the village During last 5 years



Soruce: Field survey data, 2019

There are also 10% and 13% under SC and OBC category who feel the situation to have been deteriorated. The reasons provided by them are of lesser returns from the produce; poor infrastructure, less job opportunities, scarcity of drinking water as well as for farm needs etc.

5.6 Summary of the Chapter

This chapter discusses the overall economic system of the Palakurichi village with various parameters comprising it.

Firstly, the livelihood pattern and employment of the people therein has been discussed from which it could be seen from the inputs that, being an agricultural village, most of its population has either been cultivators or agricultural labourers. The details on the number of people engaged in various groups of livelihood have been provided with the percentage of population based on the community constituting the village. The other sources of livelihood apart from agriculture like private sector employment, government employment, trade and business, household works etc. have also been discussed.

The composition of male and female people in the different livelihood groups has been detailed from which it could been seen that among the total population of the village of Palakurichi, both male and female are almost equally engaged in any of the activities providing livelihood and no big difference could be seen constituting for gender bias etc.

The trend in the number of agricultural labourers over previous decade has been tabulated and the reasons for the decline along with the changes in the employment pattern and reasons for the migration have been detailed.

Secondly, the agrarian system of the Palakurichi has been detailed wherein the distribution of land ownership and the changes therein has been highlighted. The concentration of vast land with ownership among less population and the changes resulting from various measures and introduction of LAFTI schemes that resulted in the transfer of land ownership constituted a major change over the decades in Palakurichi village has been highlighted in this chapter.

The operational size of the land holdings and its distribution pattern has been studied and reasons thereof are explained. The table with the details for a period from 2004 to 2019 has been worked out and based on the Gini Coefficient value, inequality in operational holdings was of a similar magnitude during both the survey period 2004 and 2019.

The land utilization, major faming system, cropping pattern and the changes therein, irrigation sources and the current scenario with the causes for changes has been discussed in the study. It can be inferred that there has been no geographical changes to have happened in

any the studies undertaken on the village till date. However, there has been decline in the net sown area, output of production etc., due to various reasons.

The agricultural economy of Palakurichi has been a rice-based economy for the last nine decades. The most important factors that have determined the course of agricultural transformations over this period the construction of the Mettur Dam in 1934 and consequent availability of irrigation water and its decline from the late 1980s. The use of modern agricultural farm inputs like use of machineries, fertilizers and pesticides etc.

The main features of agricultural transformation in Palakurichi over this period were as follows. First, agriculture remained the single most important source of livelihoods in Palakurichi. In 2004, the primary occupations of about 78 per cent of workers in Palakurichi were agriculture-based. Secondly, agriculture in Palakurichi was characterized by the continued dominance of rice cultivation. In recent years, there has been a tendency to grow pulses, particularly in years when irrigation water was supplied late and when the quantity was inadequate. Thirdly, with the introduction of short duration and high yielding varieties of rice under the Integrated Area Development Programme in the 1960s, two crops of rice started to be cultivated in Palakurichi. However, with the decline in availability of irrigation water, Palakurichi shifted back to a single crop of rice (samba) in the late 1980s.

The current scenario regarding the irrigation system has been highlighted which states there is water scarcity in the recent times. Apart from it, there is delay in the reach of water from the main river cauvery to the ponds of Palakurichi village which is the base for irrigation source for cultivation and also the availability of water in the ponds after it reaches from Main River is very limited. Hence, it has reached such a situation where availability of water of irrigation from these ponds is impossible without use of motors.

The relative yield from the cultivation area over decades is tabulated and during the current survey it could be observed that the total yield of paddy crop per hectare is to the extent of 1.84 tonnes per hectare. The major reasons for the increase in comparison with previous years was due to the proper management system in the irrigation apart from the land distribution scheme without which such yield could not have been achieved given the scarcity of water and decline of soil fertility prevalent in the Palakurichi village.

The availability and distribution of the livestock with the households of Palakurichi village has also narrated that provides an additional source of income alongside their livelihood income. It details the types of tools, farm machineries used in the cultivation process and its availability among the population of Palakurichi village together with the

caste-wise distribution has been given from which it is seen that increased use of diesel motor pump due to irrigation water problem is substantiated.

The input use in agricultural production in the village of Palakurichi has been studied and tabulated ie., the different types of fertilizers and pesticides that are used for value addition and enhancement in production. Potash, Urea, Di-ammonium phosphate besides neem cakes are the major fertilizers used during the process my most of the cultivators in the village. It is reported that Gypsum is used only by few cultivators in anticipation of a higher produce than normal.

The procurement channels through which the produces i.e., paddy rice crops and milk are sold with the prices received is provided in this chapter. It is stated that the Tamil Nadu Civil Supplies Corporation [TNCSC] and State Milk societies are the major procurers of the produce of the village.

The availability of assets like vehicle, cars, bi-cycle, sewing machines, jewelry etc., with the households of Palakurichi village has been explained. The pattern of income, expenditure and the savings of the households have been detailed. The distribution pattern of income between the communities as received by them from farm, non-farm and other category has also been provided. The nature of savings made with government banks, LIC and others, details of purposes for which borrowings are made and the lenders of such borrowings and the have also listed.

The study concludes with the perception of people of various groups in the Palakurichi village about the economic changes in the village for which majority of the respondents at large from the all the communities of the village have expressed to have seen overall improvement.

Chapter-VI

Ecology, Vulnerability and Sustainability

Among the Indian states, Tamil Nadu is a major state of victim for at most natural calamities that includes tropical cyclones, tsunami and floods as it borders the Bay of Bengal for 1076 Kilometers. The southern east coast of Tamil Nadu is historically are prone to more powerful and vigorous natural hazards like tropical cyclones that create intense damage to lives and properties. Agriculture is the main occupation to the southern districts of Tamil Nadu which is blessed with Cauvery river delta. Traditional cropping patterns like *kuruvai* (June – September) and *thaladi* (October – January) followed by cultivation of cash crops such as cotton, sugarcane, coconut and banana are predominantly grown. Consequences of the calamity have a succeeding impact on the existing Land Use / Land Cover patterns.

6.1. Natural Resource Profile of the Village

6.1.1 Flora and Fauna in the village

6.1.1.1 Mammals

The Bonnet macaque, Black napped hare, Fruit bats, Spotted deer, Civet cat are the few Mammals of Nagapattinam district which are also seen in Palakurichi village.

6.1.1.2 Birds

The Great Vedaranyam swamp forms major refuges for migratory and resident water birds. 240 species of birds had been recorded here.

6.1.1.3 Terrestrial Birds

The various kinds of Terrestrial Birds was available in the sanctuary, they are: Indian pitta, Bee eaters, Sparrows, Thrushes, Doves, Munias, Warblers, Owis, Kites, Wagtails, Flower peckers, Eagles, Swifts, White necked Stork.

6.1.14 Reptiles

The following kinds of Reptiles is available in the sanctuary, that as follows: Olive Ridley sea turtle, Starred tortoise, Marsh crocodiles, Monitor lizard, saw scalped viper, Green wiph snake, Cobra, Hook nosed sea snake, Rat snake, Common krait.

6.1.1.5 The flora

The Palakurichi village is located very close to the Vedaranyam taluk. In this swamp 106 species within 90 genera and 48 families represented by 60 species of herbs, 25 species of

shrubs, 11 species of trees and 10 species of climbers had been recorded. Point Calimere has the second largest congregation of flamingos after Rann of Kutch. The birds visit the area mostly for feeding and evidences of breeding are not which has steadily reduced to less than 10,000 presently because of biotic interference, fishermen activity and reduced availability of shrimps and plankton due to increased salinity.

6.1.2 Climate and Rainfall

The Palakurichi village follows the same pattern of climate and rainfall as the Nagapattinam district. The village enjoys humid and tropical climate with hot summers, mild winters, and moderate to heavy rainfall as same as the Nagapattinam district. The district is prone to cyclonic storms during the North East monsoon season. Once in three or four years, these storms bring very heavy rains with violent winds and affect the crops severely. Being close to the Nagapatinnam districts, these effects are being felt in Palakurichi village also.

The relative humidity ranges from 70–77% and the temperature varies from 40.6°C to 19.3°C with sharp fall in night temperatures the during monsoon period. The village receives major portion of its annual rainfall during the north eastern monsoon period, and a moderate amount of rainfall is received during the south west monsoon period. A good part of the rainfall occurs as very intensive storms resulting mainly from cyclones generated in the Bay of Bengal, especially during northeast monsoon. This high rainfall supplements the Cauvery water for the high water requirements of paddy, which is the main crop of this village.

6.1.3 Water Resource

Palakurichi is located at the tail end of Cauvery delta. The major source of irrigation to this village is the tributaries from the River Cauvery. Three streams from the Cauvery irrigation network flow near Palakurichi: Odampokkiyar, Kaduvayar and Vellayar. Since 1934, Palakurichi has been irrigated by two canals: the Kudirai Sevaganar canal, which branches out from Odampokkiyar, and the Terkodi canal, which branches out from Kaduvayar. Most of the land in Palakurichi is irrigated by the Kudirai Sevagnar canal. This canal enters the village at its northern end and flows southwards before emptying into the Vellayar River, which flows along the southern boundary of the village.

6.1.4 Ground water level

The soil of the coastal zone was sandy and often suffered from problem of salinity. The Palakurichi have Saline ground waters which is not suitable for drinking and domestic

uses and there are no official records available for the ground water level in Palakurichi Village.

6.2. Land use Classifications and Changes

The village of Palakurichi has remained unchanged in respect of its geographical area for the last three decades. Despite this, the Table 6.1 shows that there has been no much improvement in the Net Sown Area for the period from 2011-2019 whereas the area for non-agricultural use has increased from 44.1 hectare to 110.85 during the same period.

Table 6.1: Land use pattern of Palakurichi Village

(Unit: Hectares)

Particulars	In 2001	In 2011	In 2019 (during current survey)
Geographical Area	502.7	502.7	502.72
Agricultural/ Cultivable Land			
Net Sown Area	431.62	390.8	391.89
Area under Non- Agricultural uses	52.67	44.1	110.85
Uncultivated area			
Barren Land	0.00	0.00	0.00
Forest Area	0.00	0.00	0.00
Pasture and Grazing Land	0.00	0.00	0.00
Cultivable Waste			2.47
Misc. Trees & Crops	0.00	0.00	0.00
Current Fallow	0.00	67.8	11.00
Others	0.00	0.00	0.00
Other lands			
Gross Cropped Area	NA	NA	NA
Net Irrigated Area	430.08	390.2	391.89
Gross Irrigated Area	431.62	390.8	391.9
% area under irrigation	100%	99.8%	100%
% agricultural land in geographical area	85.55%	77.74%	77.95%
% current fallow in geographical area	NA	NA	2.19%
Main sources of irrigation – Canal	430.08	390.2	391.89

Source: Village Directory of Census 2001, Census 2011, Field Survey

The decline in the net sown area from 431.62 to 390.80 hectares was mainly attributed to major problems faced that of acute labour shortage and severe water crisis. However, with the main source for irrigation for crop cultivation being the canal irrigation (discussed in detail in Chapter V) which has been consistent to the tune of 100% all through the study period i.e., from 2011 to 2019 the area under cultivation is sustaining with a marginal increase.

Though there was no fallow land during 2001, it rose to about 67.80 hectare over a decade. But with the introduction of various schemes for agriculture and farmers by the Government of India in the form of Income and Insurance Support Schemes it has reduced

drastically to 11 hectares. The 2.19 % of the land area currently under fallow is for the reasons due to shortage of labour owing to migration and no better returns for their produce.

6.3 Natural and Manmade Disasters

6.3.1Frequency, pattern, magnitude and changes over time

The village is affected mostly in the form of floods caused by the velaiyauraru (white river) every year during the monsoon season which lasts for the period from September to November. However, it happens to be the same period wherein the cultivated areas of land are in their pre-harvest stage. The resultant flood causes huge damage to the crops and the farmers are at heavy loss. This is a regular occurrence. The scenario has changed over the recent years with the effort from the state government along with the people of the village who have taken measures to desilt the lakes and ponds that has yielded better results in storage of the excess water flowing through the river in containing the flood like situation.

Apart from the above, there has been unforeseen situation like the formation of cyclones during the monsoon that makes unprecedented damages whose magnitude can be disastrous. In the recent times, during 2018, there was a cyclone by name Gaja due to which most of all kutcha house of the village and all crops ready for harvest were completely damaged.

6.3.2 Cyclone Gaja

Palakurichi being a village of Nagapattinam a coastal district of Tamil Nadu, the village had the furious impact of an extreme weather event of Gaja Cyclone on the village leading to the heavy losses in houses, holdings and crops as the highest sustained speed was recorded in neighbor villages of Adhirampattinam at 165 kmph and 160 kmph at Muthupet recorded.

Gaja was the sever cyclone among the series of cyclone that hit the coast of Tamil Nadu in 2018 which was initially formed as a low pressure and intensified as a depression over Bay of Bengal. The Physical Parameters of Gaja Cyclone is as follows:

- **Type of storm:** Very severe cyclonic storm
- **Wind speed**: 117 kmph
- **Rainfall:** Extremely heavy falls (≥ 20 cm)89.54 mm on 15th and 16th of November, 2018.

Gaja thrashed the southern coastal tracts namely Vedaranyam of Nagapattinam district, Thiruthuraipoondi and Muthepet of Thiruvarur district, Adirampattinam and Pattukottai of Thanjavur district; Tiruchirappalli, Pudukottai and Dindigul districts of

continental location. The trail of Gaja cyclone had left the terrain devoid of vegetation particularly coconut, cashew, mango and plantain grove which were the prime source of economy of the affected victims. The aftermath of the cyclone is extreme causing land cover changes like defoliation, water logging, destruction of cultivable lands, plantations and shrub vegetation etc.

Similarly, during the year 2014, being the village located in the coastal region, Palakurichi was exposed to the Tsunami which was first of its kind faced by the people of Tamil Nadu in the recent times. Surprisingly, the village was not affected by any sort.

6.3.3 Vulnerability of rural groups to extreme climatic events and coping measures

The people in the village of Palakurichi are basically dependent on agricultural farming and hence the impacts from the natural/man-made disasters are deeply vulnerable to the entire communities. During flood/tsunami like situation, the effects are far from out of the hands of the local masses that are entirely depended on the relief measures/schemes provided by the respective governments/NGO's.

6.3.4 Adaptation strategies by the government, non-government & other stakeholders

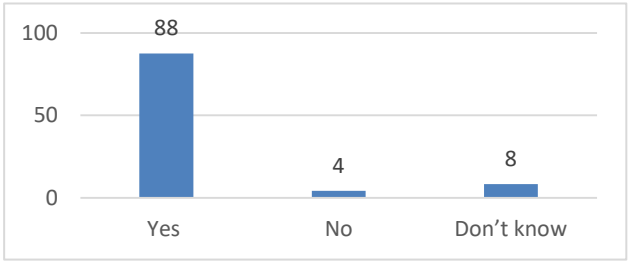
The entire population of the Palakurichi village being less and also there are no major industries, urban colonization happening, community based conflicts etc., the village is free of any manmade disasters. However, the unforeseen natural disasters in the form of flood or tsunami as mentioned in the previous paragraphs are out of reach/scope of the mankind and hence the strategies undertaken by the government are also purely situational.

6.4. Perception of various groups in the village about ecological changes in the village

6.4.1 Change in rainfall pattern, drought, flood, heat & cold waves:

With growing change in the ecological pattern across the globe, the same is witnessed in most parts of the country and the village of Palakurichi is no exception to the same. Most of the respondents who were questioned have responded stating that the rainfall pattern of the village has changed tremendously over period despite being in the coastal zone.

Figure 6.1: People's perception about the change in the Rainfall pattern



Source: Field survey data, 2019

It is evident from the Figure 6.1 that 88% of the people have stated positively that there has been change in rainfall pattern during the last ten years that had severe implications on the net cropped area in the village. A section of the village respondents to the tune of 4% are of the opinion that there have been no such changes observed by them. There are also respondents who have no idea about such things and expressed their response as don't know.

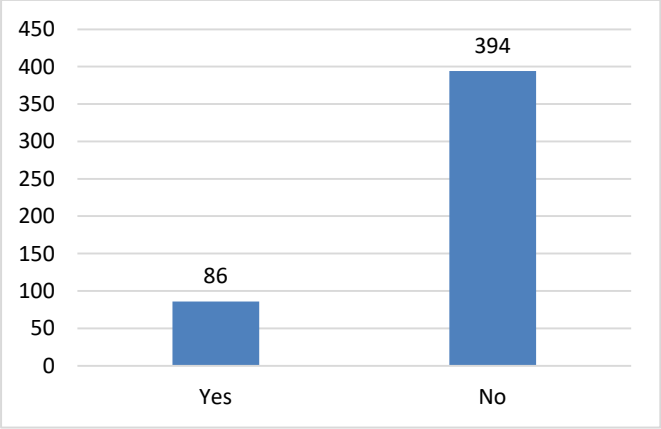
6.4.2 Change in incidence of diseases and medical expenditures

With no big advent of pollution and urbanization in the village with lesser population, the village has not succumbed to any increase in the spread of diseases. It is very much clear from the Figure 6.2 wherein as many as 394 respondents have said reasons on similar lines and only 86 respondents have reported otherwise. It is observed from the interaction with the people of the village, majority of the villagers avail treatment from the government primary health care centre and in cases where higher treatment is required, people move to the Government Hospital situated in the district headquarters i.e. Nagapattinam. There is also a hospital run by a trust that caters at a non-profit motive.

The Figure 6.3 shows that as many as 318 people are in the category where their medical expenditure is less than 5000 per annum. The families that spend between 1 - 5 lakhs per annum are those from families of large farmers who succumb to major illness such as problems relating to heart, kidney etc.,

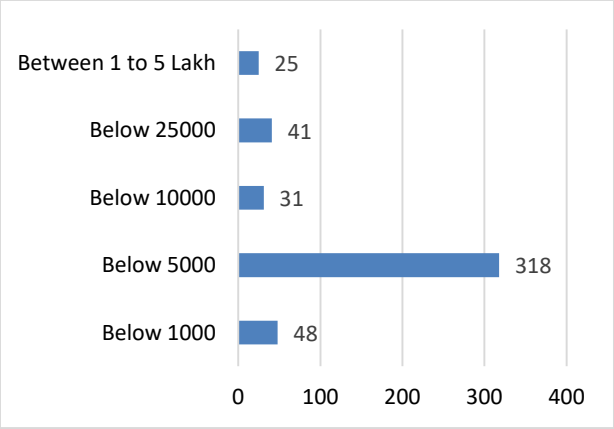
Further, those who spend less than Rs.1000/- per annum are such people from families having one or two persons constituting mostly senior citizens. Also, 72 respondents spend at an average of Rs. 10000-25000 per annum towards medical expenditure.

Figure: 6.2: People's perception about the Increased Incidence of Disease



Source: Field survey data, 2019

Figure: 6.3: Medical Expenditure

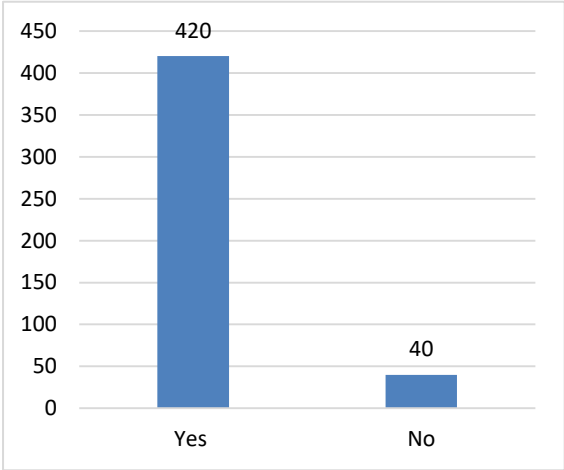


Source: Field survey data, 2019

6.4.3 Timeliness and accuracy of weather forecasting and warnings for extreme events

With advancements in the technology, weather forecasting and warning systems have been installed in the coastal district headquarters. In the village of Palakurichi, appropriate warnings in traditional method of thandora (open warning system in the form of announcements by a person street to street) which is undertaken by the village administrative office who informs well about the events to occur. All the families are taken in advance to the government higher secondary school and all relief measure are provided. Even the livestock are taken to a safe zone.

Figure: 6.4: Timeliness and accuracy of weather forecasting and warnings for extreme events



Source: Field survey data, 2019

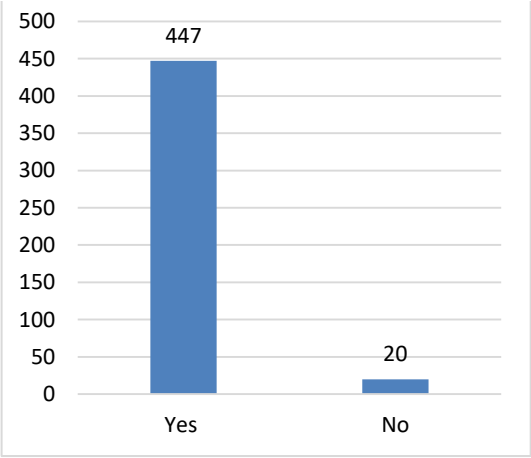
The Indian Meteorological Department (IMD), a nodal agency for forecasting and publicizing warning has tracked the path of Gaja cyclone from time to time with respect to wind speed and intensity of rainfall in districts of Tamil Nadu.

6.4.4 Availability, adequacy and efficacy of relief measures after calamity events

Figure 6.5 explains that during Gaja cyclone 95% of the houses which were fully kutcha got damaged completely and 5% of brick houses were affected. As all the families and livestock were taken in advance to the government higher secondary school as preventive measure, there was no loss of human life and only two goats died due to the cyclone.

As a relief measure the Government of Tamil Nadu provided Rs.10,000 for fully damaged kutcha house, which was availed by almost 438 household of the village. And about 42 households whose brick houses were partially damaged received a relief amount of Rs.5000/- each. Also, Rs.3500/- was given as relief for the households which had lost their goat in cyclone.

Figure 6.5: Efficiency of relief measures after Gaja Cyclone 2018



Apart from the state government, the following national and international entities were present and did their best to respond to the crisis:

- Tamil Nadu State Disaster Management Team
- CARITAS, World Vision

- Indian Red Cross Society, Tamil Nadu
- ACT India Forum members (CASA, UELCI, LWIST) Fisher folk community &Dalits and non Dalits communities

Source: Field survey data, 2019

6.5 Summary of the Chapter:

The Ecology, Vulnerability and Sustainability pertaining to the Palakurichi have been discussed in chapter VI. The basics of the village with that of its flora and fauna viz., birds, mammals, terrestrial birds, reptiles etc., have been summed up alongside the flora of the village.

The climate and waterfall conditions of the village has been detailed wherein it could be seen that the village enjoys humid and tropical climate with hot summers, mild winters, and moderate to heavy rainfall during monsoon.

The village draws its major water resources from the tributaries of the river Cauvery which is channelized in to lakes, ponds and canals. This canal enters the village at its northern end and flows southwards before emptying into the Vellayar River, which flows along the southern boundary of the village.

Being in the coastal region is deprived of fresh ground water as its natural character being saline is not suitable for drinking or for domestic purposes. There are also no official data available regarding the ground water.

The village of Palakurichi has remained unchanged in respect of its geographical area for the last three decades. Despite this, due to the acute shortage of agricultural labour and scarcity of water for proper irrigation there has been decline in the net sown area of the village due to which, the area for non-agricultural use has increased from 44.1 hectare to 110.85 hectare during the period from 2011-2019 has been tabulated and explained in this chapter.

The frequency, pattern, magnitude on the natural and manmade disasters that affect the village of Palakurichi has been studied in the chapter. The village is vulnerable to the natural disasters that occur in the form of cyclonic storm during the monsoon seasons. The recent Gajacylone in the year 2018 had caused a devastating effect on the households of the village and to their livestock's.

The irrigation scenario has changed over the recent years with the effort from the state government along with the people of the village who have taken measures to de-silt the lakes

and ponds that has yielded better results in storage of the excess water flowing through the river in containing the flood like situation.

The study also covers the relief measures undertaken in the aftermath of a disaster happening in the village. The amount of compensation provided to the households. The efforts made by the government in the recent Gaja cyclone has been detailed which indicates apart from government there are many other NGO's and private institutions that render their support and help alongside to benefit the village.

The changes in the ecological pattern of the village in rainfall pattern, drought, flood, heat & cold waves and the perception of the people of the village towards it have also been studied. Being a small village, the effects of climate change is experience by most of the respondents in the form of delay in the onset of monsoon rains and also with the quantum of rainfall.

With no big advent of pollution and urbanization in the village with lesser population, the village has not succumbed to any increase in the spread of diseases. The people affected with major ailments are very less and for all minor issues regarding health care, the villagers resort to the primary health care centres availing in the village.

The readiness of the government machinery in response to vulnerable situations like cyclone have increased with scientific technological advances and the traditional methods of are still being used to inform the villagers regarding warnings and announcements.

Chapter-VII

Policy and Governance

Both the State and the Central government have constantly endeavored to provide the children, women, widows, farmers, senior citizen, disabled and unemployed with many welfare schemes and support so that they not only become independent, but also multiply their family income and contribute to the development process improving the economic outcomes.

Tamil Nadu is one of the leading states in the country in implementing all welfare schemes efficiently. Some significant schemes that are being implemented in Palakurichi village are discussed in detail as below.

7.1. Nature and Coverage of Government Schemes:

The role of both governments plays a vital role in the developmental process. The policies and schemes that are drafted and implemented by the government keeping in mind the welfare and upliftment of the masses are pivotal in bringing up the rural economy. The state government has taken many initiatives to implement schemes that benefit the farmers apart from the schemes that are launched by the central government. Such schemes that have been under implementation in the village of Palakurichi have been enumerated in the Table 7.1 as below:

Table 7.1: Coverage under different government sponsored schemes

S.No.	Name of the scheme	Number of entitled households	No of households/ beneficiaries availed the facility	% coverage	% of beneficiaries satisfied with the scheme
1	BPL Card	422	422	86.48	100
2	KCC Card	48	40	10.00	42.5
3	Public Health Insurance Card	386	296	79.1	93.24
4	MGNAREGA Job Card	316	316	94.94	64.75
5	ICDS/Mid-Day Meal	NA	NA	NA	NA
6	Govt. Housing Scheme (IAY/PMAY)	133	133	27.25	77.44
7	Crop Insurance: PMFBY/Others	123	123	25.20	52.03
8	Life Insurance (Govt sponsored)	35	5	7.17	85.71
9	CG Farm Income Support (PM-KISAN)	182	182	27.46	71.64
10	Old Age Pension Schemes	118	118	24.18	56.78
11	Farm Pension Scheme (PM-KMY)	13	13	2.66	53.85
12	Widow Pension Scheme	43	43	8.81	93.02
13	LPG scheme (PM UJJALA)	298	298	61.06	58.72
14	Organic Farming	2	2	0.41	100

Source: Field Survey, 2019

7.1.1 BPL card

- **Ration cards** are an official document issued by State Governments in India to households that are eligible to purchase subsidized food grain from the Public Distribution System (under the National Food Security Act). They also serve as a common form of identification for many Indians. Above Poverty Line (APL) ration cards are also issued to households living above the poverty line.
- Below Poverty Line (BPL) ration cards that were issued to households living below the poverty line. These households receive 25-35 kilograms of food grain.

As in the case of most villages of Tamil Nadu, in Palakurichi all the households are in possession of ration cards. Of the total 480 households that comprise the village almost 86% totaling to 422 households are having BPL cards and everyone are 100% satisfied with the public distribution system (PDS).

7.1.2 Kisan Credit Card scheme: KCC scheme seeks to relieve the farmers from the clutches of the very high interest rates charged by the private sector money lenders in the unorganized lending segment in India.

The interest rate that farmers pay under these schemes is as low as 2%, and repayment schedule is in line with the harvesting and marketing season of the different crops. These two aspects make this scheme very attractive to the cultivators in India. However, as per the data source collected from the field survey, it is observed that only 40 household in the Palakurichi village has availed the scheme though 48 household are eligible for availing the scheme. Also, among the beneficiaries, most of whom are marginal farmers and they have expressed their satisfaction over the scheme.

7.1.3 Public Health Insurance Card of Tamil Nadu

This is an Insurance Scheme launched by the Tamil Nadu State Government through the United India Insurance Company Ltd (a Public Sector Insurer headquartered at Chennai) to provide free medical and surgical treatment in Government and Private hospitals to the members of any family whose annual family income is less than Rs.72,000/- (as certified by the Village Administrative Officers). The Scheme provides coverage for meeting all expenses relating to hospitalization of beneficiary as defined in the Scope of the Scheme.

With health being the primary requirement, this scheme has been well received among the people of Palakurichi. Of the total household of 480, almost 386 families hold the public health card. As many as 296 household have benefitted with the help of this card in

times of exigencies. However, the reasons for other household for not using the card can be attributed to the nature of disease which is not covered under the insurance scheme or otherwise. Few household who were able to afford the cost of hospitalization have also not availed the benefits of the card due to which the overall satisfaction of this scheme is 93%.

7.1.4 Mahatma Gandhi National Rural Employment Guarantee Act

National Rural Employment Guarantee Act 2005 (later renamed as the "Mahatma Gandhi National Rural Employment Guarantee Act", **MGNREGA**), is an Indian labour law and social security measure that aims to guarantee the 'right to work'. The mandate of the **MGNREGA** is to provide at least 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work.

As MNREGA is the grandest scheme that is most widely implemented, the Palakurichi village has not lagged behind with 316 households have themselves registered under this scheme. As MNREGA provides additional income support, all the households have benefitted from the scheme and the satisfaction level is also to the extent of 65%.

7.1.5 Mid-Day Meal/ Integrated Child Development Services (ICDS)

The Mid-day Meal Scheme is a school meal programme of the Government of India designed to better the nutritional standing of school-age children nationwide.

Tamil Nadu is a pioneer in introducing mid-day meal programmes in India to increase the number of kids coming to school. It was introduced by Thiru. K. Kamaraj, then Chief Minister of Tamil Nadu, first in Chennai during the 1962–63 school years and later extended to all districts of Tamil Nadu. The scheme was later upgraded as a 'Nutritious food scheme' during 1982 keeping in the mind that 68 lakh children suffer from malnutrition. The programme supplies free lunches on working days for children in primary and upper primary classes in government, government aided local body, Education Guarantee Scheme, and alternate innovative education centres. Presently, the scheme is well implemented in the village of Palakurichi where there are two public schools i.e., one Panchayat School and a Higher Secondary School besides an Anganwadi school.

7.1.6 Government Housing Scheme (Indira Awas Yojana (IAY) / Pradhan Mantri Awas Yojana (PMAY))

This scheme was launched as a rural housing programme targeting SC/ST and Minority population. The programme was gradually extended to cover all Below Poverty Line (BPL) population. The eligibility factor of having a Patta land to avail the scheme has

been reason for only 133 households availing the benefit of the scheme in the Palakurichi village. Apart from this, the recent Gaja Cyclone has totally devasted the kutcha houses of the people. The Government has taken steps for formalising the Patta for lands held by the villagers which is expected to be successfully completed after which this scheme will be of immense help in providing housing to most of the people.

7.1.7 Pradhan Mantri Fasal BimaYojana - Crop Insurance

Pradhan Mantri Fasal BimaYojna (PMFBY) was introduced replacing all the existing yield insurance schemes in India. The scheme has extended coverage under localized risks, post-harvest losses etc. and aims at adoption of technology for yield estimation. Through increased farmer awareness and low farmer premium rates the scheme aims at increasing the crop insurance penetration in India.

Pradhan Mantri Fasal BimaYojana (PMFBY) aims at supporting sustainable production in agriculture sector by way of providing financial support to farmers suffering crop loss/damage arising out of unforeseen events

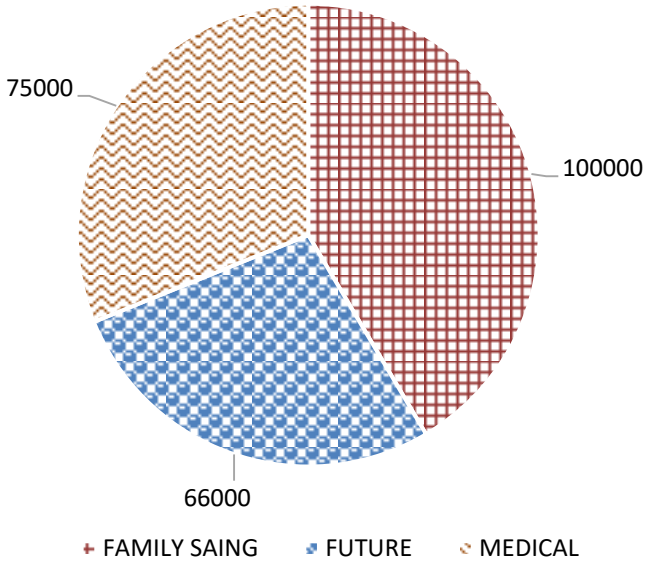
1. Stabilizing the income of farmers to ensure their continuance in farming
2. Encouraging farmers to adopt innovative and modern agricultural practices
3. Ensuring flow of credit to the agriculture sector; this will contribute to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.

Though there is much benefit from the PMFBY scheme as stated above, the entitled and benefitted farmer's household accounts to only 133 in the village of Palakurichi that amounts of 25% coverage of the entire population. This is for the reason that, many of the farmers are unaware of the benefits and their needs much promotion to the scheme by creating awareness among the people. The satisfaction level is only 52% as expressed by the respondents which are due to the fact that being an insurance scheme; the benefits can be availed only in the event of loss attributing to the parameters of the scheme which the beneficiaries are unaware of.

7.1.8. Life Insurance Schemes (Government sponsored)

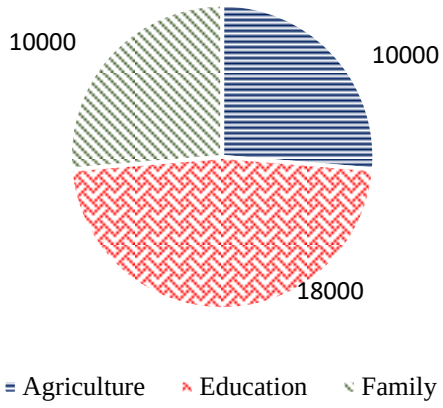
With majority of the population of Palakurichi village are under the Below Poverty Line, the concept of external savings or through the government schemes like that of LIC are uphill tasks for the villagers. The entire savings with LIC accounts to only 1.87% of the entire population as depicted in the Figure 7.1

Figure 7.1: Savings in LIC



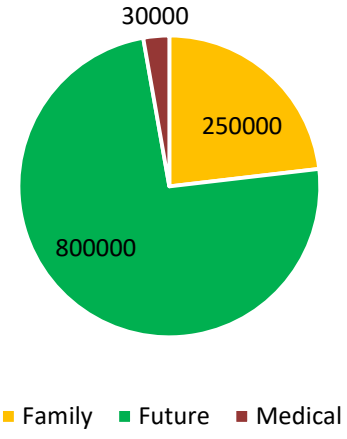
Source: Field Survey data 2019

Figure 7.2: Savings in Post Office



Source: Field Survey data 2019

Figure 7.3: Saving in Bank



Source: Field Survey data 2019

Similarly, very few households have knowledge regarding the PPO schemes through the post offices and as low as 2.1% of the entire population having savings with Post office

Even with the massive outreach program of opening Jan Dhan accounts for the benefit of BPL families, agriculturists and women, the savings with banks accounts for only 2.8% of the entire population

7.1.9 Central Government (CG) Farm Income Support (PM-KISAN)

PM Kisan is a Central Sector scheme with 100% funding from Government of India. Under the scheme an income support of 6,000/- per year in three equal installments is provided to small and **marginal farmer** families having combined land holding/ownership of upto 2 hectares. This recently introduced scheme has 182 Beneficiaries in the village of Palakurichi.

7.1.10 Old Age Pension Schemes

Old aged persons who are 65 years and above, belonging to households below the poverty line and 60 years and above for Persons affected by leprosy, blindness, insanity, paralysis and loss of limb. Rs. 400 per month. Since, the scheme covers people beyond the pensioner age, presently the beneficiaries are 118 currently in Palakurichi and over 56% of them are satisfactory with this support scheme.

Apart from the above**,** there are beneficiaries in the village who are benefitting out of the following schemes:

- Indira Gandhi National Old Age Pension Scheme
- Indira Gandhi National Widow Pension Scheme
- Indira Gandhi National Disability Pension Scheme (IGNDPS)
- Destitute Widow Pension Scheme - Pension will be given to all the widows applying for without age limit subject to eligibility. Rs.400/- per month

The concern with regard to all the above schemes from the respondents at larges is the lesser amount disbursed through this scheme and

7.1.11 Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY)

Under this recent scheme, a monthly pension of Rs. 3,000 will be provided to small and marginal farmers in the age group of 18-40 years on attaining the age of 60. Similar to the PM-Kisan scheme, this is also recently introduced scheme and the hence as per the field survey there are 13 entitled households who have availed benefit from this scheme and expressed a satisfaction to the tune of 65%

7.1.12 LPG scheme (PM UJJALA):

The Government has launched “Pradhan Mantri Ujjwala Yojana”(PMUY) for providing LPG connections to 5 crore women belonging to the Below Poverty Line (BPL) families over a period of 3 years starting from FY 2016-17. Objective of the scheme is to provide clean cooking fuel solution to poor households especially in rural areas. Use of fossil fuels and conventional fuel like cow dung, kerosene, biomass, etc. has serious implications on the health of rural womenfolk and children. Use of LPG as a cooking fuel helps in

effectively addressing health hazards associated with the use of conventional sources of cooking fuels. The Salient features of the PMUY Scheme are as under:-

1. LPG connection is released in the name of adult woman of the BPL family, subject to the condition that no LPG connection exists in the name of any family member of the household.
2. Eligible families are identified through the Socio Economic Caste Census (SECC) list.
3. The scheme covers the cash assistance upto Rs. 1600/- for providing new LPG connection and this cash assistance is provided by the Central Government.
4. The customer bears the cost of Hot Plate and purchase of first refill. The customers have option to take Hot Plate on purchase of first refill or both on loan basis from OMCs at zero interest and the same is recovered through EMIs.

This scheme that was hugely successful across the country has been tremendously successful in the village of Palakurichi with 298 households having availed the benefit of the scheme. The respondents have given a 60% satisfactory level for this scheme.

Apart from all the above schemes mentioned above, the other successful scheme that are being successfully implemented in the village of Palakurichi benefitting maximum sections the people are highlighted below:

7.1.13 The Moovalur Ramamirtham Ammaiyar, Memorial Marriage Assistance Scheme

To help financially poor parents in getting her daughter's married and to promote the educational status of poor girls. The Moovalur Ramamirtham Ammaiyar, Memorial Marriage Assistance Scheme is being implemented by the Tamil Nadu Government to improve the educational status of the poor girls. The assistance is given to girls who have completed 10th standard, +2, Diploma or Degree.

SCHEME – I

Cheque of Rs.25,000/- and gold coin of 8 grams. The bride should have Completed 10th Std, at the time of marriage. If the Bride belongs to ST, She should have completed Vth Std. Parent's income should not exceed Rs.72,000/- per annum. The bride should have completed 18 years and bridegroom should have completed 21 years at the time of marriage. Only one girl from a family is eligible.

SCHEME – II

Objectives of the Schemes to help financially poor parents in getting their daughter's married and to promote the educational Degree / Diploma, status of poor girls. Assistance

Provided and eligibility Cheque of Rs.50,000/- and gold coin of 8 grams. The bride should have passed Degree / Diploma, at the time of marriage.

- E.V.R. Maniyammaiyar, Memorial Widow Daughter's Marriage Assistance Scheme
- Dr. Dharmamal Ammaiyar Ninaivu Widow Remarriage Assistance Scheme
- Annai Teresa Ninaivu Orphan Girls Marriage Assistance Scheme
- Dr. Mutulakshmi Reddy Memorial Inter Caste Marriage Assistance Scheme

7.1.14 Scheme for the safeguard of Female Gild Children

An amount of Rs. 50,000 is deposited in the name of the girl child in the form of fixed deposit with the Tamil Nadu Power Finance and Infrastructure Development Corporation Limited, for a family with one girl child only. The copy of the fixed deposit receipt is given to the family of the girl child.

An amount of Rs. 25,000 is deposited in the names of two girl children born in the form of fixed deposit with Tamil Nadu Power Finance and Infrastructure Development Corporation Limited, for a family with two girl children only. The copy of the fixed deposit receipt is given to the family of the girl children.

7.1.15UzhavarPathukappuThittam (Farmer's safety Scheme)

Palakurichi being an agriculture based village this Uzhavan Uyarvu Thittam a farmer supportive scheme of state government is very important and most helpful scheme in which all the farmer population of the village are enrolled and the availing all the benefits of the scheme. The benefits of the scheme are as follows:

The Tamil Nadu Government have implemented the Tamil Nadu Chief Minister's Farmers Security Scheme and is providing assistance to the land less agricultural labourers farmers and cultivating tenants. This scheme provides the distribution of cash assistance to the registered members of the scheme under various welfare program. There is no fee for registering as Member.

All the cultivating tenants both registered and unregistered in the age group of 18 to 65 years who carry (or) personal cultivation in land not exceeding 2.50 acre of wet or 5 acres of dry. The following relations of the registered members, who do not derive any income, are considered as dependents. 1. Wife or Husband 2.Children 3.Children and wife of the deceased son 4.Parents.

The details of various assistances provided for the farmer in this scheme are:

1. Education
2. Marriage of Members

3. Marriage of Members' Children
4. Natural Death and Funeral Expenses
5. Accidental Death and Funeral Expenses
6. Temporary Incapacitation Pension
7. Orphan Pension

7.2 Participation in Local Governance:

The participation and implementation through the Grama Sabha is integral for the development of village as stated above. However, in Palakurichi, the grama sabhas are not so active as seen from the observations in the Table 7.2.

Few respondents belonging to the scheduled caste and OBC category are active participants in the grama sabha meetings which are to the tune of 31% and 16%. It may be further observed that even amongst the scheduled caste category, there are no participants APL categories whereas there is 4 % of participation from the OBC category for the same.

Table 7.2: Participation in Gram Sabha/Gram Sansad meeting by caste and Economic status

(% of respondents participated in such meetings)

Particulars	Economic Categories			
	APL	MAPL	BPL	Overall
General Caste/Caste Hindu	0.00	0.00	0.00	0.00
OBC	4.36	0.00	11.25	15.61
Scheduled Caste	0.00	0.00	30.75	30.75
Scheduled Tribe	0.00	0.00	0.00	0.00
Minorities	0.00	0.00	0.00	0.00
All Categories	4.36	0.00	42.00	46.36

Source: Field Survey, 2019

Over all about only 46% of respondents participate in the grama sabha meetings which are well below the standards. Also, for these participants it has also become habitual to attend such meetings.

The few reasons for less participation have been studied which are stated below:

1. Most of the people do not attend the meetings.
2. The people have lost the trust over the proceedings of the meetings and the implementation thereon upon the subjects discussed.
3. The large number of requests regarding the improvement of the basic infrastructure of the village remains pending for over years.
4. Time constraint to the villagers.

5. There is no proper awareness regarding the scheduling and communication regarding the conducting of grama sabha to the people of the village.
6. The lack of interest amongst the villagers in knowing the happenings of the grama sabha.
7. Most of the issues that are of domestic nature concerning the villagers are sorted out at the VAO level and hence the need to go to the grama sabha does not arise.

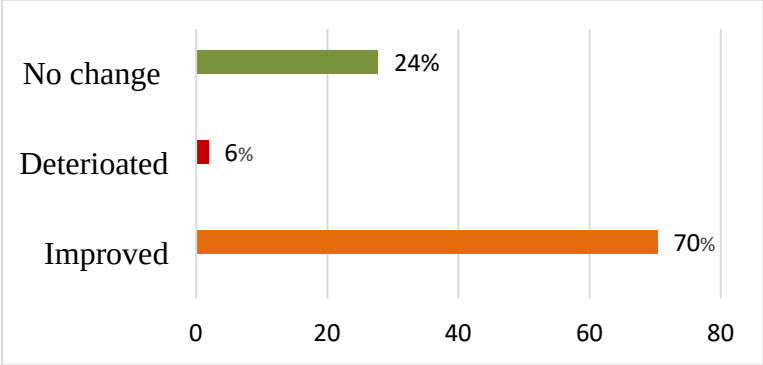
7.3 Opinion and Attitudes towards Rural Change

People of Palakurichi have various attitudes towards the changes in the village that has happened in the past decade. Some of them are discussed here:

7.3.1 Perception about major socio-economic problem of the village

Though improved in economic condition of the people of Palakurichi was witnessed in the study, people of the village have different opinion about the major socio-economic problem of the village which was represented in the Figure 7.4.

Figure 7.4: Economic Condition of the Villagers during the last 5 years



Source: Field Survey data, 2019

About 70% of the household have told that the economic condition of the village has improved during the last 5 years and 24% have reported that there is no change in the economic condition as they find no improvement in their standard of living. Only 6% of the household feels that the economic status has deteriorated more than before.

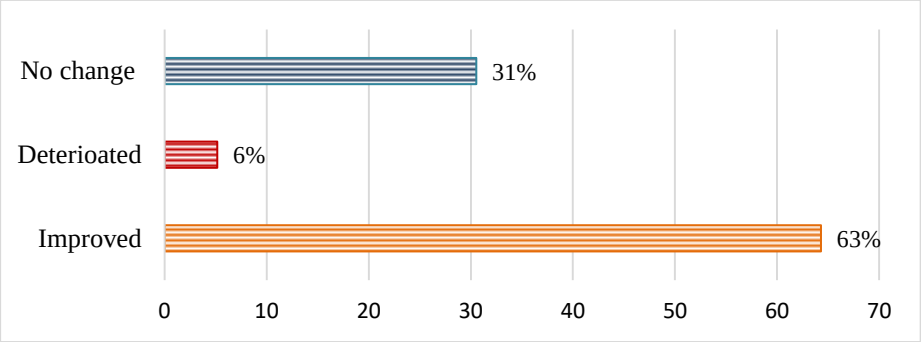
7.3.2 Perception about Village Infrastructure during last 5 years

Palakurichi village has all basic infrastructures like school, hospital, bank, temple, library, post office etc. But people of Palakurichi don't have two main infrastructures for the smooth functioning of their routine that is drinking water facility and good roads. The people

opinion of the people about the status of Village infrastructure during the last 5 years is given in figure 7.5.

Majority of the people have told that there are many infrastructure changes have occurred in the last five years. But 31% of the village populations have responded that there is no change in the infrastructure of the village.

Figure 7.5: Status of Village infrastructure during the last 5 years



Source: Field Survey data, 2019

Only less than 10% of the people have told that the village infrastructure has deteriorated very much as they are suffering from poor drinking water and transport facilities.

7.3.3 Perception about Agricultural change during last 5 years

There are many vital changes that have occurred in the agriculture situation of the Palakurichi village, which has changed many agricultural labours into cultivators and 81% of the respondent have agreed to this. There are 16% households who feel that there are no such changes to have happened in the village as they are doing cultivation for more than two or three decades and their standard of living remains the same. Around a margin 3% of the respondents have reported that the agriculture situation has deteriorated as they don't get good returns for their produce.

7.3.4 Suggestions for overall development of the village

Though Palakurichi has faced so many changes in social, economic and agrarian system in the last ten decade, it lack with many basic livelihood support, some of them as suggested by the responded are as follows.

1. As only 4 streets out of 8 have connected with the pipelines for drinking water, the people of the remaining 4 streets are struggling to fetch a pot of drinking water as all of them have a only one tap at common point

2. The entire village have damaged road throughout for more than five years, which is becoming very problematic when they travel for some emergencies, the entire population of the village is requesting for the good concrete road
3. The Palakurichi village is not surrounded by factories or company so they don't have good job opportunities around them
4. The village people are in want of college nearer to them
5. Increased frequency of transport facilities etc.

7.4 Summary of the Chapter

This chapter has highlighted on the policy and governance relating to the village of Palakurichi. The indicator of success for any welfare measure schemes can be seen from the level of outreach of such measures among the beneficiaries. The study states that there has number of schemes that were launched by both the central and the state governments have been under implementation and also have benefitted the people of Palakurichi.

The various such schemes that are under operation in the Palakurichi village is summarized as below:

- BPL Card
- KCC Card
- Public Health Insurance Card
- MGNAREGA Job Card
- ICDS/Mid-Day Meal
- Govt. Housing Scheme (IAY/PMAY)
- Crop Insurance: PMFBY/Others
- Life Insurance (Government sponsored)
- CG Farm Income Support
- (PM-KISAN)
- Old Age Pension Schemes
- Farm Pension Scheme (PM-KMY)
- Widow Pension Scheme
- LPG scheme (PM UJJALA)
- Organic Farming

Among the schemes listed above, most of them are sponsored by the central government and are benefitting the villagers immensely. The most covered scheme among them is the MNREGA which covers as much as 95% of the population in the village of Palakurichi. The public health insurance card scheme is the second best scheme that has the

highest satisfaction level of 93% among the population of the village which covers almost 79% of the population.

The government sponsored life insurance schemes are the ones with less coverage in proportion to the total population of Palakurichi village but are having very high satisfactory level with 86%. Similarly, it could be seen from the study that widow pension scheme has 93% satisfactory level from the respondent's despites only 8% coverage could be seen.

The UJJWALA scheme under which every household have been empowered with LPG gas connection and has been hugely successful across the country has been implemented in Palakurichi village and has 60% of the population coverage.

The study reveals that schemes like old age pension, farm pension and farm income support requires wider coverage as the satisfaction level among the villagers of Palakurichi is more.

Besides the schemes of central government, the study also highlights the state government schemes like Moovalur Ramamirtham Ammaiyar, Memorial Marriage Assistance Scheme which provides assistance for marriage of female girls. Similarly, the Uzhavar Padhukappu Thittam (Farmers security scheme) is discussed in details which is a comprehensive scheme providing protection and coverage to the farmers under many spheres viz.,

1. Education
2. Marriage of Members
3. Marriage of Members' Children
4. Natural Death and Funeral Expenses
5. Accidental Death and Funeral Expenses
6. Temporary Incapacitation Pension
7. Orphan Pension

The study states that in line with the Beti Bacho scheme, there is a scheme for safeguard of female children under which an amount of Rs. 50,000/- in case of single child and Rs.25,000/- for families having two child is deposited in the name of the girl child in the form of fixed deposit with the Tamil Nadu Power Finance and Infrastructure Development Corporation Limited, for a family with one girl child only. The copy of the fixed deposit receipt is given to the family of the girl child. It is significant here to mention that, Tamil Nadu has time long been taking efforts for welfare of girl children prior to many central government schemes and the Palakurichi village has been implementing such schemes in a more productive way benefitting the villagers.

The chapter discusses regarding the participation of people in the local governance of the village and it is seen that as only two communities are prevalent in Palakurichi, the SC community have more representation in the functioning of village through grama sabhas and panchayats. Further, the study also analyses the cause and effects for less level of participation from among the prevailing communities.

The study finally showcases the perception of the villagers of Palakurichi with regard to the changes in line with the socio-economic; agriculture; and village infrastructure of the village. The tables presented in the study shows that majority of the population feels to have increase in their economic status though not in a much higher way and the village infrastructure needs a massive uplift which has also been the demands of the villagers for a long time expressed in several studies undertaken on this village of Palakurichi. As a result of many welfare measure schemes undertaken in the Palakurichi village, the agricultural change has taken place that has been mentioned in this study which shows increase in the number of cultivators who were once marginal labourers.

This chapter concludes with the suggestion compiling the genuine needs and wants of the people of Palakurichi village.

Chapter-VIII

Summary and Policy Recommendations

8.1 Summary and Conclusions

The resurvey of the Palakurichi village of Nagapattinam district of Tamil Nadu is conducted after a period of three decades. The last resurvey of Palakurichi village was carried out by Dr. S. Guhan during the year 1983 and thereafter during 2004 a study in the similar pattern of resurvey was done by Dr.V.Surjit as a part of his Ph.D research work. The first survey of Palakurichi village was conducted during 1917 by the renowned economist Dr. Gilbert Slater who was the first Professor and Head of the Department of Economics at the University of Madras under which this Centre is presently functioning. Of the 12 Slater Villages from the then Madras presidency five were from Tamil Nadu; of these five villages Palakurichi is the only village continue to be rural and agriculture is the only occupation, whereas, all other four villages viz. Eruvellipet, Vadamalaipuram, Gangaikondan and Dusi have substantially urbanized and developed by transforming from agriculture to non-agriculture based employment. It is against this backdrop that, it is of great significance to conduct a resurvey of Palakurichi after a century as our country has evolved through many structural and functional changes on ground that have brought many phenomenal changes. Such changes have not been taken place in the Palakurichi village as witnessed from this resurvey.

8.2 Objective and Methodology

The main objective of this resurvey is to study the structural changes in the social and economic arena of the village, changes in the dynamics of agricultural production, natural resource use, land use pattern, demography, and public institutions during the past three decades.

Palakurichi being a small village, with only 490 households the Census method was adopted for the collection of necessary primary data on prescribed schedules. Out the total 490 households only 477 households were able to be met, as the remaining 13 house hold stayed out of town for many reasons during the survey. Hence, for this reason the sample size of the study will be confined with 477 households.

The study is based on both Primary and Secondary data. The primary household data was collected though the well-structured questionnaire issued by the coordinating Centre (AERC, Shantiniketan).

The secondary data for the study was obtained from the Village Administrative Officer of Palakurichi Village and the 2011 Census data published by Census of India has also been used in this village. The existing village level institutions like Schools, Health Care Centre and Public Distribution Store, Bank, were also enumerated in detail.

The village level functionaries, like, Ward Members, Panchayat Secretary and Thalaiyari were also consulted to know the functions of the village system. Apart from this, information collected through group discussions held with senior citizen of the village to know past history and trend of changes in the village over the decade.

Household survey was carried out using structured survey schedule issued by the coordinating center (AERC, Shanthiniketan) in addition to the data available from the published articles and reports related to this study during different time period by different authors.

8.2 Major Findings

The study had an overview on the entire Palakurichi village covering various aspects right from the geographic and demographic profile, livelihood, employment and migration status of the people of the village vis a vis the agriculture status comprising of the land, irrigation and crop patterns etc.,. The developmental institutions and type of its infrastructure as that of the prevailing village infrastructure and the cultural profile has been highlighted. The social dynamics besides the economic system of the Palakurichi village and the changes therein has been compared in line with the previously conducted studies. The Ecology, Vulnerability and sustainability of the village against any unforeseen happenings and the perception of the various groups present in the village has been obtained during the field surveys. The main findings and observations made out of the village survey have been summarized below:

1. The village has a basic infrastructure of one anganwadi, primary, higher secondary school, primary health care centre , veterinary hospital, library, Primary Agriculture society, bank, PDS, post office, Village administrative office etc., However, it is observed from the study that all of these are under bad condition and with poor maintenance requiring attention at the earliest.
2. During the survey period of 2019, the total population of Palakurichi village is1405 with 51% of male and 49% female. There has been steady rise and fall in the population with the year 2001 having the highest population of 1649. The opportunities with the implementation of government scheme IADP in the 1960’s led to migration of people

owing to the opportunities in other regions of Cauvery delta which has led to reduction in the population.

3. It has also been observed there has been increased number of population with 1647 during 2004 that comprised of 427 households whereas during the current study the number of households has increased to 490 with decrease in population numbering 1405.
4. There are two major communities viz., SC and OBC which constitutes the total population of Palakurichi village and it could be observed that during all the stages of study it has remained the same. However, with the increased migration in the OBC community and transformation of land holdings owing to the social schemes the SC community has become the dominant portion in all areas.
5. It is found the there is a significant decrease in the percentage of illiterates in the Palakurichi village which is due to the improved educational infrastructure in the village during the last ten years. As much as 27% of the total population are having educational qualification up to senior secondary level and this has led to the literacy rate of the village being high. However, 64% of its female population are illiterate compared to the 36% male population.
6. The 77% of the households fall under below poverty line category and 18% of household has APL card in the Palakurichi village.
7. There have been 48 births as against the total number of death which was only 46 with a very meagre difference and it could be concluded that the population of the Palakurichi Village has remained stable during the last five years.
8. Almost 73% of the male children and 78% of the female children from the SC community enrol to the government schools and only 27% of male and 22% of female children among them opt for private schools wherein the medium of education is English. The children enrolment to government schools from OBC Community stands at 38% of male and 42% of female children which is very less in comparison to that of SC community. However it is very significant to observe that there has been no dropout either from that of private or government schools.
9. Almost 81% of the respondents never eat packed foods like ice-cream, cool drinks etc. only some 19% of respondents have mentioned that they prefer using /eating packed food like sweets, ice-cream and cool drinks during family gatherings/function etc.
10. Since, most of the population are engaged in the agricultural labour, there have been no issues with regard to food security in the Palakurichi village. It could be seen from the

study that, only 2% of the total population have reported to be starving for food too often and rest of all have stated to be satisfied with what they eat and they don't have a big opinion about food as they are busy with their own work.

11. The Palakurichi village comprises majorly of only two categories with SC and OBC. With the rise in the level of education, standard of life etc., there has been considerable shift in the caste rigidness. The SC community of the village which once were even denied basic rights and education are now large land holders, acquired educational qualifications and are leading better quality of life. Also they are part of the Grama Sabha/Panchayats that are the primary decision making bodies in the village of Palakurichi.
12. The Palakurichi has been an exceptional village with no gender bias prevalent which is evident from the fact that there is no mention about it in any of the studies undertaken priorly. However, with time the women empowerment is very much visible and as per the study, it could be inferred that the schemes like LAFTI and recent Self Help Group systems has proved significantly for the improvement and empowerment of women folks in the village.
13. Of the total 477 household in the Palakurichi village, there are 219 cultivators. Among 219 cultivators constituting 46% of the overall population, the SC community has a dominant representation with 141 households and 78 from OBC category and rest of others from these communities have engaged as agricultural labourers. Together, these groups ie., cultivators and agricultural labourers forms 81% of the total population household.
14. The population of Palakurichi village who have engaged in various other livelihood activities like employment like government sector, private works, households, marginal labours, casual labours are very limited in numbers. It is surprising to note that, during the field survey, none of the household from either of the major community comprises an entrepreneur or who are practicing their caste based profession
15. The Palakurichi village having faced a severe draught situation during 2004 that led to lack of employment in agriculture in the village and out migration of several workers resulted in decline of agricultural labourers. The total agricultural labourer had an abnormal decline with 62% from 2004-2011 to 68% during the period 2011 – 2019. As many of the labourers have also become cultivators, it attributed as a reason for decline in the availability of number of agricultural labourers.

16. The Palakurichi village was once dominated by the people belonging to the community of OBC (*Naidu)*. They were in natural possession of most of the lands in the village and also they used to lease their lands very rarely. They used to engage labour directly in their fields and were doing the harvest. However, owing to the migration issues, the population has of this community has been on the decline.
17. The **"Land for Tillers Freedom"** (LAFTI) was one of the pioneer land reform measures that happened in the history of Palakurichi village. This LAFTI scheme is exclusive for SC women on whose name the land transfer to the extent of one (1) acre is made and it was a major reason for change in the increase in the number of women agricultural cultivators under SC category and so far and in Palakurichi village around 130 SC household have benefitted under this scheme.
18. The land reform measures LAFTI was the significant reason behind decrease in the percentage of landless household in the Palakurichi Village which was very high to the extent of 80% during 2004 to 59% during 2019 and also doubling of the total number of households having operational holdings from 12%during 2004 to 25% during 2019.
19. There has been no much improvement in the Net Sown Area for the period from 2011-2019 whereas the area for non-agricultural use has increased from 44.1 hectare to 110.85 during the same period. The decline in the net sown area from 431.62 to 390.80 hectares was mainly attributed to major problems faced that of acute labour shortage and severe water crisis.
20. It could be seen from the studies undertaken on the Palakurichi village at different time periods, only one crop of rice was cultivated till 1960 where there was introduction of IADP scheme and multiple cropping systems was started to be practiced by the cultivators. This was also made possible mainly by the introduction of short duration varieties of rice which were suited to a limited amount of water available.
21. Palakurichi shifted from multiple crops to growing a single crop of rice as the Cauvery river water crisis intensified, due to the non-availability of irrigation water from the Cauvery irrigation system. The double crop system once again evolved during 2006-07 as some cultivators raised two short duration crops of rice (*kuruvai* followed by *thaladi*) with release of water at the proper time from Mettur dam. During the present field survey in 2019, the initial single crop system is being practiced.
22. The major source of irrigation to Palakurichi village is the tributaries from the River Cauvery. These are named "Kudhirai Sevaganaar" and "Pudhu Vaigai" and accounts for irrigating over 800 acres of landscape. The southern tip of the PudhuVaigai tributary

is providing irrigation to over 150 acres of the land in the Palakurichi village. These tributaries are major sources of irrigation that ply over the surface and in the recent times, the scarcity in the availability of water in these ponds has led to usage of motor engines to be used in large scale for tapping the water source to the fields. This has resulted in the dwindling of movement of water from one field to the other. It has reached such a situation where availability of water of irrigation from these ponds is impossible without use of motors.

23. During the current survey it could be observed that the total yield of paddy crop per hectare is to the extent of 1.84 tonnes per hectare. The major reasons for the increase in comparison with previous years was due to the proper management system in the irrigation apart from the land distribution scheme without which such yield could not have been achieved given the scarcity of water and decline of soil fertility prevalent in the Palakurichi village.

24. There are 183 milch cows which are used only for dairy purpose and form a second source of income for the families. Also, there are 1242 sheeps found among the households of Palakurichi village which also forms a part of their source of income in the form of sales for meat.

25. The SC category has substantial improvement in the use of farm equipment in assisting their agricultural activity with the major reason for it being the increase in the land holding among this category of people in the Palakurichi village. With none of the SC category people holding a tractor during 2004, presently 6 households own it. Likewise, even in the case of diesel pumps and sprayers there is huge increase from just a single household in 2004 to 47 and 23 respectively during 2019.

26. It could be seen from the previous studies that the villagers had no or less idea about the usage of fertilizers and pesticides till the 1960s. However, with time there has been considerable awareness among the cultivators and it could be seen during present study that, Di-ammonium phosphate, Potash and Urea are the three major fertilizers being widely used in the process of cultivation by the villagers in Palakurichi. An average of 132 KGs of Di-ammonium phosphate per hectare during 2004 has considerably increased to 185/kg/hectare in 2019. Contrarily, the usage of potash and urea has marginally decreased when compared with the 2004 study period. Super Phosphate is being used only by such cultivators whose soil lacks potash and hence there is no change in usage as per the table above. It is reported that Gypsum is used only by few cultivators in anticipation of a higher produce than normal. The usage of gypsum by the

farmers has also increased despite its price increase as could be seen from the table. Neem cake is widely used by most of the cultivators.

27. The procurement channels through which the produces i.e., paddy rice crops and milk are sold with the prices received is provided in the study. It is stated that the Tamil Nadu Civil Supplies Corporation [TNCSC] and Milk societies are the major procurers of the produce of the village. Of the total paddy rice crop produced, 82% is sold to the Tamil Nadu Civil Supplies Corporation [TNCSC] and an average amount of Rs.1892 per quintal is obtained. After the in-house consumption 95% of the produce is sold to the societies and the average price received per litre amounts to Rs.28/-.
28. The availability of assets like vehicle, cars, bi-cycle, sewing machines, jewellery etc., with the households of Palakurichi village has been explained. The pattern of income, expenditure and the savings of the households have been detailed. The distribution pattern of income between the communities as received by them from farm, non-farm and other category has also been provided. The nature of savings made with government banks, LIC and others, details of purposes for which borrowings are made and the lenders of such borrowings and the have also listed.
29. The perception of people of various groups in the Palakurichi village about the economic changes in the village for which majority of the respondents at large from the all the communities of the village have expressed to have seen overall improvement.
30. Being in the coastal region is deprived of fresh ground water as its natural character being saline is not suitable for drinking or for domestic purposes. There are also no official data available regarding the ground water.
31. The Palakurichi village being situated close to the coastal line, it is vulnerable to the natural disaster that occurs in the form of cyclonic storm during the monsoon seasons. The recent Gaja cylone in the year 2018 had caused a devastating effect on the households of the village and to their livestock's.
32. The readiness of the government machinery in response to vulnerable situations like cyclone have increased with scientific technological advances and the traditional methods of are still being used to inform the villagers regarding warnings and announcements. This was evident with the immediate advance measures taken during the Gaja cyclone with which huge loss was averted.
33. The majority of the welfare schemes launched by the Government of India are being implemented in the Palakurichi village. The most covered scheme among them is the MNREGA which covers as much as 95% of the population in the village of Palakurichi.

The UJJWALA scheme under which every household have been empowered with LPG gas connection and has been hugely successful across the country has been implemented in Palakurichi village and has 60% of the population coverage.

34. Besides the schemes of central government, the study also highlights the state government schemes like Moovalur Ramamirtham Ammaiyar, Memorial Marriage Assistance Scheme which provides assistance for marriage of female girls. Similarly, the Uzhavar Padhukappu Thittam (Farmers security scheme) is a comprehensive scheme providing protection and coverage to the farmers under many spheres.
35. The perception of the villagers of Palakurichi with regard to the changes in line with the socio-economic; agriculture; and village infrastructure of the village, majority of the population feels to have increase in their economic status though not in a much higher way and the village infrastructure like good roads, drinking water, college, employment opportunities, upgraded hospital facilities etc., needs a massive uplift which has also been the demands of the villagers for a long time expressed in several studies undertaken on this village of Palakurichi.

8.2 Policy Recommendations

- ✓ The saline nature of the ground water in the Palakurichi village due to is location in the coastal belt, is of no use for drinking or for agriculture. The use of saline water for agricultural purposes destructs the characteristics of the soil and its life. Hence, with drinking water being major and primary need for sustenance of life, provisioning of an small sized desalination or R.O plant for converting the saline water to drinking water will meet the long pending request and demand of the people of Palakurichi village.

- ✓ The awareness about the Soil Health Card (SHC) scheme is very less among the cultivators of the Palakurichi village. This scheme which aims to provide crop-wise recommendations of nutrients and fertilizers required for the individual farms to help improve productivity will be of immense help to the cultivators who have been used to practice single rice crop for over a century owing to scarcity of irrigation water.

- ✓ The buildings of the Government High School situated in the Palakurichi village is under poor condition and existing toilet has depleted requiring immediate action for reconstruction and the overall hygiene of the sanitisation.

- ✓ The existing roads connecting Palakurichi village with the town or nearby districts is in a very poor condition for which the schemes like PradhanMantri Gram SadakYojana (PMGSY) can be effectively used.

- ✓ Due to non-availability of proper transportation facilities, there is a need for setting up a Skill Development Centre which would facilitate providing training programs to the villagers with opportunities for entrepreneurial trainings, for rural occupation related skills.

- ✓ It is the prevailing practice that the entire procurement of the produced harvest is made at one point of time wherein all the farmers sell of their produce in the fear of getting no demand for their produce and also due to non-availability of proper storing spaces in the village. Resolving this issue would help farmers to retain the excess produce and to sell for a better price at a later date.

- ✓ There is no awareness on the latest developments in the agricultural field among the farmers due to which they are practicing in the primitive time tested methods. An effort to establish Agricultural Training Centres [ATC] through the State Agricultural University at all the Government Colleges situated at the district headquarters especially in the Cauvery delta regions (Palakurichi village) which would enable hands-on knowledge on the recent advancements in the system of agriculture. This would also promote and provide opportunity to those who are interested in taking up agriculture especially the younger generation.

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