# CIVIL SERVICE PENSION SYSTEM AND EXPENDITURE IN KERALA

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*for the Award of the Degree of*

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*Under the Faculty of Social Sciences*

*By*

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# Certificate

This is to certify that the thesis entitled "**Civil Service Pension System and Expenditure in Kerala**" is a bona fide research work done by **Mr. Ansar M. S.**, Research Scholar for the Award of the Degree of Doctor of Philosophy under my guidance and supervision.

The thesis is the outcome of his original work and has not formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title or recognition of any other University /Institutions and is worth submitting for the Award of Doctor of Philosophy under the Faculty of Social Sciences of Cochin University of Science and Technology.

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# Declaration

I hereby declare that the thesis entitled "**Civil Service Pension System and Expenditure in Kerala**" is a record of bona fide research work done by me under the guidance of Dr. P. Arunachalam, Professor and Head, Department of Applied Economics, Cochin University of Science and Technology, and that it has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or any other title of recognition.

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| | |
|---|---|
| AE | Average Emoluments |
| AR | Accrual Rate |
| CAGR | Cumulative Average Growth Rate |
| CCS(P) | Central Civil Service (Pension) |
| CSP | Civil Service Pension |
| DA | Dearness Allowance |
| DB | Defined Benefit |
| DC | Defined Contribution |
| DCRG | Death-cum-Retirement Gratuity |
| DR | Dearness Relief |
| FP | Family Pension |
| GDP | Gross Domestic Product |
| GO | Government Order |
| GOI | Government of India |
| GOK | Government of Kerala |
| GPF | General Provident Fund |
| GSDP | Gross State Domestic Product |
| IRDA | Insurance Regulatory and Development Authority of India |
| KSR | Kerala Service Rules |
| LIC | Life Insurance Corporation |
| NPS | New Pension System |
| OECD | Organisation for Economic Co-operation and Development |
| OM | Office Memorandum |
| PAYG | Pay-As-You-Go |
| PFM | Pension Fund Manager |
| PFRDA | Pension Fund Regulatory and Development Authority |
| QS | Qualifying Service |
| RBI | Reserve bank of India |
| SBI | State bank of India |
| UN | United Nations |
| WHO | World health Organisation |

# Chapter 1

# INTRODUCTION

Contents



## 1.1 Social Security and Civil Service Pension System

From time immemorial, societies have attempted in various ways to protect people from social and economic adversities. The arrangements a society makes to meet the essential subsistence needs and contingencies of its members constitute its social security system. Historically people have looked to their families, clans, tribes, communities, religious groups and authorities – lords, chiefs and kings – to meet their needs for social security. Social security has been recognised as an instrument for social transformation and progress. It represents, basically a system of protection of individuals who are in need of such protection by the State as an agent of the society. Such protection is relevant in contingencies such as retirement, resignation, retrenchment, death, disablement which are beyond the control of the individual members of the society. In 1958, Prof. Samuelson demonstrated that social security could improve the lot of each person in society. The

processes of industrialization and urbanisation, that have swept the world over the past two hundred years, have profoundly affected social security arrangements everywhere (Ghai, 2002).

The Civil Service Pension (CSP) is considered as an important component of the broader concept of social security (Rajan and Prasad, 2008). According to Blake (2006) pension is a stream of payments that starts when someone retires and continues until they die. So pension is an example of life annuity. To Bodie (1990) pension provides life time income security in retirement for however long the retiree lives. Wise (1986) viewed pension as an important incentive device in labour contracts, affecting employee turnover, work effort, and the timing of retirement. Friedberg and Webb (2005) defined pension as a form of compensation deferred until a worker leaves his or her job.

As per Article 366 (17) of the Constitution of India; pension means a pension, whether contributory or not, includes retired pay, gratuity and any sum or sums payable to a person (Bakshi, 1998). Honourable Supreme Court of India, in a judgment in the case of D.S.Nakara and Others Vs. Union of India, defined pension as "a term applied to periodic money payments to a person who retires at a certain age considered as age of disability; payments usually continue for the rest of the natural life of the recipient" (AIR, 1983, SC, 130).

Honourable Supreme Court of India held that a pension scheme consistent with available resources must provide that "the pensioner would be able to live free from want, with decency, independence and self-respect and at a standard equivalent at the pre-retirement level" (AIR, 1983, SC, 130). The fundamental objective of any pension system is to provide income security in old age (Beattie and McGillivray, 1995). Palacios and Whitehouse (2006)

state the objectives for providing pension to government employees as securing the independence of public servants, making a career in public service attractive, shifting the cost of remunerating public servants in to the future and retiring older civil servants in a politically and socially acceptable way.

In many countries CSP evolved much before the establishment of a formal social security system. United Kingdom is considered as one of the pioneers in the establishment of formal pension system. But pension was initially considered as ex-gratia in UK. In countries like Germany, France and Mexico pension was a legal right from the very inception of the system. In our country the CSP system was started by the British and so it was considered initially as an ex-gratia as in the UK but later it become a right of employees (RBI, 2003).

The CSP System in India covers the entire gamut of the salaried workforce in Central and State governments and Union Territory Administrations. Within the Central Government, pension schemes are organized by occupation, with separate schemes - which have somewhat different rules of eligibility – for railways, telecommunications, defense, and other employees. Central Government and all State Governments, till recently, followed Pay-as-You-go (PAYG) Defined Benefit (DB) pension scheme with no contribution from employees. No fund is set aside for the payments of future retirement benefits and payment to retirees is financed by current income (GOI, 2002).

State Governments have its own pension rules which are more or less similar to the rules of Central Government. While all State Governments' employees are entitled to pensionary benefits, most States also extend such benefits to employees in grants-in-aid educational institutions; urban local

bodies such as municipalities; panchayat raj institutions, etc. In the case of these institutions, there is, however, no uniformity among the States in respect of collections of contributions or in the payment of the quantum of pension. In a few States, the Government collects some contribution from these institutions, while in others no contribution is collected. The benefits also vary from State to State. Some States pay pension to the employees of these institutions on par with the Government servants and others provide a lower amount as pension (RBI, 2003).

Union Government adopted the New Pension Scheme (NPS) with effect from 01-01-2004 which is applicable to all new entrants to Central Government Service, except to Armed Forces, joining Central Government Service on or after 01-01-2004 (RBI, 2003). The new scheme is Defined Contribution (DC) pension scheme where contributions are defined in advance, but the benefits depend on the return on investments. The NPS is implemented in majority of Indian states for the new entrants. Government of Kerala introduced NPS for new recruits from 01-04-2013. But for the existing employees DB pension scheme is continuing.

## 1.2 Statement of the Problem

In Kerala, except for the recruits from 01-04-2013, pensions are mandatory and re-distributive in principle and based on PAYG-DB pension system. Employees make no contribution and entire pension expenditure is born by the state. As the pension liabilities have not been backed by any funding arrangements, they, perforce, are to be met through budgetary resources, thereby causing heavy drag on the state exchequer. So the DB pension system imposes relatively higher risks and fiscal liability on the State

Government as compared to other schemes or their combinations.

The pension crisis is a universal phenomenon and many countries face rising pension expenditure, often combined with significant pensioner poverty. The problem is attributed to various trends, notably a pincer movement between rising life expectancy and lower birth rates (Barr, 2006b). Kerala is also facing the problem of lower birth rate and rising life expectancy. Crude Birth Rate in Kerala is less than 15 in 2013 compared to more than 21 at national level (SRS Tables, 2013). Life expectancy on the other hand is 75 compared to 68 in India. People are living longer; this is a wonderful thing— longer healthy life. The problem is not that people are living longer, but that they retire too early (Barr, 2006b).

**Table 1.1. Life Expectancy and Retirement Age – Southern States and Selected Countries**

| Countries/States | Life Expectancy in 2013 | Retirement Age | Difference |
|---|---|---|---|
| Japan | 84 | 65 | 19 |
| USA | 79 | 66 | 13 |
| UK* | 81 | 65 | 16 |
| Germany | 81 | 65.3 | 15.7 |
| France | 82 | 62 | 20 |
| China# | 75 | 60 | 15 |
| Pakistan | 66 | 60 | 6 |
| Sri Lanka | 75 | 60 | 15 |
| Bhutan | 68 | 60 | 8 |
| Nepal | 68 | 58 | 10 |
| India | 68 | 60 | 8 |
| **Kerala** | **75** | **56** | **19** |
| Tamil Nadu | 70 | 60 | 10 |
| Andhra Pradesh | 68 | 60 | 8 |
| Karnataka | 68 | 60 | 8 |

* 62.4 for women, # 55 for women

Source: Palacios and White house (2006), GOK (2010), WHO (2015) and Life tables of Registrar General of India

Life Expectancy and retirement age of selected Countries and Southern states are shown in the Table 1.1. The difference between the retirement age and life expectancy is high in France followed by Japan. In India the difference is 8 and in Kerala it is 19 years for the employees under DB pension system and 15 for the employees under NPS. The difference is 10 in Tamil Nadu and 8 in Andhra Pradesh and Karnataka. The low retirement age and high life expectancy resulted in the increase in the number of pensioners in the state. Tenth State Pay Commission observed that pension burden was the most glaring in Kerala "as Kerala has one of the lowest retirement ages among the Indian states and the longevity was the highest" (GOK, 2015).

Pension for employees who joined before 01-04-2013 is indexed to both salaries and prices in Kerala. While price indexation occurs every six months, pay and pension revision takes place normally in five years. The pay revision increases pension of new pensioners and pension revision boost up pension of existing pensioners. The price and salary indexation along with pension revisions have been contributing to the gradual increase in pension payments. It is not surprising that expenditure for pension benefits has been growing since the formation of the state. During 1957-58 pension expenditure was less than one crore. The pension expenditure expected during 2016-17 may be more than ₹ 15,000/- crore. As a percentage of Gross State Domestic Product (GSDP), revenue expenditure, revenue receipts and own revenue, pension expenditure has been increasing in Kerala.

## 1.3 Objectives of the Study

This study has the following objectives:

1) To study the Civil Service Pension System in Kerala
2) To study the trends in budgetary expenditure for pension.
3) To study the ageing of service pensioners and its impact on pension expenditure.
4) To analyse the impact of NPS on employees and Government.
5) To study the family status and expenditure pattern of pensioners

## 1.4 Significance of the Study

Growing CSP expenditure is a problem faced many states in India. Majority of states including Kerala, therefore, switched over to NPS where contribution not benefit is defined in advance. Available literature shows that even though there are some studies about the CSP benefits and expenditure of the Central Government, there is no study about the CSP benefits and expenditure in Kerala. The present study is intended to fill this research gap.

## 1.5 Methodology of the Study

Various studies at the national level, Central Pay Commissions, State Pay Commissions and Finance Commissions pointed out the inadequate data of pensioners and pension payments in India. Thirteenth Finance Commission at its report noted that data on pensioners and their profiles are generally not available and emphasised the need of maintaining proper records. Kerala State Pay Commissions also confronted with the problem

of inadequate pensioners' data (GOK, 2006; 2010; 2015). So data for this study were collected cautiously.

The present study is based on both primary and secondary data.

### 1.5.1 Secondary Data

After the approval of pension and related benefits, Accountant General sent one copy of pension payment order to the pensioner and one copy to the treasury chosen by the pensioner. The first pension and pensionary benefits are paid from the chosen treasury. From the second month onwards the pensioner can get pension either through the bank opted by him/her or through the treasury itself. In case of death of a pensioner who has been getting pension through bank the bank will inform the same to the treasury and Accountant General. So details of all pensioners are available in the treasuries. There are 227 treasuries in Kerala in addition to three Regional Directorates and one Directorate. Pension was paid through 205 treasuries (www.treasury.kerala.gov.in). Details of present service pensioners and family pensioners as on 31.03.2015 were collected form all the treasuries across Kerala. The details, which were collected before the implementation of latest pension revision (wef 01.07.2014) in January 2016, include address of the pensioners, basic pension, date of retirement, date of birth, date of death etc. So the basic pension collected was pre-revised basic pension.

Publications of World Bank and Asian Development Bank, Union Budgets, State Budgets, Economic Surveys, Economic Reviews, Reports of Central and State Pay Commissions, Publications of Economic and Statistics Department of Kerala and Kerala Planning Board, Reports of Comptroller and Auditor General, Reports and Publications of Planning Commission,

Publications of Reserve Bank of India and Publications of Central Statistical Organisation were the other main sources of secondary data.

### 1.5.2 Primary Data

On the basis of basic pension, the service pensioners of the state were grouped into four groups as presented in the Table 1.2. 700 pensioners were randomly selected keeping the proportion to each group. Questionnaire was sent to some pensioners and data were collected personally from others. Some pensioners did not respond and some did not provide answers to many questions. Among the 700 pensioners, 500 pensioners who answered most of the questions were selected without affecting the proportion.

**Table 1.2. Primary Data - Sample Size and Proportion to Total Pensioners**

| Basic Pension Groups | Number | % to Total | Data Collected | % to Total Sample Size |
|---|---|---|---|---|
| 5000 or Less | 85,406 | 26.03 | 130 | 26.00 |
| 5001-10000 | 1,17,585 | 35.83 | 179 | 35.80 |
| 10001-15000 | 1,02,143 | 31.13 | 156 | 31.20 |
| 15000+ | 15,765 | 7.01 | 35 | 7.00 |
| Total | 3,28,152 | 100.00 | 500 | 100.00 |

Source: Data collected from Treasuries as on 31.03.2015

To supplement the primary data, discussions were held with the pensioners having different basic pay and age. Discussions were also held with experts in the field of finance, researchers in social security, leaders of state level service organisations and pension organisations.

## 1.6 Data Analysis

Major statistical tools used in this study are Ratio analysis, ANOVA, Duncan test, Chi-Square test and Linear Regression.

## 1.7 Period of the Study

The study is based on budgetary pension expenditure of Kerala for the twenty five year period from 1990-91 to 2014-2015. Basic pension and age wise expenditure analysis is done for the ten year period from 2004-05 to 2014-15, as basic pension details are available for this period only.

## 1.8 Limitations of the Study

The study is general in nature and everyone has a macro level knowledge about the research problem. This study cover only budgetary pension expenditure of Kerala and so do no cover the pension expenditure of Universities, Boards like Kerala State Electricity Board (KSEB), and Corporations like Kerala State Road Transport Corporation (KSRTC) etc. Any other limitation in any part of the study is to be viewed not as deliberate and arbitrate.

## 1.9 The Scheme of the Study

The report is divided into eight chapters

1) The first chapter deals with statement of the problem, objectives of the study, significance of the study, methodology, data analysis, period of the study, limitations and scheme of the study.

2) The second chapter deals with theoretical framework, review of literature and genesis of CSP.

3) The third chapter deals with comparative analysis of the CSP system of Central and Kerala Government employees. The pension benefits including monthly pension, family pension and Dearness Relief are compared along with other benefits like

Gratuity, Terminal Earned Leave Surrender and General Provident Fund.

4) The fourth chapter deals with budgetary expenditure for pension in Kerala in comparison with budgetary pension expenditure of Central Government and neighbouring states. Basic Pension wise expenditure in Kerala is also analysed.

5) The fifth chapter deals with the ageing of service pensioners in Kerala and its impact on service pension expenditure. Age wise pension expenditure of service pensioners was analysed for a period of ten years (2005-2015). Impact of ageing on expenditure was done based on three assumptions-no increase in pension, no Dearness Relief and no retirement.

6) The sixth chapter deals with the gain or loss due to the introduction of NPS which is based on DC system. Benefits or loss to the State Government and employees are analysed.

7) The seventh chapter deals with family status and expenditure pattern of pensioners.

8) The eighth and final chapter deals with findings of the study, policy recommendations and scope for further research.

# Chapter 2

# THEORETICAL FRAMEWORK, REVIEW OF LITERATURE AND GENESIS OF CIVIL SERVICE PENSION

Contents



## 2.1 Introduction

Old age protection by the employer (the state) for civil servants was established earlier than that of workers in industry (Rothenbacher, 2004). In a handful of countries — including Bangladesh, Bhutan, Botswana, Eritrea, Lebanon and the Maldives — public-sector employees are still the only group covered by a formal pension scheme (Palacios and Whitehouse, 2006). In this chapter some important theories of pension is discussed along with review of Literature and Genesis of Civil Service Pension System

## 2.2 Theoretical Framework

### 2.2.1 Deferred Wage/Deferred Compensation Theory

Lazear (1979, 1983) and Hutchens (1987; 1989) had argued that the employees "posts a bond" by accepting lower cash compensation than what he/she could get in other employment. As early exit or dismissal from the job may result in the forfeiture of the bond the employee work up to the standards of the firm. As per this theory employers deliberately tilt salary in

order to get long-term commitments from employees. Continuous close monitoring of the wok of the employee is difficult and costly to the employer. So he find pension as a tool to induce the employee to adhere to the bond. To Hutchens (1986; 1987) high pay and pensions were found in jobs that were difficult to supervise than in jobs that involved repetitive tasks.

Lazear (1979) had explained that pensions are provided as an incentive for workers not to quit near the end of the labour contract. As long as compensation is deferred, pensions are a tax-favored way for firms to design a delayed payment contract (Even and Macpherson, 1992). But the theory failed to answer the question how much of the deferred payment should be in the form of a pension (Gustman, Mitchell and Steinmeier, 1994).

According to Willmore (2004) "Actually, civil service pensions, because they are not based on contributions, are best described as deferred wages. Civil servants accept a lower current wage in exchange for the promise of a pension in their old age. If this pension were contributory, they would insist on a higher wage and Government would have to either increase taxes or borrow (issue debt) to pay it." Civil Service Pensions have regarded as deferred salary to be paid out of the national budget in same way as wages for public employees (OECD, 1997).

### 2.2.2 Pareto Improving Theory of Pension

According to Sala-I-Martin (1996) the main idea of pension is to buy the elderly out of their jobs; a way to induce retirement. The reason why societies choose to do such a thing is that aggregate output is higher if the elderly do not work. As human capital depreciates with age, old workers have lower-than-average human capital and they exert a negative effect on

the productivity of the young. When the difference between the skill level of the young and that of the old is large enough, aggregate output in an economy where the elderly do not work is higher. Social security systems arise as a means to achieve this end. This explains why, in most countries, the elderly can collect their pensions only after they retire.

To Sala-I-Martin (1996) pensions were not introduced until economy reached a certain level of development. At lower levels of development the rate of technological innovation is low and, therefore, the rate of depreciation of human capital is low. The difference between the skill level of the young and that of the old is not large enough to warrant the introduction of retirement schemes. As the economy develops, the rate at which new technologies are introduced increases and, as a consequence, human capital depreciation increases. Accordingly, the gap between the skill level of the young and the old widen. So it is Pareto improving for the young to trade money for the jobs of the old.

### 2.2.3 Redistribution Theory of Pension

The basis of this theory is that market is imperfect to distribute wealth of an economy and alleviate poverty. The intervention of Government is therefore necessary by designing a proper social security system which transfers resources from younger generation to elder generation. According to Barr and Diamond (2006) pension systems can redistribute incomes on a lifetime basis, complementing the role of progressive taxes on annual income. Lifetime redistribution can be achieved by paying pensions to low earners at a higher replacement rate. Since life-long earnings are uncertain from the perspective of an individual, such a system provides some insurance

against low earnings. Pension systems can also redistribute across generations; for example if a Government reduces the contribution rate of the present generation, thereby requiring future generations to pay higher contributions or have lower pensions (Barr and Diamond, 2006). The main drawback of this theory is that it fails to explain why individuals who earn more are able to get higher benefits if the objective is to alleviate poverty and to achieve optimal redistribution (RBI, 2003).

### 2.2.4 Risk Sharing Theory

Fudenberg and Tirole (1991) and Merton (1983) had explained the growth of social security pensions on the basis of risk sharing. To them social security is an agreement made by individuals with each other against future "unobservable" labour productivity shocks. Under this system, the pension benefits depend on the premium paid. Social security benefits are retirement tested but the test does not sacrifice efficiency because retirement is exogenous. Further the puzzle of excessive generosity and 100 per cent taxes is not solved under this theory (Mulligan and Sala-I-Martin, 1999).

### 2.2.5 Pension as Retirement Insurance

According to Summers (1983), Feldstein (1983), and Ippolito (1987) pensions may offer insurance against macroeconomic risk. Accumulation of savings when one is young is a way to "insure" against inability to earn income when one is old. To Barr and Diamond (2006) individuals save during their working life to finance their retirement. But people face a range of uncertainties, including how long they are going to live. Though an individual does not know how long he is going to live, the life expectancy of a large group of people is better known. Thus, in principle, the members of

the group could agree to pool their pension savings, with each person drawing a pension based on (*a*) the group's life expectancy and (*b*) the total amount he or she had contributed to the pool. In addition, members of the group could pay others to absorb the longevity risk. This is the essence of annuities, whereby an individual exchanges his pension accumulation at retirement for regular payments for the rest of his or her life, thus allowing people to insure against the risk of outliving their pension savings. Pension systems can also protect spouses and young children if a worker die before retirement, and can insure against disability.

The insurance theory explains several important features of the pension systems in the world-

a) Premium is paid by the employees to avoid the risk of retirement but they are still exposed to this risk

b) Employees can collect benefits only after retirement.

c) A reserve is maintained although current premiums are the most important sources of financing benefits.

d) Premium and award policies implicitly tax the work of the elderly although less than 100 per cent (Mulligan and Sala-I-Martin, 1999).

Barr and Diamond (2006) had argued that there may be imperfect information, missing markets, risk and uncertainty, and distortions such as progressive taxation. Moreover, there are serious concerns about the abilities of individuals to make the most of the market opportunities available to them. This requires intervention of Government. Government may introduce a mandatory insurance programme which resembles a social security system.

### 2.2.6 Myopic Prodigality or Paternalistic State Theory

As per this theory parents are concerned with their children and present. They were not looking forward enough when they were young. So according to this theory people tend to make "mistakes" when they are young. Diamond (1977) suggests several possible "reasons" for this: (i) people may lack the information necessary to judge their needs in retirement; (ii) people may be unable to make effective decisions about long-term issues because they are not willing to confront the fact that one day they will be old; and (iii) they may simply fail to give sufficient weight to the future when making decisions so, in essence, they may act "myopically".

The Government may act paternalistically and force citizens to save the appropriate amount. Diamond (1977) suggests a fully funded program, which need not be administered by the Government, as a solution. It may involve a PAYG program since, when the program is first created, it is too late to force the first old generation to save and revenue is immediately needed to pay them. However, this theory fails to explain why even the richer members of the initial old generation would receive subsidies. As a forced savings program, it may explain why benefits are not means-tested - the program is not designed to redistribute, just to ensure people leave some of their resources for their old age. For the prodigal father problem Feldstein (1985) suggests means-testing and a low level of retirement benefits. But as individuals know that the Government will provide minimum pensions that can be means tested, some individuals may consume all their income during their pre-retirement period (Mulligan and Sala-I-Martin, 1999).

### 2.2.7 Consumption Smoothing Theory

Barr (2001a) and Barr and Diamond (2006) had argued that the central purpose of retirement pensions is consumption smoothing—a process which enables a person to transfer consumption from his/her productive middle years to his/her retired years, allowing the pensioner to choose his/her preferred time path of consumption over working and retired life. Someone who saves does so because he values extra consumption in the future more highly than extra consumption today.

According to Algoed and Spinnewyn (2000) old-age pension plans are a means of transferring purchasing power from the working phase to the retirement phase of the life cycle. The wages earned while working constitute a claim on the output of the economy. By refraining from consuming part of this claim, output can be devoted to investment or consumption of collective goods. Through the pension fund, these financial means are lent to firms for the acquisition of capital assets or to the Government for providing collective goods. In this way, the retired population derives a claim on the output of the economy, either by sharing in the income appropriated by the capital owners or by sharing in the taxes levied by the Government to service the debt. This income finances consumption after retirement. Alternatively, working children can share their claim on the output of the economy with their retired parents. In this way, the parents are given the opportunity to satisfy their consumption needs after retirement. In the extended family, the children care for their parents in the hope of being cared for by their children in old age. On a broader scale, in a formal pension plan part of the wages earned by the working population are transferred to the retired population. So the retired generation obtains a claim on the output of the economy even when they are

no longer involved in the production process. Like private saving, old-age pension plans therefore smooth consumption over the life cycle.

### 2.2.8 Capital Accumulation Theory

According to Kotlikoff (1998) social security was purposefully created to reduce national savings when aggregate demand was low (the Great Depression) and, following the Keynesian prescription, consumption needed to be stimulated. This view is on the belief that social security programs tend to reduce national savings. If life expectancy grew or workers increased their demand for early retirement, as per this theory, Government decreases the retirement age in order to counteract the corresponding increase in private savings. Unlike other models, redistribution from young to old is efficiency enhancing (because it reduces savings) in the Keynesian analysis (Mulligan and Sala-I-Martin, 1999). The U.S. social security system was conceived in the 1930s, during the Great Depression, as a means to reduce national savings in order to stimulate consumption and thereby increase the level of aggregate demand (Sargent, 1998). According to this theory, an unfunded social retirement system could 'cure' the problem of capital over-accumulation by diminishing the incentives to save: taxes from the young were to be transferred to the retirees (RBI, 2003).

But this theory encounters problems in explaining the strong retirement incentives generated by social security which increase savings (Feldstein 1974). Further this theory failed to explain why so many countries give special treatment to retirement savings or why some social security programs began as funded systems (Mulligan and Sala-I-Martin, 1999). According to the life-cycle model, a system of Pay-As-You-Go (PAYG) scheme would reduce savings. On

the other hand, Barro's formulation of the multigenerational model indicated that social security, in principle, should have no effect on savings (RBI, 2003).

## 2.3 Review of Literature

### 2.3.1 Defined Contribution Based Pension System

Barr (2002a) defined, Defined Contribution (DC) Plans as funded accounts in the names of individuals. Each member pays into an account a fixed fraction of his or her earnings. These contributions are used to purchase assets, which are accumulated in the account, as are the returns earned by those assets (Barr and Diamond 2006). At retirement, the employee either receives a lump sum or an annuity, the size of which depends upon the accumulated value of the funds in the retirement account (Bodie, Marcus and Merton, 1988). The contribution is defined in advance but the benefit depends on how well the investments are managed and how long workers contribute and collect (World Bank 1994). Blake (2000) termed DC pension schemes as money purchase schemes (Blake 2000).

Byrne, Harrison and Blake (2008) had examined the governance of DC schemes with reference to the investment choice and the design of the default fund. They had explained where and why the current system fails to support DC scheme members and what steps can be taken to address the problems. To them limiting fund choice, can be done to make DC schemes more usable for such investors. However many employers and trustees are reluctant to take these steps for fear of incurring liabilities for any adverse outcomes. According to them there is scope for regulators and legislators to provide guidance and safe harbour provisions that will give these parties greater confidence to take an active role in supporting their members.

Basett (1995) had found that DC plans provide less retirement income to lower and middle income workers than the DB plans. Contribution of employer is effective in increasing the contributions and effective on low and middle-income workers.

Bodie Marcus and Merton 1988) had argued that the advantages of DC plans are most apparent during periods of inflation uncertainty. These are: the predictability of the value of pension wealth, the ability to invest in inflation-hedged portfolios rather than nominal DB annuities, and the fully-funded nature of the DC plan. Further the workers can more easily determine the present value of the pension benefit they earn in any year; although they may have more uncertainty about future pension benefit flows at retirement. Measuring the present value of accruing defined benefits is difficult and imposes severe informational requirements on workers. Such difficulties could lead workers to disvalue their total compensation and result in misinformed behavior.

Bajtelsmit, Bernasek and Jianakoplos (1999) had studied the gender difference in DC pension decisions in USA and found that although pension coverage rates for women have improved substantially in the last two decades as the number of women in the workforce has increased, women allocate a smaller proportion of their total wealth to the pension schemes. At the same time, social security replacement ratios are lower than they have been in the past and most new pensions require self-direction of pension account allocations. As women tend to be very risk averse with respect to the pension allocation decision, it is likely that women will retire with significantly lower pension wealth than their male counterparts. Furthermore, this smaller wealth will have to be spread over a longer retirement due to greater average longevity.

Brown and Weisbenner (2009) had found that even in an environment where choosing the pure DC plan may not be the best financial decision, individuals are more likely to choose the DC option if they are high earners, well-educated, married, in their 30's, with strong attachment to their employer. These finding suggest that these "educated, high earning, young professionals" have a strong preference for DC plans, even when the financial terms are unfavourable.

According to Bodie, Marcus and Merton (1988) DC plans are in effect tax—deferred savings accounts in trust for the employees, and are by definition fully funded. Even though benefit levels depend on the total contributions and investment earnings of the accumulation in the account; often the employee has some choice regarding the type of assets in which his accumulation is invested and can easily find out what its value is at any point in his working career. Blake (2000) found that DC schemes have the advantage of complete portability when employees change their jobs.

Holzmann, Hinz and Dorfman (2008) had explained that these plans establish a clear linkage between contributions, investment performance and benefits; support enforceable property rights; and may be supportive of financial market development. Decentralization of responsibility for managing pensions will not create portability problems under a DC system. This system facilitates competition among fund managers and choice about investment strategies (Thompson, 2000).

Study of Samwick and Skinner (1998) had revealed that DC plans appear to expose workers to more risk from stock and bond rates of return. Carlsson, Erlandzon, and Gustafsson (2008) found that under DC system of

Sweden those employed in the private sector had higher income-variance than those in the public sector, while gender differences were small.

A pure DC scheme leaves an individual facing the wide range of risks like varying real rates of return to pension assets, the risks of future earnings trajectories, and the future pricing of annuities (Barr and Diamond, 2006). Holzmann, Hinz and Dorfman (2008) found that the participants of DC pension plans are also subject to financial and agency risks as a result of private asset management, the risk of high transaction and administrative costs, and longevity risks unless they require mandatory annuitisation. To a large extent, investment returns depend on the economic health of the country-and that of other countries in the case of foreign investments. For privately managed funds, the inability of workers to evaluate the competence of investment companies and the possibility of outright fraud further increase investment risk. For publicly managed funds, the Government may intervene to limit investment options and returns, so political risk is intertwined with investment risk (World Bank 1994). Retirement benefits depend on the efficacy with which contributions are financially managed (Orszag and Stiglitz, 2001). Diamond (1977) identified other risks namely ill health, disability and death in service. Protection against these risks has to be purchased directly by the member as additional insurance policies.

Grande and Visco (2011) had studied the risks associated with DC pensions and found that the blow to pension fund assets from the recent financial crisis has underscored how severely members of DC schemes are exposed to financial market tail risks, i.e. "to exceptionally large and exceptionally rare drops in financial asset prices that can drastically reduce their accumulated pension value". Market instruments and mutualistic

mechanisms may be ineffective and in any case very costly means of protecting returns against these risks. So they suggest that the Government would guarantee a minimum return to DC pension scheme members.

Watson (2008) had found that DC schemes are not inherently riskier than DB schemes. He argued that the low operational, governance and regulatory costs and flexibility of DC schemes provide employers and employees with the most cost-effective means of saving for a pension. But Blake, Cairns and Dowd (2001) had estimated the riskiness of DC pension plans during the accumulation phase and find that they are extremely risky relative to a DB alternative.

Sialm, Starks and Zhang (2015) had found that the DC money is more volatile, has less autocorrelation and exhibits more flow-performance sensitivity than non-DC money. Their study shows that the presence of DC plans adds increased discipline to mutual fund portfolio management.

### 2.3.2 Defined Benefit Based Pension System

Barnow and Ehrenberg (1979) had provided a simple DB pension plan as follows:

$$B = KW*s.$$

Here B represents an individual's annual retirement benefits, ‘K’ is a constant that indicates the "generosity" of the plan, ‘W’ is some measure of average earnings over the individual's tenure and ‘s’ is his years of covered service under the plan (Barnow and Ehrenberg, 1979).

Blake (2000) had found that these schemes offer an assured (and in many cases a relatively high) income replacement ratio in retirement. People in retirement can expect to enjoy a standard of living that is related to their standard of living just prior to retirement The DB formula is designed to insulate the individual from inflation and wage adjustments prior to retirement.

According to Bodie, Marcus and Merton (1988) as final salary has greater leverage in DB plans because of its greater effect on pension benefits, workers in DB plans should have a greater incentive to sustain a high level of effort over the entire career in order to achieve a high career-end salary .The pegging of benefits in DB plans to final average wage would appear to provide employees with a type of income maintenance insurance. The sheltering of old people from the economic risks-on grounds that they are less able to adjust and recoup than the young-is considered one of the big advantages of DB plans (World Bank, 1994).

Barr and Diamond (2006) had argued that DB schemes can be run by the state or by employers. Where a state scheme is financed from contributions, the risk of adverse outcomes falls on current contributors; where there is a taxpayer subsidy, the risk falls on taxpayers. In an employer scheme, the risk of varying rates of return to pension assets falls on the employer, and hence on some combination of the industry's current workers (through effects on wage rates), its shareholders and the taxpayer (through effects on profits), its customers (through effects on prices), and/or its past or future workers, if the company uses surpluses from some periods to boost pensions in others, or modifies the benefit formula relative to expectations. In a pure DB scheme, therefore, none of the risks fall directly on pensioners.

Broadbent, Palumbo and Woodman (2006) explained various risks associated with the traditional DB pension framework. The employer bears the risk of providing the employee with a pension benefit. Pensioners on the other hand bear the brunt of inflation risk, because private DB plans generally do not index benefit payments for post-retirement increases in the general price level.

Since pensions typically depend on their wages in the last few months/years of employment, a sluggish wage increase towards the end of the career may reduce the pension amount commensurately. In public DB plans, workers bear the risk that the taxing ability of the Government may decline or the political regime may change and the new Government may repudiate the pension arrangements made by a previous Government (World Bank, 1994).

Bodie, Marcus and Merton (1988) had found that the worker in a DB plan who leaves his job for reasons beyond his control forfeits future indexation of benefits already accrued. Workers bear the risk that they may lose their pensions because of employer insolvency. Since pensions typically depend on their wages in the last few months/years of employment, a sluggish wage increase towards the end of the career may reduce the pension amount commensurately. In public DB plans, workers bear the risk that the taxing ability of the Government may decline or the political regime may change and the new Government may repudiate the pension arrangements made by a previous Government (World Bank, 1994).

### 2.3.3 PAYG Pension System and Its Transition to a Funded System

According to De La Croix and Michel (2002) in the Pay-as-You-go (PAYG) system, the contributions paid by the young individual are used to

pay pension to the contemporaneous old agents. Aaron (1982) had explained that this scheme involves a direct transfer of resources from the current workforce to those in receipt of pensions and annual revenues dedicated to the system approximately equal annual expenditures. Barr and Diamond (2006) found that these schemes are usually run by the state and the real role of PAYG is to redistribute across generations and to share risks across generations.

Blake (2000) had argued that PAYG systems permit minimum welfare standards to be established via income redistribution. A low ratio of retirees to workers (the old age dependency ratio) and a high rate of productivity and real wages allow high benefits or low contributions (World Bank, 1994).

The study of Feldstein (1974) had showed that as social security contributions are used to pay concurrent benefits, the capital stock is smaller and income is less. He claimed that the United States' PAYG social security system reduced personal saving by about 50 per cent and the country's capital stock by 38 per cent.

The study of Sinn (2006) had revealed that the PAYG system is unable to provide satisfactory pensions in a time of declining population growth, of reducing labour supply, of offering an inefficiently low rate of return, and of distorting people's fertility choices. High dependency ratio and high unemployment rates could make the scheme unviable unless real pension costs can be significantly contained. In the early years of an old age support programme when the system dependency rate is very low due to a lower proportion of eligible beneficiaries, PAYG will always appear cheaper than a fully funded plan. But, as the system matures and the proportion of beneficiaries rises, this temporary advantage disappears.

Brown (1995) had explained that once a PAYG system is accepted, it is almost impossible to return to a fully funded system because one generation would have to make double contributions to pay off the actuarial liability of the PAYG system while also prefunding the fully funded system. To him one apparent short-term solution to the funding problem with a PAYG scheme is an expansion of that scheme.

The studies of Samuelson (1958) and Aaron (1966) had showed that the PAYG has a cost advantage or higher rate of return in the long run if the earnings growth rate plus the labour force growth rate exceed the interest rate. In this case, PAYG could make all generations better off as each generation would get back a higher present value of pensions than it paid in as contributions. But if the rate of earnings growth plus labour force growth falls below the rate of interest, a fully funded programme would have the long-run advantage in costs and returns.

Barr (2002b) had explained that the differences between PAYG and funded pensions are a wash. Both have strengths and weaknesses, and both can be effectively used, as long as they are effectively managed, and used in the correct economic circumstances.

Feldstein and Liebman (2002) had assessed the theoretical and empirical implications of transition from PAYG schemes into fully funded pension schemes with investment-based individual savings accounts. While the introduction of PAYG schemes benefitted older age cohorts, it imposed a considerable strain on younger generations facing a small internal rate of return on mandatory contributions into PAYG public schemes. In addition, PAYG schemes impose significant deadweight loss, captured by the elasticity

of taxable labour income with respect to marginal tax rates, by distorting labour supply decisions and lowering national savings rate. The consequences of subsequent ignorance of distributional effects of PAYG schemes were emphasized by Dutta, Kapur, and Orszag (2000), Bovenberg and Knaap (2005) and Barr and Diamond (2009).

Barr (2001b) had analysed guaranteed funded pension plans against PAYG plans. The major problem facing PAYG plans is demographics. Because of aging populations in industrialized nations, especially the US, there is a distinct possibility that working age populations will not be able to sustain payments to retirees. He listed ten myths related to both funded and PAYG systems, and concluded that a mixture of the two systems through various "tiers" of pension funding is the best system.

Vidal-Meliá, Boado-Penas, and Settergren, (2009; 2010) had proposed an automatic balance mechanism (ABM) - a set of predetermined measures established by law- to re-establish the financial equilibrium of PAYG pension systems with the aim of making the systems viable in UK without the repeated intervention of the legislators. They argue that there are three reasons for introducing an ABM method: first, to adapt the system to changes in socio-economic and demographic conditions; secondly, to create a credible institutional framework in the sense that promises of pension payments are kept; and finally, to minimize the use of the pension system as an electoral weapon.

Haberman and Zimbidis (2002), Pantelous and Zimbidis (2008) and Gannon, Legros, Touzé (2013) had suggested parametric reforms in the PAYG pension systems. They introduced the concept of a liquidity or

contingency fund in order to absorb unexpected events that might affect the liquidity of PAYG pension system. Pantelous and Zimbidis (2008) emphasised that this contingency fund is acting as a buffer, fluctuating deliberately in the short run and absorbing partially or completely the uncertainty in mortality, fertility rates or other events. Gannon, Legros, Touzé (2013) defined this buffer fund as the inter-temporal budget balance of the pension system that brings promised future expenditures in line with expected future revenues.

Sinn (2000) had explained that the PAYG pension system is not an inefficient insurance device that absorbs economic resources but a zero-sum game between the generations. To him in present value terms, there is nothing to be gained from a transition to a funded system even though the latter offers a permanently higher rate of return. The sum of the implicit and explicit tax burdens that result from the need to respect the existing pension claims is the same under all systems and transition strategies.

Just as public debt never needs to be fully paid off so long as the debt-to-GDP ratio does not get too large, so publicly provided pensions need not be fully funded, as long as the unfunded obligations are not growing excessively relative to the contributions base (Barr and Diamond 2009).

### 2.3.4 Notional Defined Contribution Based Pension System

Among the published works available it is Buchanan (1968) who put forth the first proposal of notional—or non-financial—defined contribution (NDC) pension schemes. Barr (2006a) and Barr and Diamond (2006) had found that NDC schemes parallel DC pensions in the following ways

- A contribution of 'x' per cent of a person's earnings is credited to a notional individual account: that is, the state "pretends" that there is an accumulation of financial assets.
- The cumulative contents of the account are credited with a notional interest rate, specified by the Government, and chosen to reflect what can be afforded.
- At retirement, the notional account is converted into an annuity.
- The account balance is for record keeping only, because the scheme does not own matching funds invested in the financial market. This explains the term 'notional'.

Thus NDC pensions mimic conventional (funded) DC schemes by paying an income stream whose present value over the person's expected remaining lifetime equals his/her accumulation at retirement, but with an interest rate set by Government rules, not market returns (Barr and Diamond 2006).

Börsch-Supan (2006) had pointed out many advantages of the NDC system. It adapts itself automatically through an internal interest mechanism to the changed balance of contributors to pensioners without the necessity to intervene in a discretionary way. This type of system adapts itself automatically to changed life expectancies (longevity problem) through the actuarial conversion of the notional pension wealth into a lifelong pension. Reductions for early retirement result automatically and are automatically adapted to the demographic situation. It avoids arbitrariness of benefit indexation rules and adjustment factors. It strengthens the equivalence principle and for this reason minimizes the wedge between gross and net income. It clearly

identifies individual contributions and the resulting benefit claims, helping to regain credibility. It strengthens the principle that pensions are based on lifelong earnings, and honours employees who enter the labour market early. It creates a framework that can consistently be enlarged to a general "accounting system" of all PAYG subsystems. It permits a considerable amount of flexibility for employees in choosing their retirement age and easy portability of pension rights between jobs, occupations, and sectors.

Study of Sarah and Kent (2005) had revealed that NDC schemes accommodate increasing longevity completely through benefit reductions. Stabilizing of pension contribution rates will lead to gradual erosion of pension values as population age, if workers do not postpone their retirement.

Börsch-Supan (2006) had argued that the financial situation of an unsustainable PAYG system becomes more obvious since workers "see" their declining benefits (while contribution rates are increasing) on their own accounts—thereby translating a general knowledge about the financial situation of the pension system into a personal concern. He found that with a fixed contribution rate, the system will not automatically obey the annual budget restriction of a conventional PAYG system. Discretionary decisions are hidden. They take place at the choice of life table, computation rules for the internal rate of return, the determination of a minimum retirement age, and so on. The system does not change the fact that only prefunding can change which generation pays for a given pension benefit.

### 2.3.5 Multi Pillar Approach of Pension System

World Bank believes that a multi-pillared approach towards pension system modalities is best able to address the needs of the main target

populations and provide security against the multiple risks facing pension systems (Holzmann, Hinz, and Dorfman, 2008). World Bank (1994) suggested a multi pillar pension system consists of three pillars which are

- a mandatory publicly-managed tax-financed pillar for redistribution
- a mandatory privately-managed fully funded pillar for saving, and
- a voluntary pillar for people who want more protection for old age
- The three-tier model in which the role of public pensions would focus on a minimal poverty reduction role, complemented by a fully-funded, mandatory defined-contribution savings second tier and a third tier of voluntary savings (Weaver, 1998).

The first pillar resembles traditional public pension plans but it is smaller and focuses on redistribution - providing a social safety net for the old, particularly the old whose lifetime income was low (James, 1998). Second Pillar is fully funded, DC systems where benefits depend on the assets in the individual's account at retirement. Fox and Palmer (2001) found that these may be (a) provident fund systems, which are centralized, Government-managed and usually provide lump sum benefits, but may offer an annuity purchase; or (b) individual financial account systems, where the participant's money is invested in privately managed market funds. Third pillar is also contributory, but voluntary, for those who would like to supplement the retirement income provided by the first two pillars (Willmore 2007). Gent (2000) explained that the third pillar may take the form of occupational pension schemes run by an employer for the benefit of employees or private pension schemes.

Gent (2000) and Fox and Palmer (2001) observed that combining a PAYG first pillar with a second pillar scheme of funded individual accounts is most popular among countries. This has emerged in diverse countries such as Sweden in OECD, Hungary, Latvia and Poland in transition economies, Hong Kong in Asia, and Argentina, Peru and Uruguay in Latin America.

In addition to the above three pillars World Bank later added two more pillars viz; non-contributory or "zero pillar" and a non-financial fourth pillar (Holzmann 2005; Holzmann, Hinz, and Dorfman, 2008). The Zero pillar deal explicitly with the poverty alleviation objective in order to provide all of the elderly with a minimal level of protection. The non-financial fourth pillar includes access to informal support (such as family support), other formal social programs (such as health care and/or housing) and other individual financial and non-financial assets (such as home ownership and reverse mortgages). The availability and type of such support for the aged has a major bearing on the design and implementation of the other pillars, including target benefit levels (Holzmann, Hinz, and Dorfman, 2008).

### 2.3.6 Ageing and Pension System

Study of Leers, Meijdam and Verbon (1998) had revealed that in case of ageing in a small open economy with a PAYG system, the existence and the form of the institutional savings treatment is crucial for the political feasibility of a transition to a more savings based pension system, which is favourable for future generations. Without a subsidy on savings the economy is trapped at the existing level of savings.

Giang (2004) had studied the impact of ageing on Vietnam pension system and found that the current pension scheme in Vietnam is not

financially sustainable in the context of an aging population. The pension system is financially unstable, and involves a vicious cycle of inter-generational inequality.

According to Hagemann and Nicoletti (1989) and Marchand and Pestieau (1991) as demographic changes are gradual and to some extent predictable many years in advance, it is possible to plan ahead by smoothing the contribution rates and by building up reserves in the PAYG system. Lacomba and Lagos (2006) suggest that if Governments want to delay the legal retirement age, in order to make the future reforms easier, it would be better to transfer the effects of the aging of the population into the contribution rate, instead of pension benefits.

McCarthy and Zheng (1999) had found that the scope and speed of population aging in China makes the pension system financially unsustainable, even though the GDP is assumed to grow steadily over a long period. The problem is not rising life expectancy but more pensioners and longer retirement. To them an obvious variable in the cost equation is the average age at which people first collect their pension.

### 2.3.7 Studies on Civil Service Pension Systems

Kalisch and Aman (1998) had provided an overview of features of the public pension systems in OECD countries. OECD (1997) analysed public pension schemes in ten central eastern European countries (Albania, Bulgaria, The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia). In most of these countries, people employed in the public administration are covered under common national pension schemes, usually defined in a common pension law. As part of efforts to improve the

professionalisation and quality of public administration, countries are defining civil service categories of personnel through civil service legislation**.**

Ekebrand (1997) had studied CSPs in France, Germany, Netherlands, Sweden and the United Kingdom. He argued that public sector pension schemes should be designed with a view to stability, security and flexibility. They should also be fair and simple to understand and administer, and there should be an obvious connection between earnings and pensions.

Palacios and Whitehouse (2006) had analysed retirement income systems in 53 countries in the world. They had studied the pension systems in twenty four high income OECD countries, nine Latin American and Caribbean countries, ten Eastern Europe and Central Asian countries and ten Middle East and North African countries. They analysed the parameters and rules of different retirement-income system and link between pension entitlements in retirement and earnings in work. This analysis highlighted the key differences in philosophy between different countries' retirement-income systems. Pension expenditure of different countries was also analysed. They are of the view that the CSP schemes tend to be more generous and less financially viable than those covering the rest of the formal sector. So, according to them, without reform CSP system may crowd out important social programmes.

Whitehouse (2007) had made a study of retirement income systems in 53 countries in the world and found three main differences among the CSP systems. First is the difference in the target replacement rate which varied between 30 per cent in Ireland to 116 per cent in Iran. Replacement rate is 100 per cent or more in Luxembourg, Yemen and Uruguay. Most of the

highest rates are in the Middle East and North Africa. Highest rates are also found in Turkey, Greece and Spain. Contrary replacement rates are 40 per cent or less in countries like USA, Australia, Mexico and Djibouti. Second difference is the emphasis given on redistribution or adequacy of pension versus pension replacement rate. In countries like Australia, UK, Canada, Denmark, Norway, Iceland, Switzerland and Argentina, emphasise is on pension adequacy with redistributive pension systems with a weak or no link between pension entitlements and preretirement. So replacement rate is higher for low paid employees. But in the Middle East, Continental Europe and North Africa, the emphasis is on providing the same or very similar replacement rates to all workers. Third difference is found in the relative role of the public and private sectors in pension provision. There is no private sector involvement in mandatory pensions in the Middle East and North Africa. But the private sector plays an important role in mandatory pension provision in 33 per cent of the high-income OECD countries.

Van den Noord and Herd (1993; 1994) had made a study about pension liabilities of seven major countries - United States, United Kingdom, Japan, Germany, Italy, France and Canada. Their study included all types of public pension schemes and showed that pension expenditure in these countries during 1980's had increased steadily. They attribute main reasons for the increase in pension expenditure to the ageing population and increasing coverage of pension.

Iyer (1993) had surveyed the status of institutionalized pension scheme with specific reference to developing countries. Most developing countries have the DB social insurance model and a few countries have the DC national

provident fund model. A variation on the latter is the mandatory retirement savings-annuity model, which was implemented in Chile in1981.

Dhillon and Shyodan Singh (2005) had observed that wellbeing of retiree is related to financial security and health of the retiree. They observed that retirement is not affecting women as badly as men in India even though there exists gender differences.

Government of India in 1999 constituted an Expert Group under the chairmanship of Shri. A. M. Sehgal, then Controller General of Accounts to make a scientific and comprehensive assessment of the Government's liability arising from pension payments to current and future retirees. Shri. Sehgal submitted the report in 2001. The committee recommended a two-tier hybrid DB-DC scheme for the new recruits. The first tier is mandatory and the committee recommended 10 per cent of basic and DA as contribution by the new entrants with the matching contribution by the Government. The first tier would provide a DB of 50 per cent of the average emoluments of last 36 months. The minimum service recommended was 20 years and for full pension 33 years. Even though normal exit was 60 years early exit at the age 50 years was also recommended; but pension, full or proportionate, would be payable only from the date of superannuation. The proposed scheme envisaged indexation of inflation up to 5 per cent per annum. The second tier is a voluntary saving oriented scheme with a matching contribution up to a 5 per cent limit by the Government. Minimum contribution of employees was 2 per cent with no upper limit (GOI 2002). Instead of hybrid-DC-DB system, Government of India introduced DC based pension system wef. 01-01-2004.

Anand and Ahuja (2004) had a study on the recommendations of the committee and the steps taken by the Government on it. They found that the reforms entail inter-generation planning for long-term fiscal consolidation and start yielding benefits only after 35 years or so.

Pranob and Swain (2002) had made a study on CSP expenditure of central Government. The purpose of their study was to provide rational estimates of the future behaviour of Government employment and pension liabilities by applying theoretically justifiable methods on available data so that informed decisions can be taken regarding manpower planning in Government.

Gayithri (2007; 2009) had made a study on pension benefits of Central Government employees and pension expenditure. She estimated pension expenditure of central Government based on the assumptions that an employee after retirement gets pension for 20 years, family pensioner get pension for ten years, price indexation by 6 per cent and wage indexation by 3 per cent. She found that pension liability on account of the employees under the old pension scheme would continue for a long period i.e. until 2065-66, in addition, the pension bill would increase substantially till 2036-37.

Sanyal, Gayithri and Erappa (2011) had made projections of civil pension expenditure for the next 100 years by making certain assumptions like pensioner may live up to 100 years, every one joins service at the age of 25, fixed death rate etc. This was an extension of earlier model developed by Pranob and Swain (2002).

RBI in 2003 constituted a high level committee to examine the various issues relating to the growing pension liabilities of the State Governments

and to make suitable recommendations. The high level committee, under the Chairmanship of Shri. B. K. Bhattacharya, had studied the pension liabilities of all the states from 1980-81 and found that pension expenditure of states have been increasing at an alarming rate. The committee recommended structural and parametric changes. Under structural changes the committee recommended hybrid DC-DB pension system where employees made contributions to a pension fund and state Government guarantee DB based pension. The committee also recommended for a second DC tier. The committee recommended reducing the portion of commutation that can be commuted, increasing the restoration period of commuted portion of pension, reducing the period of enhanced family pension period etc. (RBI, 2003).

Kerala Public Expenditure Review committee constituted under section 6 of the Kerala Fiscal Responsibility Act of 2003 in its reports made some observations about the pension expenditure in Kerala. Pension expenditure is considered as a major financial problem of State Government (GOK, 2014). The Second Kerala Public Expenditure Review Committee in its first report (GOK, 2008) had recommended both parametric and structural changes in the pension system in order to overcome the pension trap. But Government of Kerala took steps for only structural changes (introduction of DC based pension in place of DB based pension) in 2013 for new recruits.

Third committee of the Kerala Public Expenditure Review Committee in its second report (GOK, 2013) had suggested parametric reforms which include use of longer averaging periods for calculation of pension benefits, use of lower limit for maximum amount of pension, use of higher discount rate and a more realistic set of life tables to calculate the value of commuted

pension, indexing of pension only to prices and not to real wages, etc. for reducing the fiscal burden of the state.

### 2.3.8 Pension Reforms

Schwarz and Demirgüç-Kunt (1999) had reviewed the pension reforms around the world during 1992-98. They found that the rate of reform is highest in countries which face the worst demographic pressures. Former socialist countries were the top reformers, followed by industrialized countries and Latin American countries. The relatively younger populations of Sub-Saharan Africa, Asia, and the Middle East clearly have not felt the urgency of reform as strongly as the older countries. Reform efforts in the former Soviet Union were also incited by the necessity of the newly independent countries to establish their own pension systems. They also found that the type of reforms adopted by countries in different regions also varies significantly. Quite a few Latin American countries, such as Argentina, Bolivia, Colombia, Mexico, Uruguay, Peru, and El Salvador, undertook major reforms, switching from Government-run PAYG pension systems to multi-pillar systems with a defined-benefit private component. This reform spread to Eastern Europe where Poland, Hungary, Latvia, and Kazakhstan have undertaken major reforms. Another region that has undertaken a significant number of major reforms is Sub-Saharan Africa.

Schwarz and Demirgüç-Kunt (1999) had found that in industrialized countries, most of the reforms were in the form of changes made to the existing public system. Exceptions are Australia, the United Kingdom, and Sweden. In the case of Australia, a fully funded, DC second pillar was added to a general revenue-funded means-tested universal pension. In the case of

Sweden, a public pay-as-you-go financed DB system is being converted to a pay as you go financed notional account system, with a small funded, DC pillar. In the U.K., individuals have been given the option of substituting an occupational or personal pension for the publicly provided earnings related benefit. In general there were few reforms in Asia and the Middle East. The major reforms in this region took the form of either establishment of new pay-as-you-go systems or such public schemes. So while the nature and frequency of major reforms varied across regions, adjustments to the existing public pensions were still the predominant type of reform in all regions, although the number of major reforms is rising. Most of the reforms aimed to reduce the fiscal costs of their existing pension systems.

OECD (2009; 2013) had made an analysis of pension reforms in OECD countries. All 34 OECD countries have made reforms to their pension systems which vary between countries. But there are two main trends. First, reforms of PAYG public pension systems, aimed at postponing retirement, have introduced higher pension ages, automatic adjustment mechanisms and modified indexation rules. Second, Governments have been looking at funded private pension arrangements. While the Czech Republic, Israel and the United Kingdom have introduced DC pension schemes, Poland and Hungary have reduced or closed these.

Pension reforms made during the past two decades in OECD countries lowered the pension promise for present workers. Working longer may help to make up part of the reductions, but every year of contribution toward future pensions generally results in lower benefits than before the reforms. While future pensions will decline across the earnings range, most countries have protected the lowest earners from benefit cuts; everywhere, except in

Sweden, pension reforms will hit the highest earners most. Many OECD countries have passed reforms to improve the long-term financial sustainability of their pensions systems, principally to secure greater savings for the state budget. A particularly frequent measure has been the reform of pension indexation mechanisms, although the goals and effects of such action vary across countries and income levels (OECD, 2009; 2013).

Barrientos (1996) had found that after reforms in Chile there are personal pension gaps, which are closely associated with informal sector and low paid jobs, younger workers, married women and the self-employed. These gaps in coverage will lead to poverty and hardship for the elderly population and inflated future Government welfare expenditure. So he suggest that Countries wishing to follow the Chilean model of pension reform will need to take these issues into account and incorporate design features to maximize pension coverage.

Edward (1998) had observed that the Chilean pension reform program has been the pioneer in the world and has successfully "replaced an inefficient, unfair, insolvent PAYG system" with a privately managed system. Even though there are some shortcomings like limitation for multiple funds and the distortionary incentives generated by the Government, the new system shall survive and the shortcomings may be addressed by the authorities.

Palacios and Whitehouse (2006) had suggested following reforms to reduce pension liabilities:

- Raising pensionable age
- Reducing the replacement rate targets;
- Extending averaging periods in the benefit formula;

- Indexing benefits in payment to prices rather than civil-service earnings;
- Introducing or increasing member contributions.

They are of the opinion of integrating CSP with other national pension scheme. According to them "Parametric reforms to the civil service scheme that are phased in over time can reduce the disparities between the two and make integration easier. Reforms that increase the solvency and credibility of the main national scheme increase the benefits from integration. In short, pension system reform should, to the extent possible, be holistic".

Asher and Vasudevan (2004) had studied pension reforms in India and urged for extending the DC system to the States as large preemption of revenues for pension expenditure on a small proportion of labour force limits the abilities of the States to restructure budgetary expenditure towards growth and development.

Asher and Parulian (2015) had made a study on the reforms in pension arrangements for civil servants (more broadly Government employees) in selected Asian countries, namely, India, Indonesia, Malaysia, Philippines, Singapore, and Thailand. They observed that the issues raised by CSP reform are very similar to the pension reform in general. An important difference, however is that financing of health care benefits must be considered an integral part of CSP reform.

## 2.4 Genesis of Civil Service Pension System

The British introduced a well-established CSP System in India. So firstly evolution of CSP in United Kingdom is analysed followed by evolution in India and Kerala.

### 2.4.1 Civil Service Pension System in United Kingdom

The United Kingdom could be considered as one of the pioneers in the establishment of formal pension system dating back to 1375 (Blake, 1997). The earliest recorded private occupational pension schemes were organised by medieval guilds of artisans in order to provide relief to its members whose income ceased when they retired. This was long before state pension schemes were established. The first recorded occupational pension scheme was that of the Guild of St. James at Garlickhythe of London in 1375. However, the artisans' pensions were organised by the artisans themselves (Blake, 2003).

In the early days, pension was paid in UK from the salary of the successor to an office (RBI, 2003). Organised pension scheme for Royal Navy Officers was established in 1670s. The first provisions were made on a discretionary and individual basis (Raphael, 1964). The first recorded state pensioner was Martin Horsham, an employee in the Port of London who retired on 10$^{th}$ March 1684 (Raphael, 1964; Blake, 2003). He was awarded a pension of £40 per year. This was half of his final salary even though he had been a civil servant for less than two years (Blake, 2003). The first superannuation fund for public sector workers was introduced in 1712 for customs officials (Palacios and Whitehouse, 2006).

The first comprehensive pension scheme for civil servants in United Kingdom was introduced in 1810 when the Superannuation Act was promulgated (Blake, 2003). The Act began the process of unifying provisions for a civil service under the control of the Government. The Superannuation Act of 1810 did not ask for any contributions. In 1822, contributions were

introduced. In 1824 they were abolished by Act of Parliament but after five years, contributions were reintroduced in 1829 (Rothenbacher, 2004).

Superannuation Act of 1834 granted less generous pensions for the new entrants and raised contribution rate (Blake, 2003). The Act provided pensions on retirement on grounds of full age (65 years) or earlier incapacity; benefits were based on the annual salary at retirement.

In 1857 pension contributions were abolished and the Superannuation Act of 1859 confirmed this regulation (Rothenbacher, 2004). This Act completed the framework of the modern civil service scheme. It established a pension-rate in sixtieths of final salary for each year worked, and a minimum retirement age of 60 (Blake, 2003). Provision was made for a permissive short-service gratuity in the event of enforced retirement before qualifying for pension (Robb, 1950).

The next major change did not take place until Superannuation Act of 1909, which allowed for part of the pension to be commuted in order to provide a tax free lump sum of money on retirement. The Act also introduced a death benefit, subject to five years' qualifying service, of one year's annual salary (Robb, 1950). The Superannuation Act, 1914 increased death benefit to the lump sum benefit which would have been payable in the event of ill-health retirement, where this was greater than one year's salary. Another act was passed in 1935, which discarded the annual salary basis and substituted the ' average salary ' over the last three years of service (Robb, 1950). The Superannuation Act 1949, introduced pensions for widows and dependents, civil servants had to pay half the cost of the pensions (Blake, 2003).

### 2.4.2 Evolution of Civil Service Pension System in India

#### 2.4.2.1 Pre-British Period

In India, social security seems to have been a concern of the state since very long time (Kannan and Pillai, 2007). Different social assistance institutions and welfare centers were established in the ancient Indian society, which were concerned with the relief and alleviation of sickness, poverty and distress (Sharma, 1976). Guild system, which developed in India from 1000 B.C and continued through the post-Mauryan period, offered decent work to the participants and played a significant role in providing social security (Thaplyal, 2001).

Kautilya, the political advisor of and a minister to the ruler Chandragupta Mauryan the fourth century BC, in his treatise on Economics, Arthasastra, refers to various types of pensions. To him it is the duty of the King to protect the family of a Government servant who died in harness. Though Kautilya made provisions for pensions and maintenance allowances, he strongly discouraged giving doles (Kannan and Pillai, 2007)

There are records to suggest that even during the eighth century AD; social security provisions were common in India (Kannan and Pillai, 2007). The great Sanskrit scholar Sukracharya had described in his treatise on justice, *Sukraniti*, the various measures taken by the rulers in this regard. There were special provisions for sickness benefits, pensions, old age benefits, and maintenance allowances. According to *Sukraniti*, a king had to pay half of the wages for people who had completed 40 years of service (Gayithri, 2009).

During the period of Mughals a scheme of pension existed, though in a totally different form (Arora and Goyal, 1996). Pension was also granted to

the widow of the deceased as well as his children (Sarkar, 1952). Pension was granted only to some of the officials. There is no fixed rate and amount of pension and it was granted at the pleasure of the king. Pension once granted was not final; the King could take it back at any time. Bernier rightly said: "Pension either in land or money (i.e.; jagir or tankha) which the king gives, augments, retrenches or takes away at his pleasure*"* (Bernier quoted by Sarkar, 1952).

**2.4.2.2 British Period**

The British brought with them the concept of retirement benefits for employees. They paid old-age pensions to the employees of the British Government (Kumar S, 2003). However, at the beginning these pensions were granted at the pleasure of the British (Prendergast, 1855). Military was the first category of employees who received pension coverage, especially with regard to disability and survivor benefits. East India Company created a fund in 1626 for providing provisions for aged and often crippled seamen who had served the Company. Two pence per pound from all wages and salaries was deducted for the fund (Society for Nautical Research, 1956), which was later known as Poplar Fund. Unclaimed wages, prize money and fines were also credited to the fund (Parrot L. Alec, 1985).

In 1770, East India Company established Lord Clive's Pension Fund using prize monies received by Lord Clive (Ghosh, 2006). There were no subscriptions to the Fund. Military officers and soldiers who became invalid and rendered incapable for further service in India were eligible for pensions from Lord Clive's Fund. These were *ex gratia* pensions awarded on a charitable basis and not as of right. Widows were eligible for half of the

pension of their deceased husbands if they did not possess property within a certain limits (Great Britain, India Office, 1821). No new admission to the Fund was made after 1886 (Morris, 2006).

The Bengal Military Orphan Society was founded in 1783 for granting pensions to the orphans of officers of the Bengal army. Subscription to Military Orphan Society was compulsory during service but optional after retirement. Pension amount vary according to age and sex of child. Later East India Company established Military Funds in three provinces viz; Bengal, Bombay and Madras with the objective of providing pension to their military officials and their families (Great Britain, India Office, 1822; 1935).

Following the lines of Military Funds, Civil Funds were created in three provinces (See Table 2.1) for providing relief to the subscribers and family of deceased covenanted British Civil Servants. The subscriptions to these funds depended on the rank and salary of officers. The Madras and Bombay Civil Funds endowed some relief to subscribers under certain circumstances of distress like ill health but the Bengal Civil Fund provided relief only to the family of the deceased (Brown, 1866 and Great Britain, India Office, 1845).

**Table 2.1. Civil Funds during the British Period**

| Sl. No | Name of Civil Fund | Year of Establishment |
|---|---|---|
| **1** | Madras Civil Fund[1] | 1787 |
| **2** | Bengal Civil Fund[2] | 1804 |
| **3** | Bombay Civil Fund[3] | 1804 |

Source 1: Great Britain, India Office, 1822;2. Great Britain, India Office, 1845;3. Douglas, 1900

Later the Company established three Civil Service Annuity Funds in the provinces for providing annuities to subscribers. Bengal Civil Service Annuity Fund was established in 1825 (Great Britain, India Office, 1841) and the annuities were commenced from 1st May of each year began from 1826 (Great Britain, India Office, 1829). But Madras Civil Service Annuity Fund had its origin in the year 1800 when it was decided to extend the objectives of Madras Civil Fund for the purpose of providing annuities to certain number of civil servants. This extension was carried out on 1st September 1800 (Ware and Grady, 1863). Bombay Civil Service Annuity Fund also established at the beginning of Nineteenth Century. Rules for the three funds were the same (Great Britain, India Office, 1845; 1849). All covenanted civil servants were bound to subscribe the funds (Edmond, 1851). The annuity funds were worked on DB and DC basis and no membership was given to Indians.

The contribution to the funds was fixed as 4 per cent of salary excluding compensation for travelling expenses. The annuities are fixed at Sicca Rupees 10,000/- each or £1,000/- if paid in England (Great Britain, India Office, 1857). Those who had twenty-five years of service and resided twenty-two years in India were eligible for the pension (Great Britain, India Office, 1829). Invalid pensions were also paid from the funds if a certificate from Medical Board showing that the subscriber was incapable of rendering service in the climate of India (Great Britain, India Office, 1845). A subscriber who was absent from India for five years and those who were dismissed from the Company's service forfeited all claims from the fund and no refund of the subscriptions was made (Edmond, 1851; Great Britain, India Office, 1829). In the case of suspension of an employee, the suspension

period was reckoned for the pension period only if salary for the suspended period was paid. In such case contributions were collected for the suspended period (Great Britain, India Office, 1829).

Towards the end of nineteenth century there were remarkable changes in the history of CSP system in India. Indians became eligible for pension to a limited extent. Major Acts, Regulations and Commissions during the British period are given in the Table 2.2.

**Table 2.2. CSP Acts, Regulations and Commissions During the British Period**

| Sl. No | Name of Act/Regulation/Commission | Year |
|---|---|---|
| 1 | Pension Act[1] | 1871 |
| 2 | Civil Pension Code[2] | 1872 |
| 3 | Royal Commission on Civil Establishments[2] | 1881 |
| 4 | Civil Service Regulations[2] | 1889 |
| 5 | Royal Commission on the Public Service in India (Islington Commission)[2] | 1912 |
| 6 | Voluntary retirement on proportionate pensions[3] | 1921 |
| 7 | Royal commission on Superior Civil Services (Lee Commission)[4] | 1923 |
| 8 | Inferior Service Pension Rule[5] | 1936 |
| 9 | Central Civil Services Extraordinary Pension rules[5] | 1939 |

Source: 1.Gokhale, 2003; 2.Great Britain, India Office, 1917; 3.Mandal, 1997; 4.Misra, 1971; 5 GOI, 1947

Civil Pension Code was published in January 10, 1872. An officer's claim to pension was governed by the Rules in force at the time of his resignation or his relieving from the service of the Government (Great Britain, 1888).

Royal Commission on Civil Establishments awarded pension to Government employees in 1881 (Goswami, 2001). The pension scheme, which was essentially contributory in character (Rajan and Prasad, 2008),

was applicable to all European civil servants but only to some Indian civil servants (Gayithri, 2009). Contribution rate was 4 per cent of their pay and allowances (O'Malley, 1965). The contributions made by the civil servants were credited to the revenues of India (Great Britain, India Office, 1917). The conditions under which a Government Servant qualified for pensions were (i) the service must be under Government in a post; the duties and pay of which were regulated by the Government, (ii) the employment might be substantive and permanent and (iii) the service might be paid by the Government (GOI, 1947). Men belonged to Indian Civil Service were allowed to retire on pension of £1000 per annum after twenty-five years of service. Lee Commission in 1924 calculated that the capital value of the contribution of 4 per cent was £250 in a year i.e. only a quarter of pension per annum (O'Malley, 1965). Invalid pension was given in the case of those officers who served less than twenty-five years of service.

Calculation of ordinary pension was based on the average emoluments of the pensioned officer during the three years prior to the retirement of the employee, and in accordance with a scale of so many sixtieths of such emoluments. Ordinary scale was ten-sixtieths after ten years' completed service, fifteen-sixtieths after fifteen years, and so on up to twenty-four years. For twenty-five years and over the full scale of thirty-sixtieths or one-half of emoluments was granted. As these scale gave unduly large pensions in the case of the more highly paid officers, maximum limits on the total amount of pension which could be earned was fixed for each year of completed service (Great Britain, India Office, 1917). Commutation of pension not exceeding one third of the pension was also allowed to officers retired on or after 1st July 1881 (Great Britain, India Office, 1905).

In 1889, Government of India published Civil Service Regulations. The Civil Pension Code was incorporated in the Regulations. Regulations relating to ordinary pensions excluded members of Superior Civil Service regarding scale of pension and in some respects regarding the counting of qualifying service (GOI, 1947). As per the regulations, four types of pensions- compensation pension, invalid pension, superannuation pension and retiring pension- were available to "Superior Civil Service" (Great Britain, India Office, 1905)

Royal Commission on the Public Service in India under the chairmanship of Lord Islington was appointed on 31st August 1912 (Chishti, 2001). Shri. Gopal Krishna Gokhale was one of the members of the committee. The Commission's enquiry was limited to the higher services (GOI, 1947). The Committee admitted existence of noticeable differentiation between Indian and public members of the public service in their salary, pension and conditions of service (Misra, 1988). On the recommendations of the Islington Commission, the 4 per cent contribution that the employee had to make to earn the pension was stopped in 1920 and the Government undertook to provide the full expenditure of the pensionary charge. At the same time, an ICS Provident Fund [an ICS (Non- European) Fund for Indian civil servants] was started for which the minimum contribution rate was fixed as 4 per cent and the maximum as 12.5 per cent (RBI, 2003). Islington commission also recommended that those who completed 25 years of qualifying service could retire optionally on reduced scale of ordinary pension (Great Britain, India Office, 1917).

As per the provisions of Government of India Act, 1919 (Mitra, 2009), new Pension rules were announced on 15 November, 1919 (Great Britain,

India Office, 1922). Amendments were accordingly made in the Civil Service Regulations. A new Article 465a was added under which Government of India reserved absolute right to decline request of an officer to retire before reaching the age of superannuation (Great Britain, India Office, 1922).

Royal commission on Superior Civil Services in India under the chairmanship of Lord Lee was set up in June 1923 (Mandal, 1997). The Commission submitted its report in 1924. The Lee Commission recommended an increase in pension, emoluments and privileges of the members of Civil Services (Jayapalan, 2001). Also the Indian civil servant could, under certain conditions, commute for a lump payment not more than half of any pension which was statutorily granted (Rajan and Prasad, 2008).

Government of India Act 1935 protected the pension rights of civil servants. Commissioners were appointed to look after the pension and family pension of the civil servants. The Act also made it clear that pension of civil servants not to be subject to the vote of the legislature (GOI, 1935).

A special set of rules relating to pensions of inferior servants was issued in 1936. It differed from the rules applicable to superior servants. The age of compulsory retirement was 60 years and retiring pension was admissible only on completion of 30 years of service. Compassionate, invalid or superannuation pension was allowed only on completion of a minimum qualifying service of 20 years. For different types of pension one-sixtieth of pay per year of service subject to the maximum ₹ 8/- and ₹ 20/- was allowed (GOI, 1947).

In 1939 Government of India issued Central Civil Services Extraordinary Pension rules for providing extra ordinary pensions to Government

employees who were injured during the discharge of their duty. In case of death the pensions were paid to widow or minor children or in exceptional cases to the parents (GOI, 1947).

#### 2.4.2.3 After Independence

The pension schemes existed during the British period were consolidated and expanded to provide retirement benefits to the entire public sector working population. Every Central Pay Commission relaxed pension rules and enhanced pension and other benefits. Seven Central Pay Commissions were so far submitted their report.

### 2.4.3 Evolution in Kerala

Venad Kings gave great importance to the welfare of people (Menon, 1967). There was royal grant of land to palace employees during the reign of Venad Kings (Menon, S., 1878). The spirit of charity formed, from time immemorial, the distinguishing attribute of the Maharajahs of Travancore and welfare of the people was their main concern (Aiyar, 1903; Aiya, 1906). Travancore was long known as a model native state and Cochin followed closely behind with respect to those things that made Travancore a model state (Joseph, 1999). Whether by virtue of being formally outside British India (Dreze. and Sen, 2002) or because of consistent pressure from the British administration (Desai, 2005) Travancore and Cochin gave importance to social sector and social security.

Marthanda Varma, who ruled during 1729-1758, rewarded meritorious men by giving titles, presents, land etc. (Menon, 1878). System of pension was existed in Travancore even in the middle of nineteenth century. Diwan

Subba Rao retired on a pension of ₹ 500 per month in June 1842 (Aiya, 1906).

In 1864 a scheme of retiring pension to public servants was introduced in Travancore by a Royal Proclamation dated 1st Chingam 1040 Malayalam Era (August, 1864) during the reign of Ayilyam Thirunal Rama Varma (Aiya, 1906). So CSP was given to the native public servants well before it was done at the national level.

In 1871 a scale of pension was fixed for the Nair Brigade Sepoys and in 1875 it was revised. They are eligible for pension after 21 years' service (Aiyar, 1903). In May 1872 Sir T. Madhava Rao resigned from the office of Diwan of Travancore on a pension of ₹ 500/- per month (Ghosh, 1881). The pension rules were revised in 1895 (Ullur, 1998). As per the revised rules the benefit of pension or gratuity was according to the period of service (Aiyar, 1903).

After the formation of Kerala in November 1956, Government of Kerala liberalised CSP system. But till 1978 there was no pension revision but only small adhoc increase in pension was given. Based on the recommendation of the Third Pay Revision Commission, pension revision and Dearness Allowance at reduced rate were sanctioned (GOK, 1984a). Dearness Allowance (DA) at the same rates as for serving employees was allowed with effect from 01/01/1987 and the term DA was later renamed as Dearness Relief (DR) (GOK, 1991). Subsequent Pay commissions also recommended for increase in pension and pensionary benefits which were implemented as such or with minor modifications.

Chapter 3

# CIVIL SERVICE PENSION SYSTEM IN KERALA – A COMPARATIVE ANALYSIS OF RETIREMENT BENEFITS

Contents



## 3.1 Introduction

India has separate CSP scheme like other South Asian Countries. Palacios and Whitehouse (2006) who made an analysis of CSP System in the world found that out of 158 countries in the world for which information about pension system is available 84 countries have separate retirement-income arrangements for civil servants. In other countries CSP is integrated with the pension system for the private sector employees.

The figure 3.1 shows the region wise arrangements for CSP system. While all south Asian countries have separate CSP system, all Eastern European countries have integrated pension system. India like other south Asian countries has separate pension system for Government employees. State governments follow the Union Government's pension system in a more or less similar manner.

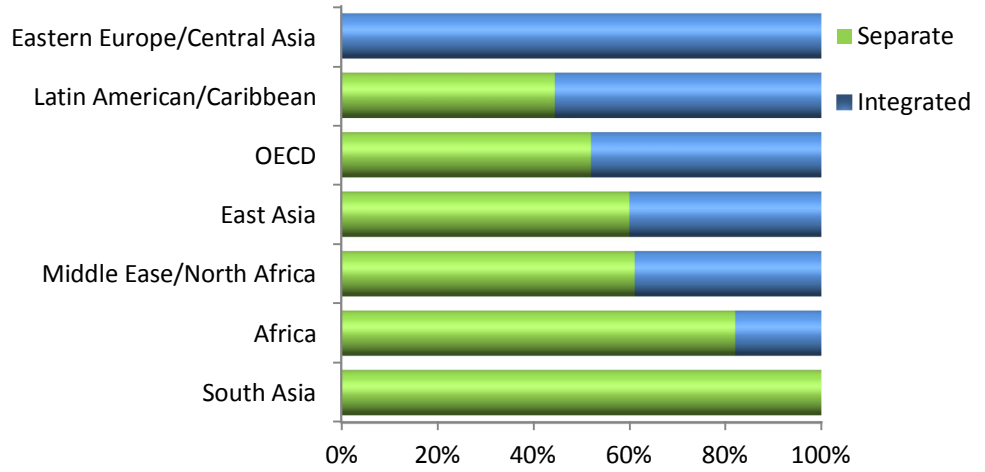



Figure from Palacios and Whitehouse, 2006

**Figure 3.1. Institutional Arrangements for CSP by Region**

Due to the increasing burden of pension expenditure, Union Government adopted DC based New Pension System (NPS), replacing DB based CSP system, for the recruits who join service on or after 01.01.2004. Like other State Governments, Kerala Government also followed the path of Union Government from 01.04.2013. In this chapter CSP system in Kerala is analysed by way of a comparative study of CSP benefits with that of Central Government.

## 3.2 Civil Service Pension Benefits in Kerala – Prior to 01.04.2013

Tiwari GK (2004) had broadly classified the retirement benefits of Central Government employees (who joined prior to 01/01/2004) into three categories:

- Non-Contributory Benefits - Pension and Gratuity
- Contributory Benefits - Government Provident Fund
- Other Benefits - Terminal Earned Leave Surrender.

Employees of Kerala Government who joined prior to 01/04/2013 are also eligible for these benefits. In addition to Government employees, staff of aided educational institutions, High Court and Part-time Contingent Employees is also eligible for pension and pensionary benefits in Kerala. Further exgratia pension is available to employees who are not eligible for statutory pension.

Rules and regulations governing pensions and pensionary benefits in Kerala are contained in Kerala Service Rules Part III (KSR) and the General Provident Fund (Kerala) Rules. Central Government rules and regulations contained in Central Civil Service (Pension) Rules (CCS (P)) and General Provident Fund (Central Service) Rules. The present pension rules was implemented by Central Government in 1972 and by Kerala Government wef 14/11/1966. Future good conduct is an implied condition for every grant of a pension (R 2 (A) & 90 (12) KSR and Rule 8 of CCS (P)). No pensioner can avail more than one pension at a time for same service or post. No pension or service gratuity or death gratuity will be paid in the case of resignation, dismissal or removal from service (R 7 & 29 of KSR and 7 & 26 of CCS (P)).

### 3.2.1 Pension

As per rule 12(24) and Rule 58 of KSR the term pension includes monthly pension, family pension, gratuity. But Rule 3(a) (o) of CCS (P) defines pension as pension and gratuity. But monthly pension and gratuity have separate distinct rules both in KSR and CCS (P) and so they are discussed separately.

### 3.2.1.1 Types of Pension

There are different kinds of pension, which are defined in advance, available to the employees of the State Government and Central Government depending on the nature of exit from the service. Seven types of pensions are specified in KSR and CCS (P).

i. **Superannuation Pension**: A superannuation pension is granted to a Government servant who is retired on the attainment of the age of compulsory retirement. So this is the pension on the compulsory retirement from service at a particular age stipulated by Government (Rule 35 of CCS (P) and Rule 60 and 55 of KSR). No specific order is necessary for retirement on due date which is afternoon of the last day of the month if birthday is not first day of the month. If it is first of a month the employee will retire afternoon of previous day.

ii. **Retiring Pension:** Retiring pension is granted to a Government Servant who retires, voluntarily after 20 years of qualifying service, before attaining the age of superannuation as per the provisions of Rule 56 of KSR Part III. A Central Government employment on being declared surplus may opt for voluntary retirement as per Rule 29 of CCS (P) rules (Muthuswamy and Brinda, 2013). Further State or Central Government employee who has completed thirty years of qualifying service, may be required by the appointing authority to retire in the public interest (Rule 56(A) of KSR Part III and Rule 48 of CCS (P) rules). Three month notice is necessary in all cases of voluntary retirement.

iii. **Pension on Absorption** in or under a corporation, company or autonomous or statutory body: A Government servant who has been permitted to be absorbed in service or post in or under a Corporation or Company wholly or substantially owned or controlled by the Government in or under a Statutory Body (KSR Part III and Rule 37 of (P) rule) is eligible for pro-rata pension.

iv. **Invalid Pension:** Invalid pension is granted if a Government servant retires from the service on account of any bodily or mental infirmity which permanently incapacitates him for the service. A Government servant applying for an invalid pension shall submit a medical certificate of incapacity from a competent medical authority (Rule 42 of KSR Part III and Rule 38 of CCS (P) Rules). In Central Government if the medical officer certified that the Government servant fit for further service of less laborious character and the employee is willing, he/she should be employed on lower post (Rule 38 of CCS (P) Rules). In Kerala, contagious diseases are also considered for invalidation (Rule 42 of KSR Part III) and no pension is granted if the incapacity is directly due to irregular or intemperate habits and if an applicant suffering from any disease which is curable by operation and the employee refuses to undergo such operation (Rule 43 and 51 of KSR Part III).

v. **Compensation Pension:** If a Government servant is selected for discharge owing to the abolition of his permanent post, he, unless appointed to another post is eligible for this pension (Rule 33 of KSR and Rule 39 of CCS (P)).

vi. **Compulsory Retirement Pension:** A Government servant compulsorily retired from service as a penalty may be granted pension or gratuity or both at a rate not less than two thirds and not more than full compensation pension or gratuity or both admissible to him on the date of his compulsory retirement (Rule 6 of KSR and Rule 40 of CCS(P)).

vii. **Compassionate Allowance**: A Government servant who is dismissed or removed from service shall forfeit his pension and gratuity. If the case is deserving of special consideration, a compassionate allowance not exceeding two - thirds of pension or gratuity or both may be sanctioned (Rule 5 of KSR and 41of CCS (P)).

### 3.2.1.2 Pension Formula

The monthly pension of Kerala and Central Government Employees depend on:

i. Accrual Rate (AR)

ii. Qualifying Service (QS) subject to maximum of 30 in Kerala and 20 in Central Government and

iii. Average Emoluments (AE) during last ten months prior to retirement.

So Pension =AR*QS*AE.

#### 3.2.1.2.1 Accrual Rate

It is the rate at which an employee earns pension benefit entitlements for each year of service (Whitehouse, 2007). It is nothing but replacement rate divided by maximum qualifying service for full pension. Replacement rate is

defined as the portion of a final earnings replaced by pension (RBI, 2003) which is 50 per cent in Kerala and Central Government. Up to 01/01/2006 there was no change in the accrual rate of Central Government and Government of Kerala. But after the implementation of Sixth Central Pay Commission Report the accrual rate is higher in Central Government. As evident from the Table 3.1 there has been liberalisation since 1978, in the accrual rate in favour of employees.

**Table 3.1. Accrual Rate (in %) - Kerala and India**

| Date | Kerala | Central Govt. |
|---|---|---|
| 01/07/1978 | 1/80 | 1/80 |
| 31/03/1979 | 1.51 to 1.3 (Slab System) | 1.51 to 1.3 (Slab System |
| 01/01/1986 | No change | 50/33 |
| 01/07/1988 | 5/3 | No change |
| 01/01/2006 | No change | 5/4 |

Source: Various G.Os and O.M.s

### 3.2.1.2.2 Qualifying service

Rules 9 to 31 of KSR Part III and Rule 14 to 32 of CCS (P) rules deals with the qualifying service. It is the service that qualifies for pension (Rule 30 of KSR Part III). Qualifying service is the length of service from the first date of joining in the Government service till the date of exit from the service excluding ineligible service and including eligible service if any. Eligible and ineligible services are presented in the Table 3.2.

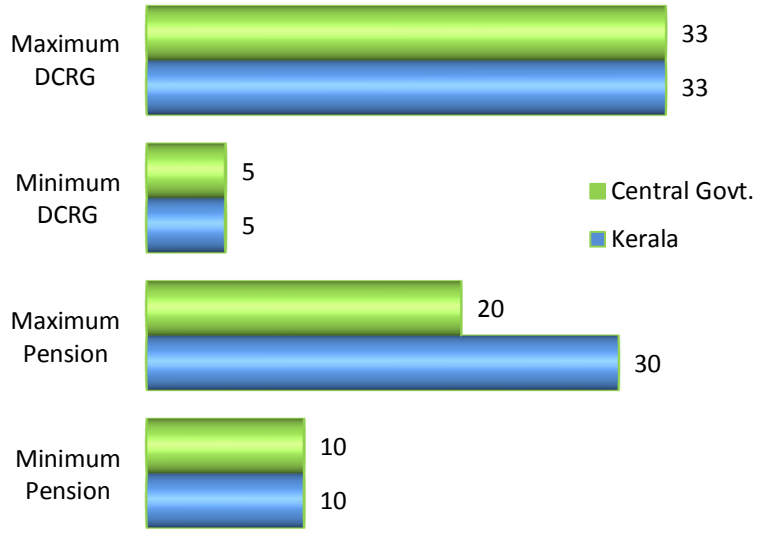
In addition to the service specified in the Table 3.2 which are eligible for counted as qualifying service, Kerala Government also count aided school service followed by Government service, bar service up to 10 years after the age of 25, temporary service up to 30/09/1994 and service in local self-

governments, Universities etc. Six months or above is counted as one year qualifying service in Kerala while Central Government counted three months and above as half year.

**Table 3.2. Eligible and Ineligible Service Reckoning for Qualifying Service- Kerala and Central Government**

| Sl. No | Type of Service | Kerala | Central Government |
|---|---|---|---|
| 1 | Military Service | Counted | Counted |
| 2 | Central Govt. Service | Counted | State Government Service Counted |
| 3 | Apprentice Service | Counted Apprenticeship in the PWD and in the Govt. Press | Not counted |
| 4 | Suspension Period | Regularised as duty/ leave other than LWA is counted | Counted if the employee fully exonerated. |
| 5 | Service after superannuation | Not counted | Not counted. |
| 6 | Leave Period | LWA without medical certificate and LWA for higher studies, joining spouse and foreign employment are not counted | All leave for which the leave salary is payable and extra ordinary leave with medical certificate are counted |
| 7 | Service prior to Resignation | Not counted | Not counted |
| 8 | Eligible service before reemployment | Counted | Counted |

Source: KSR Part III and Muthuswamy and Brinda, 2013.




Source: Same as Table 3.1.

**Figure 3.2. Minimum Qualifying Service Required for Pension and DCRG: Kerala and Central Government**

Minimum and maximum qualifying service required for DCRG and minimum pension are same in Kerala and in Central Government but for maximum pension it is 30 and 20 respectively as shown in the Figure 3.2. For minimum and maximum qualifying service a condonation of up to 364 days is allowed in Kerala (Rule 57, KSR). For example in the case of an employee having qualifying service of 9 years and one day, it will be rounded to 10 years.

### 3.2.1.2.3 Average Emoluments

In Kerala average emoluments is the average of ten months emoluments which consists of basic pay, dearness pay, special pay in lieu of higher scales of pay, officiating pay and personal pay. Prior to the implementation of pension

revision wef 01/07/1978 average of twelve months pay was considered (G.O. (P) 860/78/Fin dt. 16/12/1978). In the case of Central Government employees, emoluments is defined as basic pay including stagnation increment, if any, and non-practicing allowance granted to medical officer in lieu of private practice (Rule 33 of CCS(P)). After the implementation of Sixth Central Pay Commission Report it is the average of last ten months emoluments or of the last month's emolument which is beneficial to the employee. So emoluments include only pay in Kerala and pay and non-practicing allowance in Central Government. DA is not considered as emoluments for the calculation of pension.

### 3.2.2 Dearness Relief

In addition to the basic pension pensioners are eligible for Dearness Relief (DR) in parity with the DA of serving employees in order to face surging prices. So pension is indexed not only to the wages but also prices. In Kerala the term initially used as Dearness Allowance (DA) which was sanctioned for the first time, following the pattern of Central Government, in 1978 along with the first comprehensive pension revision. The DA sanctioned was only 12 per cent with a minimum of ₹ 15/- and maximum of ₹ 75/- per month while the DA was 15 per cent for serving employees (G.O. (P) 860/78/Fin dt. 16/12/1978). The DA was sanctioned in parity with serving employees wef 01/01/1987 (GOK, 2010) and the term DA was renamed as DR in 1989 vide GO (P) No.670/89/Fin. dt. 26/12/1989. Both the state and Central Government pensioners are getting DR but at a different rate. As on 01/01/2016, DR was 9 per cent for pensioners of Kerala (after pension revision wef 01/07/204) and 125 per cent for pensioners of Central Government.

### 3.2.3 Minimum and Maximum Pension

The pension calculated on the basis of the formula BP=AR*QS*AE has both lower and upper limits in Kerala and in Central Government. The concept of minimum pension is seen as a measure of poverty prevention after retirement by providing certain degree of income replacement relative to the income before retirement (GOI, 1995). This concept was introduced in India and later in Kerala from 01/01/1964 by granting minimum pension ₹ 25/- and ₹ 20/- (GOI, 1995; GOK, 1989). Table 3.3 shows minimum and maximum pension during different periods.

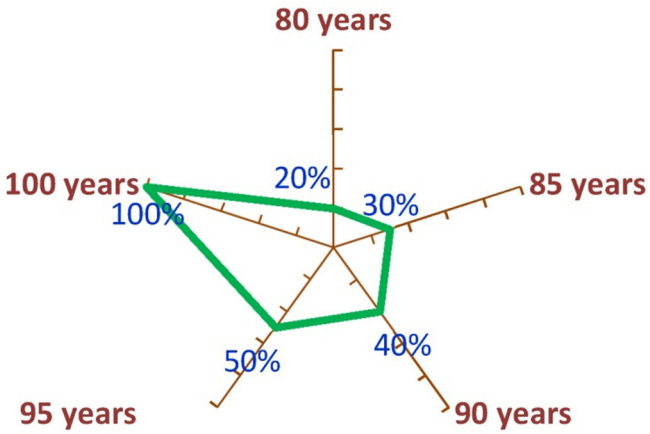
**Table 3.3. Minimum and Maximum Pension - Kerala and Central Government**

| Implemented from | Kerala | | Central Govt | |
|---|---|---|---|---|
| | Minimum Pension | Maximum Pension | Minimum | Maximum |
| 01/01/1986 | 150 | 1,750 | 375 | 4,500 |
| 01/07/1988 | 285 | 2,500 | No change | No Change |
| 01/07/1993 | 375 | 3,650 | No change | No Change |
| 01/01/1996 | No change | No Change | 1,275 | 15,000 |
| 01/03/1997 | 1,275 | 9,500 | No change | No Change |
| 01/07/2004 | 2,520 | 16,875 | No change | No Change |
| 01/01/2006 | No change | No Change | 3,500 | 45,000 |
| 01/07/2009 | 4,500 | 29,920 | No change | No Change |
| 01/07/2014# | 8,500 | 60,000 | No change | No Change |

Source: Various GOs and OMs. #Orders issued in January 2016.

The minimum and maximum pension along with the basic pension has been revising in Kerala and in Central Government mainly through the implementation of various pension revisions. Presently the minimum and maximum pension is high in Kerala compared to Central Government. But Seventh Central Pay Commission recommended ₹ 9,000/- and ₹ 1,25,000/- as minimum and maximum pension respectively.

The Sixth Central Pay Commission recommended additional quantum of pension for pensioners aged 80 or more years as "they require better deal because their needs, especially those relating to health, increase with age" (GOI, 2008) and Central Government accepted it and implemented wef 01/01/2006. So Central Government pensioners, on attaining age of 80 get 20 per cent more than their basic pay and pensioners on attainment age of 100 get double of their basic pension (See Figure 3.3). DR is also admissible for this additional quantum of pension. In Kerala no such additional pension is available.




Source: Muthuswamy and Brinda, 2013.

**Figure 3.3. Additional Quantum of Pension to Pensioners Aged 80 or more in Central Government**

### 3.2.4 Various Pension Revisions in Kerala

Prior to 1978 there was no pension revision but only small increases in pension (GOK, 1989). The first pension revision, which was implement sequel to the implementation of Third State Pay Commission Report, granted pension hike by segregating pensioners into four categories depending on the period of

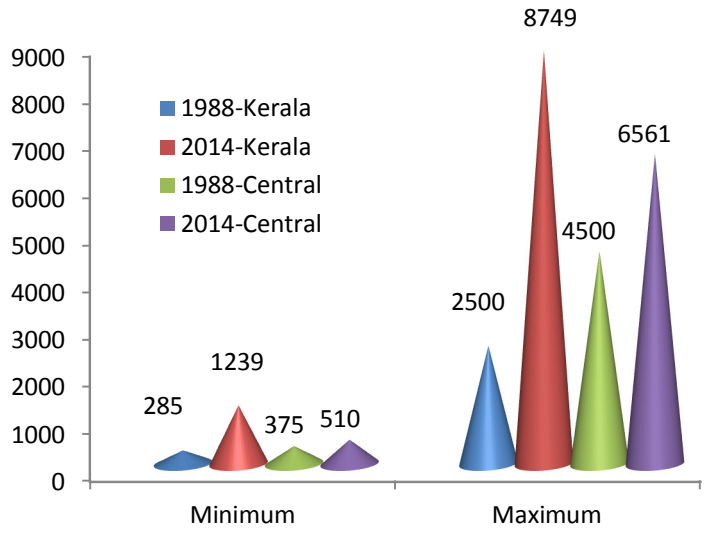
retirement. Instead of last twelve months, last ten months emoluments were taken for the calculation of average emoluments from 01/07/1978 (G.O. (P) 860/78/Fin dt. 16/12/1978). Subsequent pension revisions in Kerala were wef 01/04/1985, 01/07/1988, 01/07/1993, 01/03/1997, 01/07/2004, 01/07/2004, 01/07/2009 and 01/07/2014. The Central Government pension revision were implemented regularly every ten year wef first of January.

The pension revisions prior to 01/07/2004 granted revision by segregating pensioners into various groups based on retirement period and by merging DR. The pension revision granted wef 01/07/2004 was most land marking as it implemented One Rank One Pension (OROP) scheme in Kerala. As per this scheme pension is revised based on the proportionate share of the minimum of the scale of the post held by the pensioner. If post is abolished proportionate share of the minimum of corresponding scale is granted. So a pensioner with thirty years of qualifying service will get 50 per cent of the minimum of the scale of pay. If the pension so arrived is less than what is eligible for him consequent to the pension revision, the eligible pension is granted (G.O. (P) No.180/06/Fin. dated 18.04.2006).

Even though the concept of one rank one pension scheme was not implemented fully, the scheme removed wide disparity in the amount of pension of pensioners retired during different period by ensuring at least a proportionate share of the minimum pay. Subsequent pension revisions wef 01/07/2009 and 01/07/2014 followed this scheme. So there is no grouping of pensioners now and pension was revised in the last three pension revision by granting fitment benefit of 6 per cent, 12 per cent and 18 per cent, respectively, of basic pension and by merging DR.

The latest pension revision in Kerala was implemented wef 01/07/2014. Orders in this regard are issued in January 2016. Minimum pension was increased to ₹ 8, 500/- and maximum pension to ₹ 60, 000/-. All pensioners were given 18 per cent increase in their pension which is 6 per cent higher than previous pension revision (G.O. (P). No. 11/2016/Fin dt. 21.01.2016).

Thus successive pension revisions increased pension. For a comparison of hike in pension, minimum and maximum pension sanctioned wef 01/07/2014 was deflated to 1998 level and presented in the Figure 3.5.




Base 1970=100;

Source: Various Pension Revisions, Economic Review and Economic Survey.

**Figure 3.4. Deflated Minimum and Maximum Service Pension**

As seen from the figure deflated minimum pension increased by more than 4 times and maximum pension by 3.5 times in 2014 compared to 1988. The pension revisions are beneficial to the pensioners and there is significant increase in the pension. The various pension revisions also revised family pension, DCRG and portion of pension that can be commuted.

### 3.2.5 Commutation of Pension

While the rules relating to commutation are enshrined in KSR Part III as Appendix X, there are separate Central Civil Services (Commutation of Pension) Rules, 1981. As per the rules existed in Kerala and in Central Government, pensioner can commute a portion, subject to a maximum of 40 per cent, of his/her pension for lump sum which attract no tax. The commutation value is the product of amount of pension commuted and commutation value of one rupee at next birth day of the pensioner multiplied by twelve. Current commutation value for one rupee of pension per annum is presented in the Table 3.4. The commutation value is higher in Kerala compared to that in Central Government. After commutation pensioners get reduced pension and DR of original pension (i.e. including commuted portion).

**Table 3.4. Commutation Values for One Rupee per Annum – Kerala and Central Government**

| Age next birthday | Commutation Value | | Age next birthday | Commutation Value | |
|---|---|---|---|---|---|
| | Kerala* | Central# | | Kerala* | Central# |
| 51 | 12.95 | 8.808 | 61 | 9.81 | 8.194 |
| 52 | 12.66 | 8.768 | 62 | 9.48 | 8.093 |
| 53 | 12.35 | 8.724 | 63 | 9.15 | 7.982 |
| 54 | 12.05 | 8.678 | 64 | 8.82 | 7.862 |
| 55 | 11.73 | 8.627 | 65 | 8.50 | 7.731 |
| 56 | 11.42 | 8.572 | 66 | 8.17 | 7.591 |
| 57 | 11.10 | 8.512 | 67 | 7.85 | 7.431 |
| 58 | 10.78 | 8.446 | 68 | 7.53 | 7.262 |
| 59 | 10.46 | 8.371 | 69 | 7.22 | 7.083 |
| 60 | 10.13 | 8.287 | 70 | 6.91 | 6.897 |

Source: KSR and Central Civil Services (Commutation of Pension) Rules
*effective from 12/07/1971. # Effective from 01/01/2006.

The portion of pension that can be commuted is 33 per cent prior to 1996 in Central Government. Following Fifth Central Pay Commission,

Union Government enhanced the rate to 40 per cent (Muthuswamy and Brinda, 2013). In Kerala the increase was made only wef 01/07/2014 following the recommendation of Eight State Pay Commission (G.O. (P) No.180/06/Fin. Dated 18.04.2006).

Initially there was no restoration of commuted portion of pension. Kerala Government vide G.O. (P) 180/83/Fin. dt. 14.04.1983 issued orders for the restoration of commuted portion of pension after 15 years from the date of commutation. But Central Government implemented the restoration only in 1987 following the verdict of Honourable Supreme Court, in Writ Petition Nos.3958-61 of 1983, that the pensioners are entitled for restoration of pension after fifteen years (Muthuswamy and Brinda, 2013). Fourth State Pay Commission recommended reducing the restoration period to 12 years (GOK, 1984b) but Government of Kerala did not implement it. Later on the basis of the recommendation of the Fifth State Pay Commission (GOK, 1989), Government of Kerala reduced restoration period to 12 years (G.O. (P) No. 670/89/Fin. dt. 26/12/1989). So at a given pension, pensioners of Kerala get higher commutation value than pensioners of Central Government and their commuted portion of pension is restored at an earlier date.

### 3.2.6 Family Pension

The basic objective of a pension system is to optimize old-age security (Barr and Diamond, 2009). In case of any mishap of the breadwinner the family may suffer. In order to avoid it family pension is granted to the family of the deceased. Like pension, family pension is also indexed to wages and prices. Before 1977 contributory family pension scheme was existed in Kerala which was implemented wef 01/04/1964 (Rule 90 KSR). In 1977,

taking cue from Central Government, Government of Kerala introduced liberalised or non-contributory family pension vide G.O. (P) 55/77/Fin. dated 12/02/1977.

The following family members are eligible for family pension (Rule 80-89 of KSR and Rule 54 of CCS (P)):

a) Spouse of the deceased till death or remarriage whichever is earlier

b) Eldest eligible child, including posthumous and adopted before retirement, in the order of seniority irrespective of sex. It is payable up to 25 years of age or till employment/ marriage, whichever is earlier.

c) Children suffering from physical/mental disorder or disability and un-married daughter above 25 years of age till death.

d) Widowed disabled daughter from the date of death of her husband.

e) Parents in equal shares

f) Judicially separated spouse.

Before 01/03/1997 rate of family pension was different – 30 per cent, 15 per cent and 12 per cent - for different ranges of basic pays. For lower range the proportion was 30 per cent and for higher ranges 12 per cent. The pension revision implemented wef 01/03/1997 made the rate uniform – 30 per cent of last pay drawn, irrespective of last pay, subject to upper and lower limit (Rule 90, KSR). This was done following the implementation of Fourth Central Pay Revision which increased 12 per cent limit to 30 per cent. Family pensioners in Central Government sector receives additional pension as shown in Figure 3.3 like service pensioners.

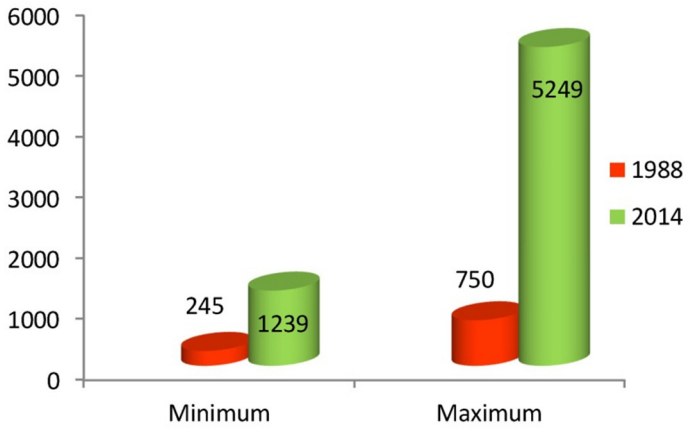
**Table 3.5. Minimum and Maximum Family Pension – Kerala and Central Government.**

| Implemented From | Kerala | | Central Govt. | |
|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum |
| 01/01/1986 | 120 | 600 | 375 | 1,250 |
| 01/07/1988 | 245 | 750 | No Change | No Change |
| 01/04/1994 | 375 | 1,100 | No Change | No Change |
| 01/01/1996 | No Change | No Change | 1,275 | 9,000 |
| 01/03/1997 | 1,275 | 5,970 | No Change | No Change |
| 01/07/2004 | 2,520 | 10,125 | No Change | No Change |
| 01/01/2006 | No Change | No Change | 3,500` | 27,000 |
| 01/07/2009 | 4,500 | 17,960 | No Change | No Change |
| 01/07/2014 | 8,500 | 36,000 | No Change | No Change |

Source: Various GOs and OMs.

The Table 3.5 shows minimum and maximum family pension implemented by Government of Kerala and Central Government at various periods. Before 1997 minimum pension and family pension are different and from 01/03/1997 both were equated (See Table 3.4 and Table 3.5). Presently minimum and maximum family pension are high in Kerala, but the Seventh Central Pay Commission recommended minimum family pension of ₹ 9, 000/- and maximum family pension of ₹ 75, 000/-.

As successive pay revisions increased pay structures of employees it automatically increased family pension as it is indexed to pay. Minimum family pension and maximum family pension was increased by about 35 and 45 times respectively during the last 30 years. In order to ascertain actual increase in the minimum and maximum family pension, both were deflated to 1988 level and presented in the Figure 3.5.




Source: Same as figure 3.2.

**Figure 3.5. Deflated Minimum and Maximum Family Pension**

While the minimum family pension in real term was increased by 5 times, maximum family pension was increased by 7 times in 2014. The increase in pension in real term was only 4 and 3.5 times only (see Figure 3.4). The maximum family pension increased substantively mainly due to the unification of family pension rate to 30 per cent in 1997.

In case of death of an employee in service after completing seven years of qualifying service, the family is eligible for higher rate of family pension which is the half of the pay last drawn or twice the amount of family pension admissible, whichever is less. Higher rate of family pension is admissible for a maximum period of seven years or till the age of 63 in the case of superannuation at 56 years of age and 67 in the case of superannuation at 60 years of age whichever is earlier. Similarly if the pensioner dies before completing seven years after retirement, higher rate of family pension equal to pension or family pension whichever is higher is sanctioned to the family (Rule 90 (4A) of KSR and Rule 54 (3)(a) of CCS(P)).

### 3.2.7 Pension for Part-time Contingent Employees

Part-time Contingent employees are part-time employees recruited normally through employment exchange. They are engaged to perform work which is not full-time in nature. Their retirement age is fixed as 70 years and their salary is termed as remuneration. Most of the part-time contingent employees are Sweepers (G .O (P) No.152/75/PD dt. 02.08.1975). The Fifth State Pay Commission recommended pension for these employees and Kerala Government introduced the same wef 01/07/1988. The rules for the fixation of pension are same that of permanent employees (G.O. (P) No.27/91/P&ARD dated 03.09.1991). But the minimum and maximum pension of part-time contingent pensioners is lower. Family pension was allowed to them wef 03/09/1997 only (G.O. (P) No 760/97/Fin dt. 06/09/1997). They are eligible all pensionary benefits of a permanent employee except commutation of pension.

**Table 3.6. Minimum and Maximum Pension and Family Pension for Part-time Contingent Employees**

| Effective From | Minimum Pension (in ₹) | | Maximum Pension (in ₹) | |
|---|---|---|---|---|
| | Pension | FP | Pension | FP |
| 01/07/1988 | 100 | | 250 | |
| 01/04/1994 | 125 | | 425 | |
| 01/03/1997 | 425 | 100* | 850 | 150* |
| 01/07/2004 | 850 | 700 | 1,500 | 1,200 |
| 01/07/2009 | 2,000 | 1,300 | 4,200 | 2,520 |

FP –Family Pension *Implemented from 03/09/1997.
Source: Various Kerala Government Orders.

The Table 3.6 shows minimum and maximum pension and family pension part-time contingent pensioners in Kerala. As see from the table in 2009 there was substantial increase in the minimum and maximum pension

due to the implementation of scale of pay to the part-time employees. Tenth State Pay Commission recommended ₹ 4400/- and ₹ 8400/- as minimum and maximum pension which is under the consideration of Government of Kerala.

### 3.2.8 Gratuity

This is the onetime tax free payment to the employee on retirement or to his family on his death (KSR and CCS (P)). So gratuity is also known as Death-cum-Retirement Gratuity (DCRG). In addition to these two types of gratuity there is also one more type of gratuity known as service gratuity which is paid to those whose qualifying service is less than 10 years and is ineligible for pension. Minimum service required for gratuity is five years (See Figure 3.2).

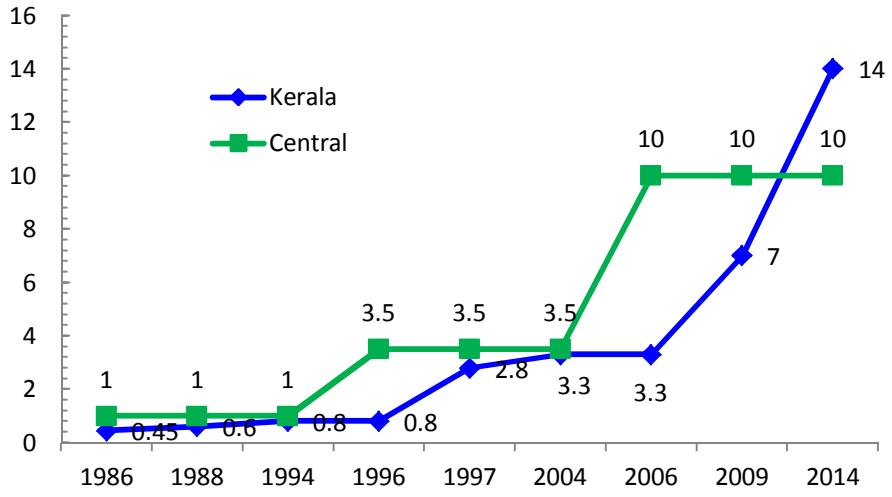
The term emoluments for DCRG include pay and DA at the time of retirement/death of the employee (Rule 68 of KSR). Before 01/03/1997 DA was not included in the definition of emoluments for DCRG. The Fourth Central Pay Commission Recommended to include DA in the definition of emoluments for DCRG and Central Government accepted it (GOI, 1995). Accordingly Seventh State Pay Commission recommended the same (GOK, 1998) and Government of Kerala implemented it.

The gratuity is the product of half of emoluments and qualifying service subject to the maximum of 16 ½ times of emoluments or maximum limit prescribed by the Government whichever is less. So

Gratuity=Emoluments* 16 ½

In Central Government gratuity is one-fourth of emoluments for each completed half year period subject to the maximum of 16 ½ times of emoluments (Rule 50 of CCS (P)). So in both cases formula is the same but maximum limit differs as shown in Figure 3.6.

(In Rupees Lakhs)




Source: Various G.Os and O.M.s

**Figure 3.6. Maximum DCRG - Kerala and Central Government**

Maximum DCRG is lower than that of Central Government in Kerala except from 2014 when Government of Kerala enhanced maximum limit of DCRG to ₹ 14 lakhs. Seventh Central Pay Commission recommended maximum DCRG of ₹ 20 lakh from 01.01.2016. The Commission also recommends that the ceiling on gratuity may be increased by 25 per cent when DA increases by 50 per cent. So a partial indexation of maximum limit of DCRG to DA is recommended (GOI, 2015). The Tenth State Pay Commission also recommended partial indexation to DA in order to avoid the wide disparity between the two pay revisions (GOK, 2015). But this recommendation was not considered by the Government of Kerala.

If an employee dies in service, his/her family is eligible for death gratuity as shown in Table 3.7. The rates are same for employees up to 20 years. After 20 years the rate is double in Central Government. The death gratuity is also subject to maximum limit stipulated by the Governments.

**Table 3.7. DCRG – Kerala and Central Government**

| Length of Qualifying Service | Rate of Death Gratuity | |
|---|---|---|
| | **Kerala** | **Central Govt.** |
| Less than one year | Two times | Same |
| One year to below 5 years | Six times of Emoluments | Same |
| 5 years to below 24 years | Twelve times of Emoluments | Same rate but Qualifying service required 5 years to below 20 years |
| 24 years or Above | Half of emoluments for each completed year subject to the maximum of 16 ½ times of emoluments. | 20 or more years – 1/4 of emoluments for each six months subject to the maximum of 16 ½ times of emoluments. |

Source: KSR Part III and CCS (P)

### 3.2.9 Medical Allowance

The medical allowance for pensioners aged 70 or more was introduced from April 1986 following the recommendation of the Fourth State Pay Commission (G.O. (P) No.235/86/ (45) /Fin. Dated 19.3.1986). The amount sanctioned was ₹ 25/- per month. The scheme was extended to all pensioners aged 65 from 01/07/1988 (G.O. (P)No.670/89/Fin dated 26.12.89). The amount was further increased to ₹ 50/ wef 01/03/1997 and the age for the eligibility was reduced to 60 years (G.O. (P) No.3001/98/Fin. dt., 25.11.1998).

As per the recommendation of the Eight State Pay commission the amount was enhanced to ₹ 100/- and sanctioned to all pensioners and family

pensioners irrespective of age (G.O. (P) No.180/06/Fin. dated 18.04.2006). The amount was further increased to ₹ 300/- wef 01/03/2011 (G.O. (P). No. 87/ 2011/Fin. dt. 28/02/2011). Part-time Contingent pensioners are eligible for medical allowance of ₹ 150/- wef 01/02/2011 (G.O. (P) No.405/2011/Fin. dated 26/09/2011). The Tenth State Pay Commission recommended medical insurance for the pensioner and it is under the consideration of the Government (GOK, 2015). Pensioners of Central Government is eligible for medical allowance of ₹ 500/- per month (GOI, 2015).

### 3.2.10 Exgratia Pension

As per the provisions of KSR and CCS (P) rules, minimum service required for pension is ten years. In order to give relief to those who are not eligible for statutory pension for want required qualifying service, Government of Kerala introduced exgratia pension scheme, which is optional, wef 01/10/1999 as per G.O. (P) No1851/99/Fin dated 18/09/1999. Those who opt for exgratia pension are not eligible for service gratuity. This scheme is also extended to the employees in aided institutions and local bodies.

**Table 3.8. Exgratia Pension – Qualifying Service ad Pension Amount**

| Completed Year of QS | Consolidated Amount Per Month | | | | FP |
|---|---|---|---|---|---|
| | 01/10/1999 | 01/04/2005 | 01/07/2009 | 01/07/2014 | 01/07/2014 |
| 9 years | 1148 | 2160 | 4050 | 7650 | 2295 |
| 8 years | 1070 | 1920 | 3600 | 6800 | 2040 |
| 7 years | 893 | 1680 | 3150 | 5950 | 1785 |
| 6 years | 765 | 1440 | 2700 | 5100 | 1530 |
| 5 years | 638 | 1200 | 2250 | 4250 | 1275 |
| 4 years | 510 | 960 | 1800 | 3400 | 1020 |
| 3 years &below | 400 | 720 | 1350 | 2550 | 765 |

Source: Various Kerala Government Orders.

The consolidated amount of pension granted to exgratia pensioners during different periods are given in the Table 3.8. No dearness relief and family pension was granted to these pensioners till 01/07/2014. Considering the recommendation of the Tenth State Pay commission, Government of Kerala sanctioned DR and family pension, to the spouse of the exgratia pensioners wef 01/07/2014 (G.O. (P). No. 11/2016/Fin dt. 21/01/2016). This is very land marking one as almost all the employees in the Kerala Government service are now eligible for pension and family pension. The exgratia pension is not available for employees of Central Government.

### 3.2.11 Terminal Earned Leave Surrender

Employees of the Kerala and Central Government can encash the earned leave at the credit of the employee, subject to a maximum of 300 leaves, at the time of retirement. The amount so received is tax free. The earned leave is the leave earned by the employee for 11 days of duty. In the case of part-time contingent employees, they earn one leave for 22 days of duty only (KSR Part I and CCS (Leave) Rules).

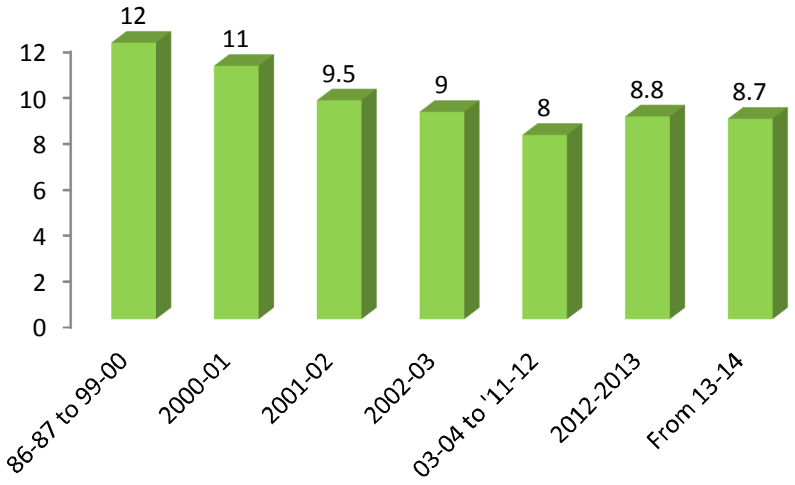
### 3.2.12 General Provident Fund

In Kerala GPF for full time employees was constituted from 01/04/1967 and for Part-time Contingent Employees from 17/03/2005. All permanent employees and all part-time contingent employees are eligible to become subscribers of the fund. In Central Government there is no provident fund scheme for part-time employees but temporary employees can subscribe to the GPF. The General Provident Fund (Central Service) Rules, 1960 (GPF(CS)) is applicable to Central Government Employees and General

Provident Fund (Kerala) rules 2011 which replaced GPF(Kerala) Rules 1964 is for the employees of Kerala Government.

Central civil service employees, after a qualifying service of 1 year are eligible to become a subscriber to the GPF. In Kerala it is mandatory for all employees, including employees under NPS, who successfully completed probation and optional for employees who is in probation. A subscriber can nominate a person in the prescribed form at the time of joining the fund. If the subscriber has a family at the time of submitting the nomination, he/she can nominate only the member(s) of his family (GPF (CS) and GPF (Kerala) rules).

The subscriber can fix the amount of subscription but in the case of permanent employees, it cannot be less than 6 per cent and not more than 100 per cent of basic pay as on 31st March of preceding financial year. The minimum limit is 3 per cent for part-time contingent employees in Kerala. The subscriber can reduce the amount of subscription once and can increase it twice in a financial year. The monthly subscription to the fund is mandatory except during suspension. The subscriber, after reinstatement, is permitted to remit not exceeding the arrears of subscription during suspension in lump sum or in installments. During the last one year of service immediately preceding the retirement date the subscriber can stop the subscription. Interest rate of fund is determined by the Government of India and is implemented by the states (GPF (CS) and GPF (Kerala) rules). The rate of interest during the last three decades is shown in the Figure 3.7.




Source: Various Kerala Government Orders.

**Figure 3.7. Rate of Interest (in %) of GPF**

Calculation of interest is done annually and interest is credited to the account of the subscriber. The amount at the credit on the last day of the preceding year, the subscriber get interest for twelve months and for the sums credited after this date interest is from the date of credit to the end of the current year. In case of any withdrawals, interest is given from the beginning of the year to the last day of the month preceding the month of withdrawal (GPF (CS) and GPF (Kerala) rules).

Subscribers of Central GPF can take advance from the fund an amount not exceeding three months' pay or half the balance at the credit of the subscriber whichever is less. In Kerala the limit is the monetary limits prescribed in the delegation of financial powers of the respective departments or subject to a maximum of 75 per cent of the balance at credit whichever is less. For part-time contingent employees the limit is 16 time of pay or half of the amount at the credit of the subscriber whichever is less (GPF (CS) and GPF (Kerala) rules).

The advance is sanctioned for meeting one or more reasons specified in the rues such as to meet expenses related with prolonged illness of the subscriber or the dependents, for higher studies of the subscriber or dependents in India or abroad, for pilgrimage, to purchase household durables etc. The advance sanctioned is to be refunded equal monthly installments not less than 12 unless the subscriber so opts or not more than 36 (24 in Central GPF). The subscriber has the option to refund more than one installment in a month or in lump sum. The subscriber can take advance twice in a year (GPF (CS) and GPF (Kerala)).

In addition to the temporary advance, subscribers who complete ten years of service (15 years in CGPF) or within ten years from the date of retirement, whichever is earlier, can withdraw up to 75 per cent of the amount at the credit of the subscriber for one or more reasons prescribed in the rules such as meeting of higher education within or outside India, marriage of the subscriber, son/daughter or any female relative dependent on the subscriber, meeting expenses for the treatment of illness, purchase/repair house, purchase of durable household items etc.

At the time of retirement subscribers have to submit the closure application for getting the amount at the credit of the subscriber. In the event of death or if the subscriber disappears leaving the family, the amount will be paid to the nominees after fulfilling all the formalities prescribed in the rules. An employee who is proceeding on leave preparatory to retirement has the option to close his/her GPF account (GPF (CS) and GPF (Kerala) rules).

## 3.3 New Pension System

During the last 25 years there are serious efforts around the World to reform the CSP. Even though the pension system of countries differs the main reason for the initiation of pension reform is more or less the same – increasing pension expenditure (RBI, 2003). Due to the same reason Union Government appointed a High Level Expert Group in June 2001 "to review the existing pension system and to provide a roadmap for introducing a NPS based on defined contributions" (GOI 2002). The committee recommended a two-tier hybrid DB-DC scheme for the new recruits. The first tier is mandatory. The committee recommended 10 per cent of basic and DA as contribution by the new entrants with the matching contribution by the Government. The first tier will provide a DB of 50 per cent of the average emoluments of last 36 months. The proposed scheme envisaged indexation of inflation up to 5 per cent per annum. The second tier is a voluntary saving oriented scheme with a matching contribution up to a 5 per cent limit by the Government. Minimum contribution of employees was 2 per cent with no upper limit (GOI 2002).

But the Union Government rejected the hybrid DB-DC system recommended by the High Level Expert Group and introduced NPS consists of two tiers for those who join service wef 01.01.2004. The first tier is mandatory with 10 per cennt (of basic and DA) contribution by the new recruits with the matching contribution by the Government. There is no DB in the first tier. The second tier is voluntary and there is no minimum or maximum limit in the contribution of employees. But there is no contribution of Government in the second tier (GOI, 2003).

The contribution of the employee along with the matching contribution of the Government has been transferring to individual non withdrawable pension account so as to invest the same as per the provisions of Government of India / Pension Fund Regulatory and Development Authority (PFRDA), a statutory body constituted by the Government of India. The PFRDA was established in 2003 to promote old age income security by establishing, developing and regulating pension funds and to protect the interests of the subscribers (Sadhak, 2013).

Employees can normally exit at or after 60 years for tier I of NPS. At the time of normal exit it is mandatory for the employees to invest 40 per cent of the pension wealth to purchase an annuity from an Insurance Regulatory and Development Authority of India (IRDA) regulated Life Insurance Company. There is no restriction in the utilization of the remaining 60 per cent of the pension amount. If an employee leave tier I before attaining 60 years the mandatory investment limit is 80 per cent (GOI 2003).

The NPS is a replacement for only pension "under normal circumstances and family pension in case of death after retirement". So invalid pension, family pension in case of death of Government servant while in service and gratuity for those who are under NPS are continuing by Government of India (OM No.38/41/06/P & PW (A) dt. 05-05-2009).

Taking cue from the Central Government all the state Governments except West Bengal and Tripura, implemented the NPS (PFRDA, 2016). Kerala Government implemented NPS for the recruits who join service on or after 01/04/2013 vide GO (P) No 20-2013-Fin. dt. 07/01/2013. The scheme

has no difference with the central scheme. As on 31/03/2016, total number of employees under NPS in Kerala was 40,029 (PFRDA, 2016).

### 3.3.1 Investment of Pension Assets

The most serious risk faced by subscribers in a DC pension system is the investment performance of the pension assets (Bodie, Marcus and Merton, 1988). PFRDA entrusted LIC Pension Fund Ltd., SBI Pension Funds Private Ltd. and UTI Retirement Solutions Ltd. as three Pension Fund Managers (PFMs) (PFRDA 2015). PFRDA selected three PFMs for providing wider choice and competition among them. Presently the government employees have no choice to select their PFMs. The pooled contributions of the employees are distributed among the three PFMS on the basis of their investment performance in the previous year (Sadhak, 2013).

**Table 3.9. Distribution of Pension Assets Among Pension Fund Managers**

(In ₹ Crore as on 31.03.2015)

| Fund Managers | Central Govt (CG) | State Govt (SG) | Total | % Share |
|---|---|---|---|---|
| SBI PF | 9,025 | 6,892 | 15,917 | 35.85 |
| UTI RSL | 8,082 | 6,659 | 14,741 | 33.20 |
| LIC PF | 7,081 | 6,661 | 13,742 | 30.95 |
| Total | 24,188 | 20,212 | 44,400 | 100.00 |

Source: PFRDA (2015). Calculations are made.

The distribution of pension assets among the three PFMs is given in the Table 3.9. It shows that there is no large difference of pension assets distribution among the three PFMs. SBI Pension Funds got highest percentage (35.85%) of total pension assets, followed by UTI Retirement Solutions Ltd (33.20%) and LIC Pension Fund Ltd. (30.95%).

**Table 3.10. Returns on Pension Assets as on 31.03.2015**

| PFM | Yearly Returns | | CAGR since Inception | |
|---|---|---|---|---|
| | CG | SG | CG (wef 01/04/'08) | SG (wef 25/06/'09) |
| SBI | 19.34 % | 19.76 % | 10.59 % | 10.08 % |
| UTI | 18.58 % | 19.32 % | 10.06 % | 10.17 % |
| LIC | 18.85 % | 19.32 % | 10.24 % | 10.42 % |

Source: PFRDA, 2015.CG-Central Govt; SG-State Govt.

Due to the competition among three PFMs they manage savings of the subscribers in various investment schemes so as to get maximum returns. But the investments are as per the guidelines of the PFRDA (Sadhak, 2013). The performance of SBI during 2014-2015 was comparatively better as clear from the Table 3.10 which shows the returns on the pension assets managed by each PFM. The Compound Annual Growth Rate (CAGR) of pension fund of Central Governments' employees under SBI was the highest during the entire period (10.59%). But the CAGR of State Governments' pension fund under SBI was only 10.08 per cent. Performance of LIC was better (10.42%) in this case.

The NPS was introduced in Kerala in order to overcome rising pension expenditure. In the next chapter an analysis of pension expenditure in Kerala is attempted.

# Chapter 4

# ANALYSIS OF PENSION EXPENDITURE IN KERALA STATE

Contents



## 4.1 Introduction

Countries face rising pension spending (Barr, 2006b) and the share of the budget earmarked for civil-service pensions has been growing. In India also the rising pension expenditure of the Centre and State Governments have emerged as a serious concern during the recent years. Increasing pension expenditure in Kerala is a critical issue in the finances of the Kerala Government. In this chapter an attempt is made to analyse pension expenditure in Kerala.

## 4.2 Pension Expenditure in Kerala State

Pension expenditure in Kerala consists of: pension and retirement benefits of service pensioners, pension to the family of deceased service pensioners and pension for others such as former members of the Kerala Legislative Assembly, family of ex-rulers of the state, artists, and persons who participated in the

freedom struggle. Further there are expenses like money order charges, free travel coupons to former MLAs and medical allowance to pensioners.

The Table 4.1 shows pension expenditure of Kerala, Central Government and all other states excluding Kerala. Index of pension expenditure of other states was higher compared to that of Kerala which means even though there was substantial increase in the pension expenditure in Kerala, the increase was less compared to rest of India. But the increase of pension expenditure in Kerala was marginally higher compared to the index of pension expenditure of the Union Government.

**Table 4.1. Total Pension Expenditure - Kerala, Other States and Central Government**

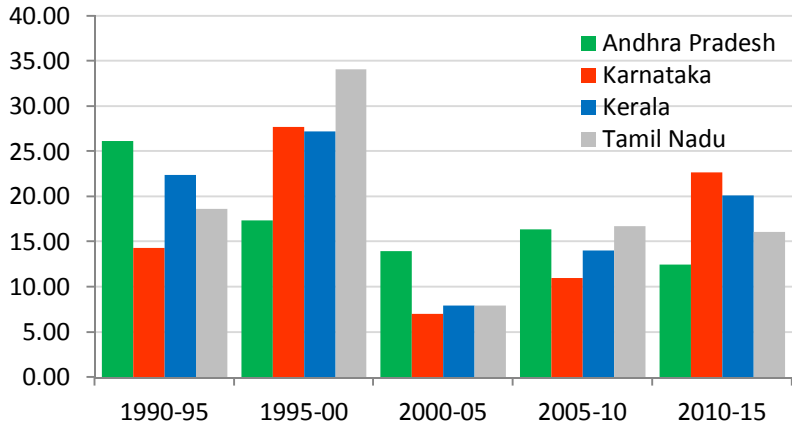
(in ₹ Crores)

| Year | Kerala | Index | Other States* | Index | Centre | Index |
|---|---|---|---|---|---|---|
| 1990-91 | 293 | 100 | 2,838 | 100 | 2,138 | 100 |
| 2000-01 | 1,929 | 658 | 23,523 | 829 | 14,379 | 673 |
| 2005-06 | 2,861 | 976 | 37,786 | 1,331 | 20,256 | 947 |
| 2006-07 | 3,295 | 1,124 | 43,566 | 1,535 | 22,104 | 1,034 |
| 2007-08 | 4,925 | 1,680 | 51,173 | 1,803 | 24,261 | 1,135 |
| 2008-09 | 4,686 | 1,599 | 60,754 | 2,141 | 32,940 | 1,541 |
| 2009-10 | 4,706 | 1,605 | 78,455 | 2,765 | 56,149 | 2,626 |
| 2010-11 | 5,767 | 1,967 | 102,493 | 3,612 | 57,405 | 2,685 |
| 2011-12 | 8,700 | 2,968 | 119,100 | 4,197 | 61,166 | 2,861 |
| 2012-13 | 8,867 | 3,025 | 135,883 | 4,788 | 69,479 | 3,250 |
| 2013-14 | 9,971 | 3,402 | 154,080 | 5,429 | 74,896 | 3,503 |
| 2014-15 | 11,253 | 3,839 | 186,870 | 6,585 | 81,705 | 3,822 |

*2013-14 RE and 2014-15 BE

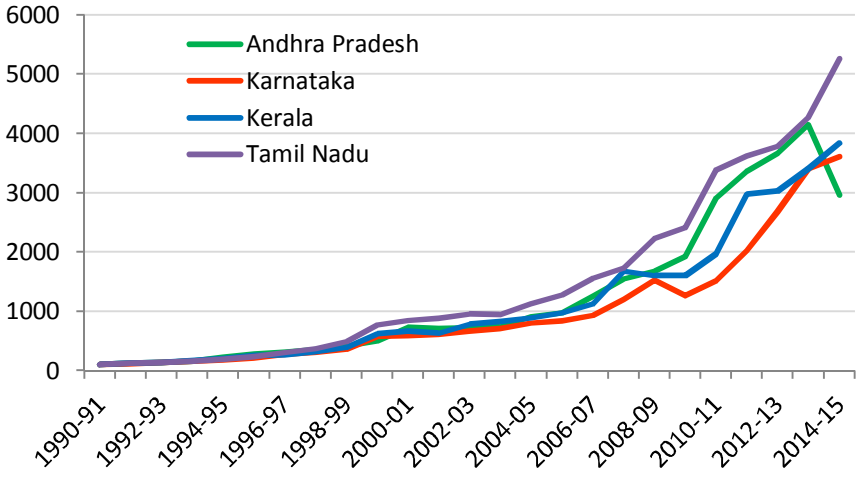
Source: State Finance: A study of State Budgets various issues and Budget Documents of Kerala and Union Govt. for various years.

The five year average growth rate of pension expenditure of four southern states, as depictd in the Figure 4.1, shows that growth rate in Kerala was not highest among southern states during 1990-2015.




Source: State Finances-Various Issues and Kerala Budget documents various years

**Figure 4.1. Five Year Average Growth Rate of Pension Expenditure - Southern States From 1990-91 to 2014-15**




Source: State Finances-Various Issues and Kerala Budget documents various years

**Figure 4.2. Index of Pension Expenditure in Southern States During 1990-2015**

Index of pension expenditure in southern states for the twenty five year period (1990-2015) is given in the Figure 4.2. The Figure shows that pension expenditure in all the Southern States had been increasing. Growth of pension expenditure in Tamil Nadu was the highest one and that of Karnataka was the lowest among the Southern States. Sudden fall of pension expenditure of Andhra Pradesh in 2014-15 was due to the formation of Telangana.

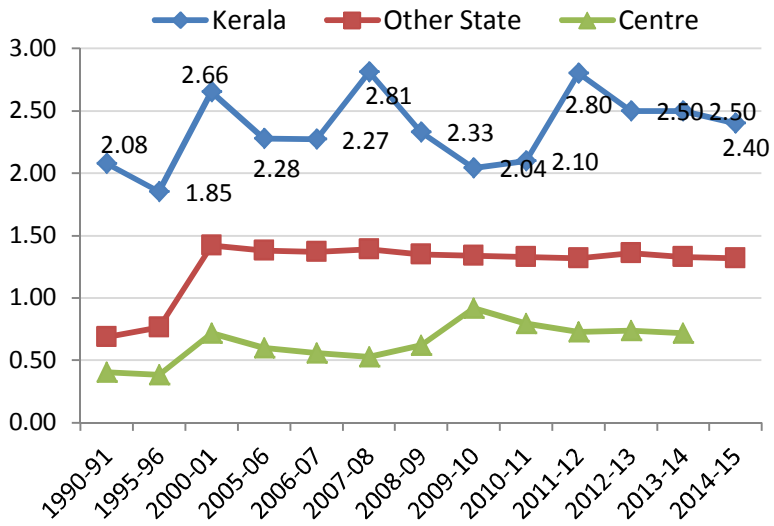
**Table 4.2. ANOVA –Pension Expenditure of Southern States during 1990-2015**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 86138454.110 | 3 | 28712818.037 | 1.877 | .139 |
| Within Groups | 1468368670.000 | 96 | 15295506.979 | | |
| Total | 1554507124.110 | 99 | | | |

Anova of pension expenditure of southern states (see Table 4.2) shows no significant difference in the mean pension expenditure of the Southern States during the last twenty five year perod. So Pension expenditure in Kerala was not substantially higher than Southern States during the last twenty five years. But whether the state Governmnet has the financial capability to bear the rising pension expenditure is the pertinent question.

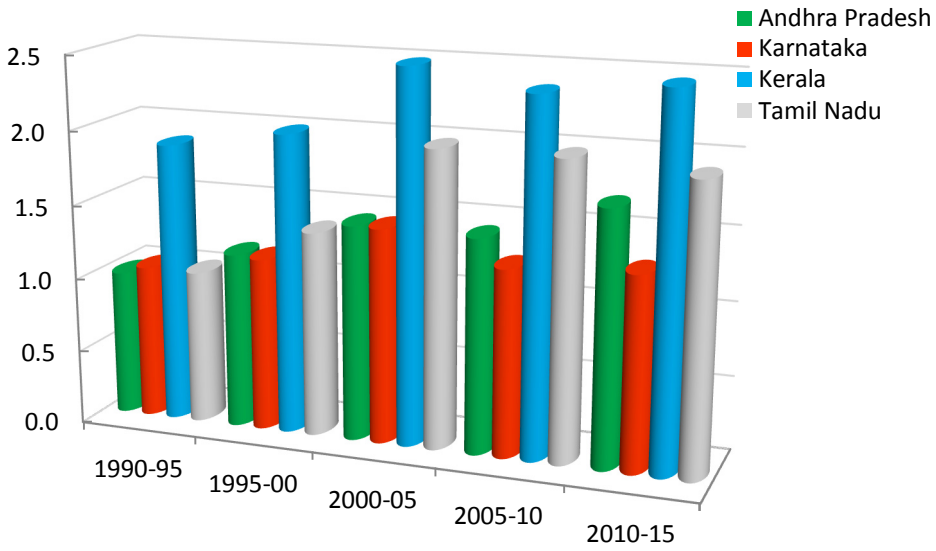
## 4.3 Pension Expenditure as % to GSDP

Pension expenditure as percentage to Gross State Domestic Product (GSDP) at current prices was very high in Kerala (see Figure 4.3). Total pension expenditure of other states was less than 1.4 per cent of their GSDP. In Kerala it was more than 2 per cent during the last ten years and it was 2.4 per cent during 2014-15. Central Government spent only less than 1 per cent of GDP towards pension expenditure.




Source: State Finance: A study of State Budgets various issues and Budget Documents of Kerala and Union Govt. for various years

**Figure 4.3. Proportion of GSDP/GDP Spend for Pension Expenditure**




Source: State Finances-Various Issues and Kerala Budget documents various years

**Figure 4.4. Ratio of Pension Expenditure to GSDP-Southern States**

Among Southern states Kerala spent highest proportion of GSDP for the payment of pension and related expenditure (see Figure 4.4). From 1995-00 Karnataka spent the lowest proportion of GSDP for pension.

Distribution of states according to average ratio of pension expenditure to GSDP shows that number of states spent more than 2 per cent of their GSDP for pension increased during the last twenty five years (see Table 4.3). Bihar was the only one non-special category state which spent little more than 3 per cent of its GSDP during 2000-05 and 2010-15 for the payment of pension and pensionary benefits.

**Table 4.3. Distribution of States According to Average Ratio of Pension Expenditure to GSDP**

| Period | Less than 1 % | 1 to 1.9% | 2 to 2.9% | 3 % or more |
|---|---|---|---|---|
| 1990-95 | 16 | 9 | - | - |
| 1995-00 | 6 | 14 | 5 | - |
| 2000-05 | 3 | 15 | 8 | 2 |
| 2005-10 | 3 | 14 | 8 | 3 |
| 2010-15 | 1 | 14 | 7 | 6 |

Source: State Finances-Various Issues and Kerala Budget documents various years.

## 4.4 Ratio of Pension Expenditure to Revenue Expenditure

Revenue expenditure accounts for around 80 per cent of States' aggregate expenditure (RBI 2010). Almost all the State Governments have been taking steps to reduce their revenue expenditure as fiscal consolidation achieved though reduction of selected non developmental revenue expenditure trigger higher growth rates than the steps taken to increase revenue receipts and to reduce productive spending (Pang, Pinto and Wes, 2007). But most of the states including Kerala failed to reduce revenue expenditure as major

chunk of revenue expenditure is committed expenditure like salary, pension and interest payments.

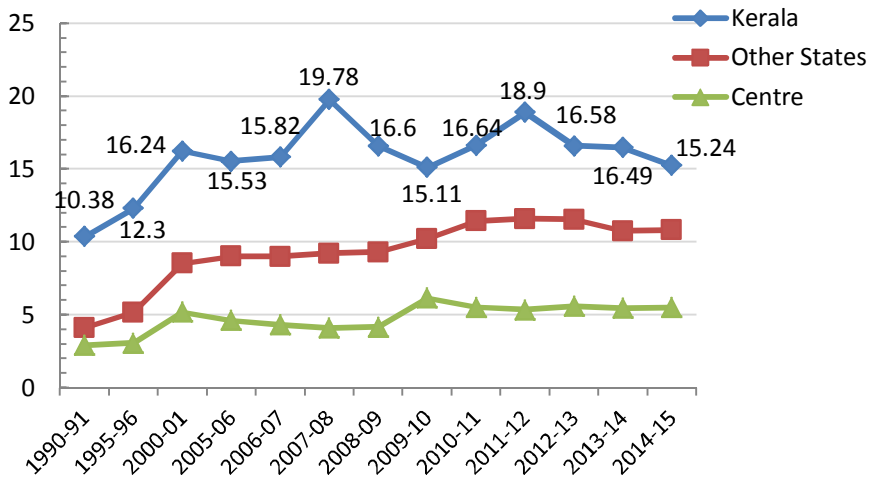
During 2010-15 more than 16 per cent of revenue expenditure was pension in Kerala. Pension expenditure of only three other states viz; Bihar (15%) Punjab (15.1%) and Himachal Pradesh (16.4 %) constituted 15 or more percentage of their revenue expenditure. During 1980-85 pension expenditure of all states except Kerala and Karnataka was less than 5 per cent of revenue expenditure. But during 2010-15 pension expenditure of all the states was 5 per cent or more of their revenue expenditure (see Table 4.4).

**Table 4.4. Distribution of States According to Average Ratio of Pension Expenditure to Revenue Expenditure**

| Percentage | Less than 5% | 5%-9% | 10 to 14% | 15 % or more |
|---|---|---|---|---|
| 1990-95 | 20 | 4 | 1 | - |
| 1995-00 | 7 | 17 | 1 | - |
| 2000-05 | 3 | 17 | 7 | 1 |
| 2005-10 | 2 | 18 | 7 | 1 |
| 2010-15 | - | 12 | 12 | 4 |

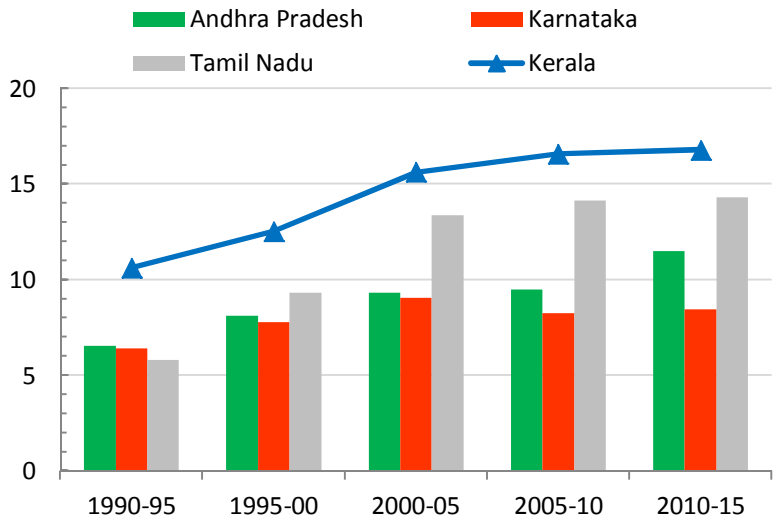
Source: State Finances-Various Issues and Kerala Budget documents various years.

During the last twenty five years the ratio of pension expenditure to revenue expenditure was high in Kerala compared to other states and Central Government (see Figure 4.5). During 2000-2015 more than 15 per cent of its revenue expenditure was pension expenditure. In the case of other states and Central Government it was only about 10 per cent and 5 per cent respectively during the period. Compared to southern states also the pension expenditure as proportion to revenue expenditure was high in Kerala (see Figure 4.6).




Source: State Finance: A study of State Budgets various issues and Budget Documents of Kerala and Union Govt. for various years

**Figure 4.5. Ratio of Pension Expenditure to Revenue Expenditure-Centre, Kerala and States Excluding Kerala**



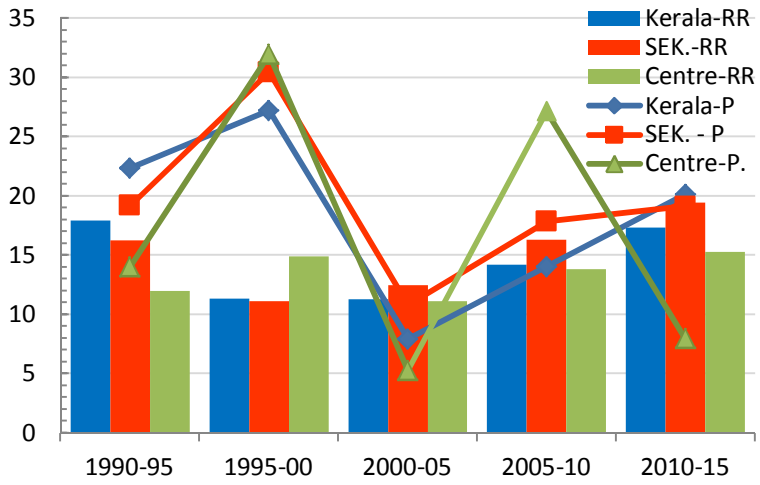

Source: State Finances-Various Issues and Kerala Budget documents various years.

**Figure 4.6. Ratio of Pension Expenditure to Revenue Expenditure-Southern States**

## 4.5 Ratio of Pension Expenditure to Revenue Receipts

The ratio of pension expenditure to GSDP or revenue expenditure does not provide a clear picture of the fiscal burden of pension expenditure of a State Government. As Palacios and Whitehouse (2006) pointed out the better indicator of fiscal burden of pension expenditure is the ratio to Government receipts.

Revenue receipts of state governments consist of own revenue and share of central taxes and grant-in aid from centre. Figure 4.7 shows that except during 2000-05 average growth rate of pension expenditure was higher than average growth rate of revenue receipts in Kerala.



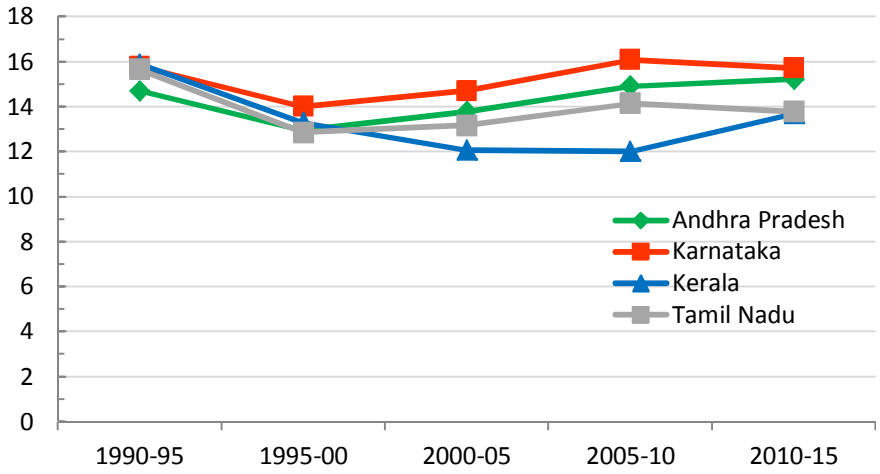

RR-Revenue Receipts, SEK- States Excluding Kerala, P-pension.
Source: same as Table 4.1

**Figure 4.7. Average Growth Rates of Revenue Receipts and Pension Expenditure**

Average growth rate of pension was less compared to that of centre and state only during 1995-00 and 2005-10. Due to the implementation of Fifth and Sixth Central Pension Revisions there was increase in the rate of growth

pension expenditure of Centre and majority of states during these periods. The growth rate of revenue receipts of Kerala was highest during 1990-95 compared to Central Government and all states excluding Kerala. From 2005-10 the growth rate became less than that of other states.

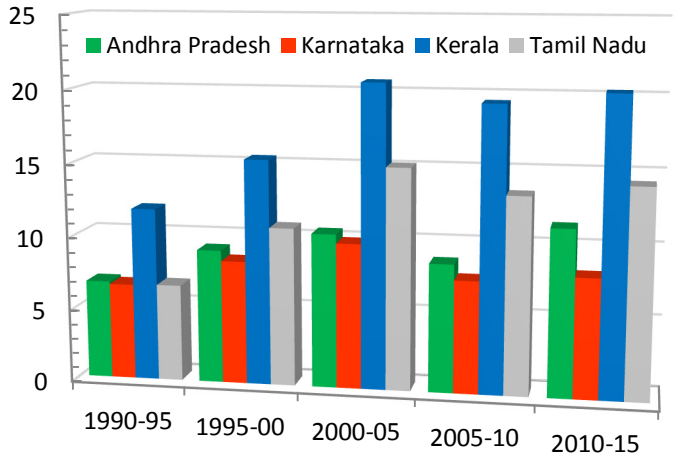
There was little difference between the five year average percentage of revenue receipts of Kerala to GSDP and that of other states during 1990-2015(RBI 2010, 2015). Compared to southern states average percentage of revenue receipts to GSDP was highest during 1990-95 but became less than that of other three states from 2000-05 (see Figure 4.8). During 2010-15 there was some increase in the percentage and became close to the revenue-GSDP percentage of Tamil Nadu. The reduction in the revenue receipts as percentage to GSDP during the last fifteen years was attributed to the sluggish growth rate of nontax revenue coupled with less transfer of central taxes compared to other southern states (RBI 2010, 2015).




Source: State Finances-Various Issues and Kerala Budget documents various years

**Figure 4.8. Revenue Receipts as Percentage to GSDP-Southern States**

Due to the faster growth rate of pension expenditure than the growth rate of revenue receipts except during 2000-05, the pension expenditure as a percentage of the revenue receipts had been increasing in Kerala (see Figure 4.9). Karnataka spent the lowest proportion of revenue receipts for pension payment during the last twenty five years.




Source: State Finances-Various Issues and Kerala Budget documents various years

**Figure 4.9. Pension Expenditure as Percentage to Revenue Receipts-Southern States**

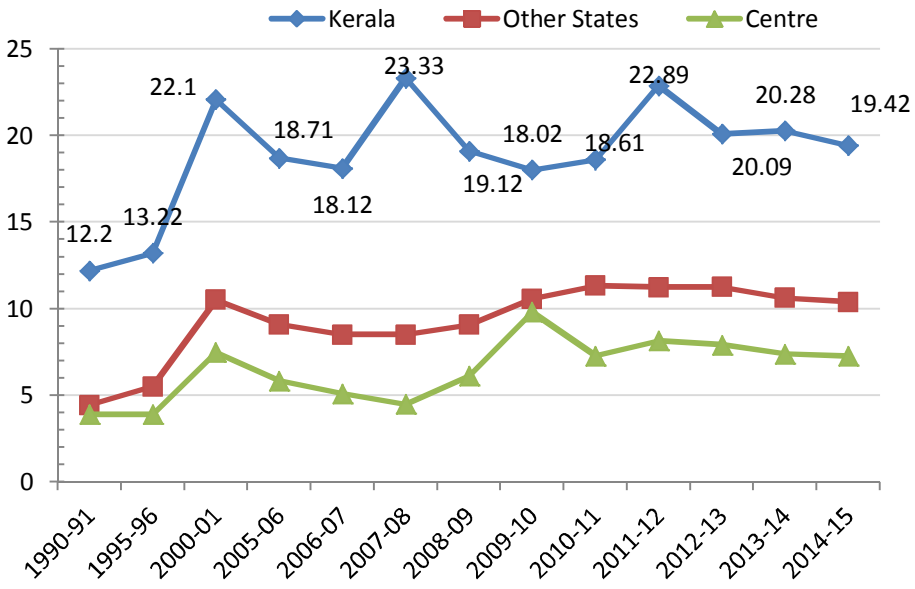
The number of states, distributed according to the ratio of pension expenditure to revenue receipts is presented in Table 4.5. During the entire period Kerala spent more of its revenue receipts for pension payments. During 2000-05 Kerala spent as much as 20.7 per cent of its revenue receipts for pension expenditure. West Bengal, Himachal Pradesh, Punjab and Kerala were the four states within the range 15-19 per cent during 2010-15.

**Table 4.5. Distribution of States According to Average Ratio of Pension Expenditure to Revenue Receipts**

| Percentage | Less than 5 | 5 to 9 % | 10 to 14 % | 15 to 19% | 20 % or more |
|---|---|---|---|---|---|
| 1990-95 | 17 | 7 | 1 | - | - |
| 1995-00 | 6 | 16 | 2 | 1 | - |
| 2000-05 | 1 | 13 | 10 | 3 | 1 |
| 2005-10 | 2 | 18 | 6 | 2 | 0 |
| 2010-15 | 0 | 13 | 11 | 4 | 0 |

Source: State Finances-Various Issues and Kerala Budget documents various years

Compared to Central Government and all states excluding Kerala the ratio of pension expenditure to revenue receipts was also very high in Kerala (see Figure 4.10). While the ratio was around 10 per cent during 2005-15 in other states, it was in the range of 18-23 per cent in Kerala.



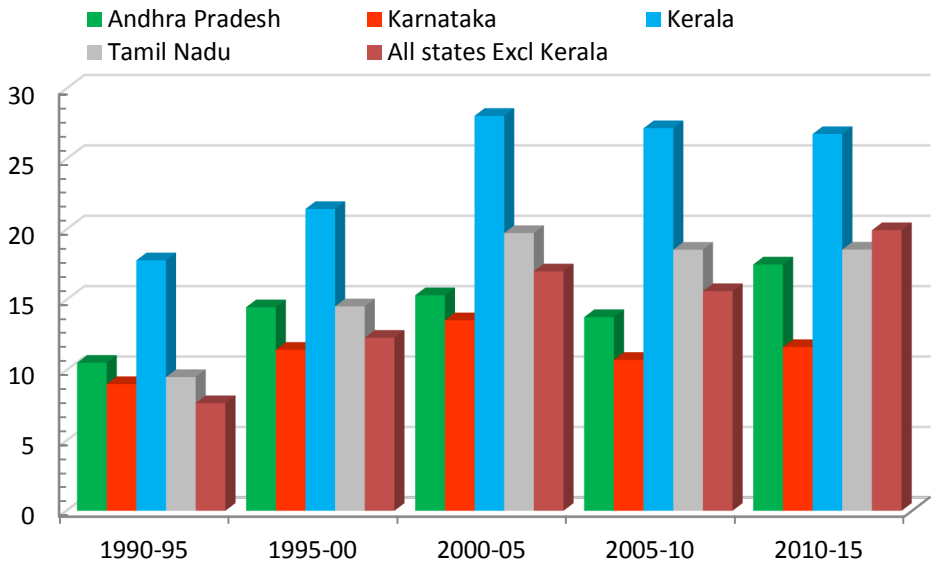

Source: State Finance: A study of State Budgets various issues and Budget Documents of Kerala and Union Govt. for various years

**Figure 4.10. Ratio of Pension Expenditure to Revenue Receipts**

Pension expenditure as percentage of revenue receipts in Kerala was higher compared to Central Government and other states excluding Kerala. As per the revised estimates the percentage is 18.48 per cent in 2015-16 and as per the state budget for the year 2016-17 the percentage may be 18.44 per cent in the current financial year.

## 4.6 Ratio of Pension Expenditure to Own Revenue

Own revenue of state Government consists of own tax revenue and own non-tax revenue. Ratio of pension expenditure to own revenue was very high in Kerala compared to neighbouring states and all the states excluding Kerala (see Figure 4.11).




Source: State Finances-Various Issues and Kerala Budget documents various years

**Figure 4.11. Ratio of Pension Expenditure to Own Revenue**

During the first half of nineties neighbouring states of Kerala devoted only 10 per cent or less of its own revenue for pension. But the ratio was

about 18 per cent, double than that of Karnataka, in Kerala. During the last 15 years Kerala spent more than 25 per cent of its own revenue for pension. Increasing pension expenditure during the last twenty five years pre-empted large share of the own receipts of Kerala.

Pension expenditure as ratio to own revenue had been increasing in all the states (see Table 4.6). During 1990-95 there were 12 states which spent only less than 10 per cent of its own revenue for pension. This number became zero during 2010-15 and number of state spent more than 50 per cent became eight from zero during 1990-95. Bihar was the only non-special category state which spent more than 50 per cent of own revenue for pension during the last fifteen years. Other states which spent more than 50 per cent of their own revenue for pension were special category states.

**Table 4.6. Distribution of States according to Average Ratio of Pension Expenditure to Own Revenue**

| Percentage | 1990-95 | 1995-00 | 2000-05 | 2005-10 | 2010-15 |
|---|---|---|---|---|---|
| Less than 10 | 12 | 4 | 3 | 3 | 0 |
| 10-19 | 9 | 11 | 10 | 10 | 10 |
| 20-29 | 1 | 5 | 6 | 9 | 5 |
| 30-39 | 1 | 2 | 1 | 1 | 4 |
| 40-49 | 2 | 0 | 3 | | 1 |
| 50 or more | 0 | 3 | 5 | 5 | 8 |

Source: State Finances-Various Issues and Kerala Budget documents various years

## 4.7 Composition of Pension Expenditure in Kerala

Table 4.7 shows the composition of pension expenditure of Kerala. Major part of pension expenditure of Kerala is for the payment of service pension and family pension. During 1957-58 the total pension expenditure of Kerala was less than one crore which may become more than ₹ 15,500/- crore

during 2016-17. The pension expenditure from 2013-14 is inclusive of the contribution for the NPS implemented for the recruits from 01/04/2013.

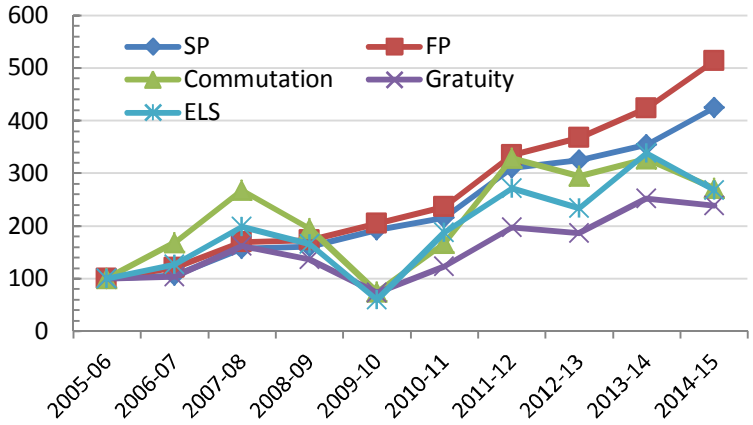
**Table 4.7. Composition of Pension Expenditure in Kerala**

(in ₹ Crore)

| Year | SP | FP | CP | Gratuity | ELS | Others | Total |
|---|---|---|---|---|---|---|---|
| 1957-58 | 0.86 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.88 |
| 1980-81 | 14.90 | 2.10 | 8.28 | 6.23 | 0.00 | 0.35 | 31.87 |
| 1990-91 | 162.69 | 31.32 | 59.05 | 36.42 | 0.00 | 3.64 | 293.13 |
| 2000-01 | 1138.02 | 176.89 | 303.68 | 277.35 | 15.43 | 18.10 | 1929.48 |
| 2005-06 | 1895.47 | 239.14 | 302.32 | 307.77 | 94.08 | 22.43 | 2861.21 |
| 2006-07 | 2007.34 | 289.19 | 506.24 | 320.58 | 119.63 | 51.61 | 3294.60 |
| 2007-08 | 2970.81 | 403.85 | 808.07 | 499.82 | 187.04 | 54.91 | 4924.50 |
| 2008-09 | 3048.22 | 414.19 | 587.19 | 420.10 | 156.10 | 60.63 | 4686.43 |
| 2009-10 | 3641.36 | 487.97 | 225.81 | 226.48 | 55.73 | 68.14 | 4705.50 |
| 2010-11 | 4073.92 | 564.21 | 502.90 | 380.12 | 176.92 | 69.43 | 5767.49 |
| 2011-12 | 5876.53 | 799.49 | 994.43 | 606.67 | 255.74 | 167.45 | 8700.30 |
| 2012-13 | 6148.25 | 879.79 | 890.70 | 571.83 | 219.46 | 156.86 | 8866.89 |
| 2013-14 | 6717.03 | 1011.04 | 988.98 | 776.99 | 317.77 | 159.45 | 9971.27 |
| 2014-15 | 8046.98 | 1226.80 | 820.73 | 735.24 | 252.04 | 170.89 | 11252.67 |
| 2015-16 (RE) | 8276.51 | 1112.43 | 1675.84 | 1304.01 | 596.13 | 161.20 | 13126.12 |
| 2016-17 (BE) | 9815.79 | 1454.72 | 1893.53 | 1473.49 | 673.58 | 192.31 | 15503.43 |

FP- Family Pension, CP- Commutation of Pension ELS-Earned Leave Surrender
Source: Kerala Budget various years

The index of expenditure towards family pension increased more than five times during the ten year period 2005-15 (see Figure 4.12) and index of expenditure for service pension increased more than four times. Both the expenditure had been increasing steadily. Indices of commutation, gratuity and earned leave surrender were fluctuating as it depends on the number of retirees.

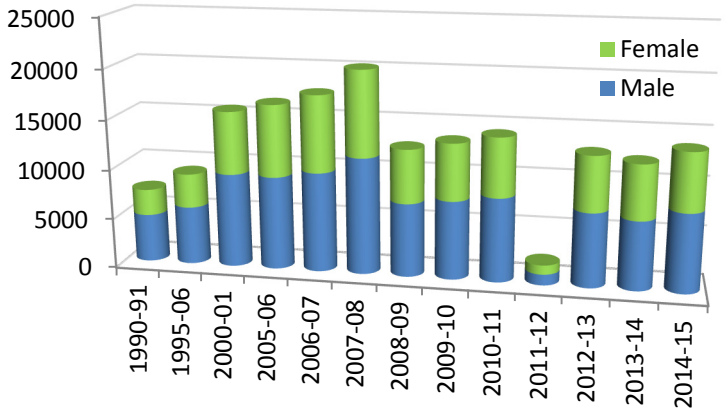



SP-Service Pension; FP-Family Pension
Source: Kerala Budget various years

**Figure 4.12. Index of Pension, Family Pension and Pensionary Benefits**

## 4.8 Number of Retirees and Number of Pensioners

The Figure 4.13 shows the number of retirees from 1990-91 to 2014-15. Number of female retirees during the entire period was less than male retirees. A sudden fall in the retirement during 2011-12 was due to the hike in retirement age from 55 to 56.




Source: Data collected from treasuries as on 31.03.2015

**Figure 4.13. Number of Retirees From1990-91 to 2014-15**

The number of pensioners had been increasing during the last twenty five years (see Table 4.8). Index of service pensioners increased by about 7 times during the period. The increase was 3.7 times in the case of family pensioners and 5.3 times in the case of total pensioners. From less than 80,000 in 1991 the number of pensioners increased to more than 4.2 lakh in 2015.

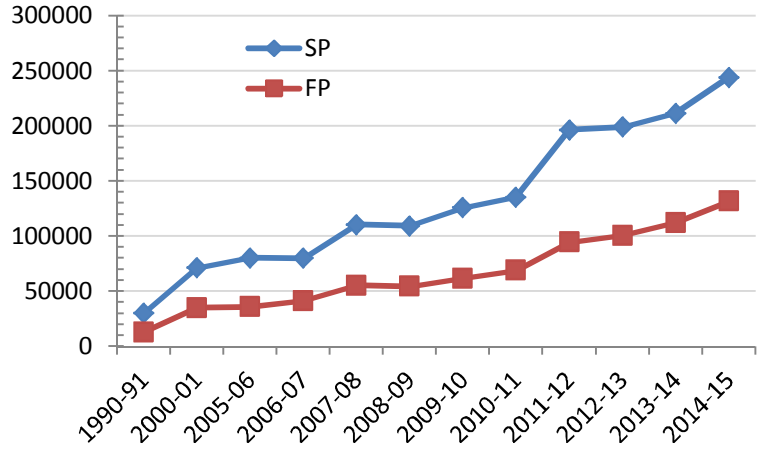
**Table 4.8. Number of Pensioners from 1991 to 2015**

(As on 31st of March)

| Year | Service Pensioners | | Family Pensioners | | Total Pensioners | |
|---|---|---|---|---|---|---|
| | Number | Index | Number | Index | Number | Index |
| 1991 | 54,412 | 100 | 24,862 | 100 | 79,274 | 100 |
| 1996 | 97,525 | 188 | 34,991 | 141 | 132,516 | 167 |
| 2002 | 160,316 | 309 | 50,794 | 204 | 211,110 | 266 |
| 2006 | 236,962 | 504 | 67,110 | 270 | 304,072 | 384 |
| 2007 | 251,986 | 536 | 70,003 | 282 | 321,989 | 406 |
| 2008 | 269,338 | 573 | 73,418 | 295 | 342,756 | 432 |
| 2009 | 279,240 | 594 | 76,356 | 307 | 355,596 | 449 |
| 2010 | 289,845 | 616 | 79,259 | 319 | 369,104 | 466 |
| 2011 | 300,900 | 640 | 82,081 | 330 | 382,981 | 483 |
| 2012 | 299,588 | 637 | 84,775 | 341 | 384,363 | 485 |
| 2013 | 309,061 | 657 | 87,640 | 353 | 396,701 | 500 |
| 2014 | 317,946 | 676 | 90,298 | 363 | 408,244 | 515 |
| 2015 | 328,152 | 698 | 91,961 | 370 | 420,113 | 530 |

Source: Data collected from treasuries as on 31.03.2015

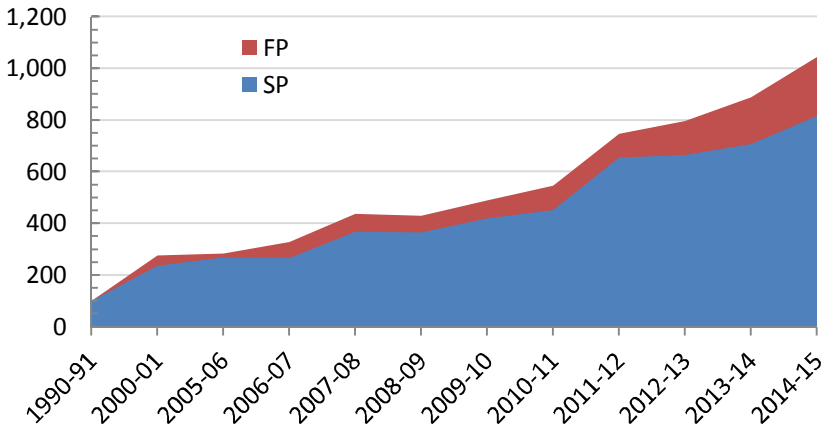
Pension expenditure per pensioner had also been increasing over the period (see Figure 4.14). From about 30,000 per year during 1990-91 service pension per pensioner was increased to about 2.4 lakhs during 2014-15. The family pension expenditure per family pensioner was increased to about 1.3 lakh during 2014-15.




Source: Kerala Budget Documents-various years and Data Collected from Treasuries

**Figure 4.14. Yearly Pension Expenditure per Pensioner**

The index of service and family pension per pensioner shows that the increase in the family pension per pensioner was more than that of service pension (see Figure 4.15). The family pension per pensioner increased at a greater rate during the twenty five year period mainly due to the unification of family pension rate to 30 per cent in 1997.




Source: same as Figure 4.14

**Figure 4.15. Index of Pension Expenditure per Pensioner**

The number of service pensioners in various pension brackets is presented in the Table 4.9. The number of pensioners in all pension brackets increased during the last ten years.

**Table 4.9. The Number of Service Pensioners in Various Pension Brackets**

(As on 31st of March)

| Year | 5000 or less | 5001-10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| 2006 | 70,954 | 93,272 | 63,067 | 9,669 | 236,962 |
| 2007 | 74,040 | 98,763 | 68,361 | 10,822 | 251,986 |
| 2008 | 77,953 | 105,015 | 74,132 | 12,238 | 269,338 |
| 2009 | 80,252 | 108,699 | 77,125 | 13,164 | 279,240 |
| 2000 | 82,091 | 111,651 | 81,057 | 15,046 | 289,845 |
| 2011 | 82,550 | 114,557 | 86,507 | 17,286 | 300,900 |
| 2012 | 81,567 | 113,537 | 86,977 | 17,507 | 299,588 |
| 2013 | 82,778 | 114,982 | 91,822 | 19,479 | 309,061 |
| 2014 | 83,833 | 116,039 | 96,776 | 21,298 | 317,946 |
| 2015 | 85,406 | 117,585 | 102,143 | 23,018 | 328,152 |

Source: Data collected from treasuries as on 31.03.2015

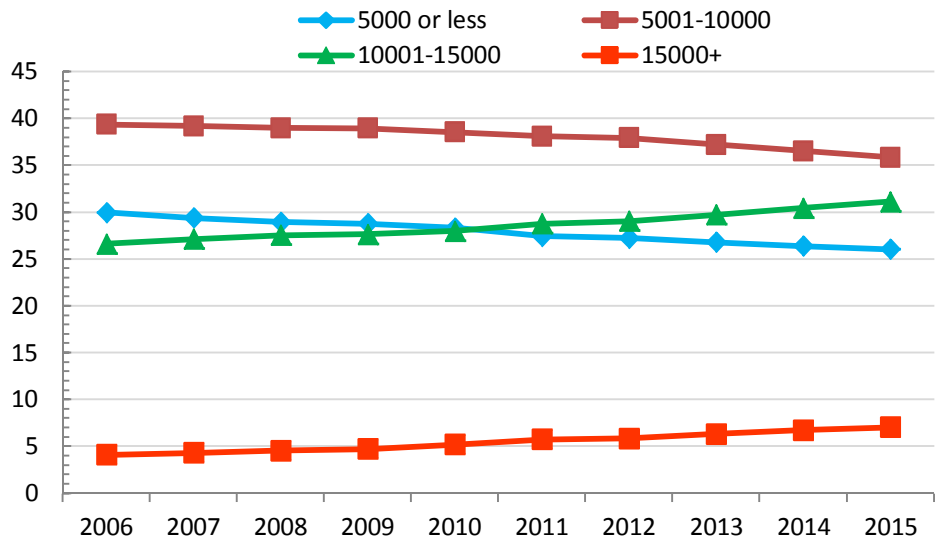
The number of family pensioners in various pension brackets was also increased (see Table 4.10). The highest increase is seen in the group ₹ 5,001-10,000/-.

**Table 4.10. The Number of Family Pensioners in Various Pension Brackets**

(As on 31st of March)

| Year | 5000 or less | 5001-10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| 2005-06 | 56,578 | 9,935 | 553 | 44 | 67,110 |
| 2006-07 | 58,213 | 11,101 | 638 | 51 | 70,003 |
| 2007-08 | 60,036 | 12,608 | 718 | 56 | 73,418 |
| 2008-09 | 61,395 | 14,033 | 845 | 83 | 76,356 |
| 2009-10 | 62,493 | 15,589 | 1,056 | 121 | 79,259 |
| 2010-11 | 63,413 | 17,171 | 1,331 | 166 | 82,081 |
| 2011-12 | 64,074 | 18,848 | 1,652 | 201 | 84,775 |
| 2012-13 | 64,869 | 20,542 | 1,974 | 255 | 87,640 |
| 2013-14 | 65,550 | 22,159 | 2,284 | 305 | 90,298 |
| 2014-15 | 65,940 | 23,210 | 2,475 | 336 | 91,961 |

Source: Data collected from treasuries as on 31.03.2015

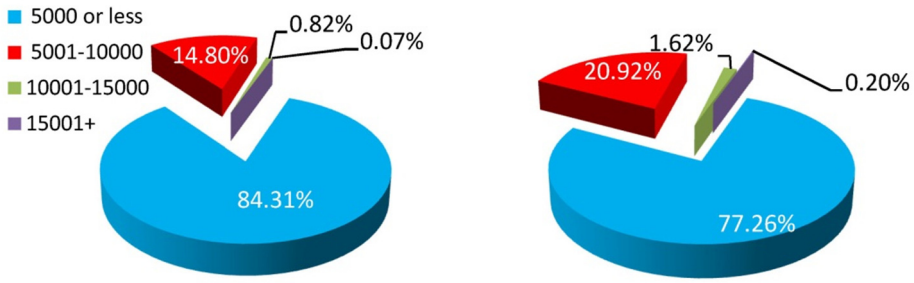



Source: Data collected from treasuries as on 31.03.2015. Calculations are made.

**Figure 4.16. Proportion of Service Pensioners in Various Pension Brackets**

The proportion pensioners in the pension brackets ₹ 5,000/- or less and ₹ 5,001-10,000/- decreased during the last ten years (see Figure 4.16). Proportion of pensioners in the pension bracket ₹ 10,001-15,000/- increased by about 4.5 per cent and ₹ 15,000+ increased by about 3 per cent. The number of pensioners with basic pension more than ₹ 10,000/- showed remarkable increase during the period.

The proportion of family pensioners in the pension bracket ₹ 5,000/- or less decreased by more than 7 per cent during 2005-2015 (refer Figure 4.17). There was more than 6 per cent increase in the proportion of pensioners having basic pension of ₹ 5,001-10,000/-. In other groups there was only less than 1 per cent increase during the ten year period.




Source: Data collected from treasuries as on 31.03.2015. Calculations are made.

**Figure 4.17. Proportion of Family Pensioners in Various Pension Brackets**

## 4.9 Pension Expenditure in Various Pension Brackets

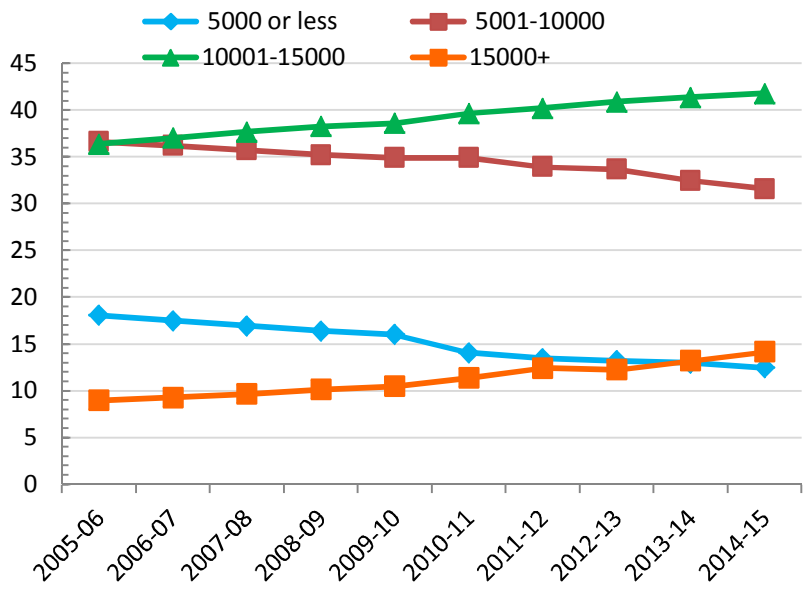
In order to ascertain pension expenditure of Government of Kerala in various pension brackets, pension expenditure was calculated on the basis of basic pension of each pensioner and DR existed during 2005-2015. The calculated pension expenditure in various pension brackets is given in the Table 4.11 and proportion of expenditure is presented in the Figure 4.18.

**Table 4.11. Calculated Service Pension Expenditure in Various Pension Brackets 2005-2015**

(in ₹ crore)

| Year | 5000 or less | 5001-10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| 2005-06 | 429.22 | 846.60 | 851.97 | 210.76 | 2,338.55 |
| 2006-07 | 447.71 | 928.43 | 963.90 | 240.98 | 2,581.02 |
| 2007-08 | 470.40 | 994.86 | 1,066.44 | 273.39 | 2,805.09 |
| 2008-09 | 506.94 | 1,088.80 | 1,190.05 | 315.10 | 3,100.89 |
| 2009-10 | 614.41 | 1,336.56 | 1,474.42 | 398.78 | 3,824.17 |
| 2010-11 | 650.87 | 1,608.62 | 1,828.97 | 532.91 | 4,621.37 |
| 2011-12 | 738.71 | 1,849.75 | 2,187.53 | 683.87 | 5,459.86 |
| 2012-13 | 821.42 | 2,048.30 | 2,482.71 | 798.20 | 6,150.63 |
| 2013-14 | 889.97 | 2,213.11 | 2,806.21 | 947.06 | 6,856.35 |
| 2014-15 | 997.55 | 2,476.86 | 3,303.05 | 1,149.00 | 7,926.46 |

Source: Calculations made on the basis of Data Collected from Treasuries.




Source: Calculations made on the basis of Data Collected from Treasuries.

**Figure 4.18. Proportion of Pension Expenditure in Various Pension Brackets**

The proportion of expenditure in the basic pension groups ₹ 5,000/- or less decreased from about 18 per cent in 2005-06 to about 12 per cent in 2014-15. In the case of ₹ 5,001-10,000/- group the fall was from about 36 per cent to about 31 per cent. But the increase in the proportion of expenditure was more than 5 per cent in the groups ₹ 10,001-15,000/- and ₹ 15,000+. The major portion of expenditure (about 73%) was for pensioners having basic pension ranging ₹ 5,001-15,000/-. In fact there was little variation in the proportion for expenditure in this group during 2005-2015. During the ten year period, Government spent more for the pensioners in the highest pension bracket ₹ 15,000+ than for pensioners in the lowest pension bracket ₹ 5,000 or less which in turn means more than 26 per cent of pensioners received only less than what 7 per cent of pensioners in the upper range got.

Family pension expenditure in various pension brackets is calculated and presented in the Table 4.12. The greatest increase of more than 27 times growth in expenditure was in the pension bracket ₹ 15,000+ and the lowest increase of 2.5 times was in the ₹ 5,000/- or less bracket. Family pension expenditure increased by about 3.6 times during the ten year period.

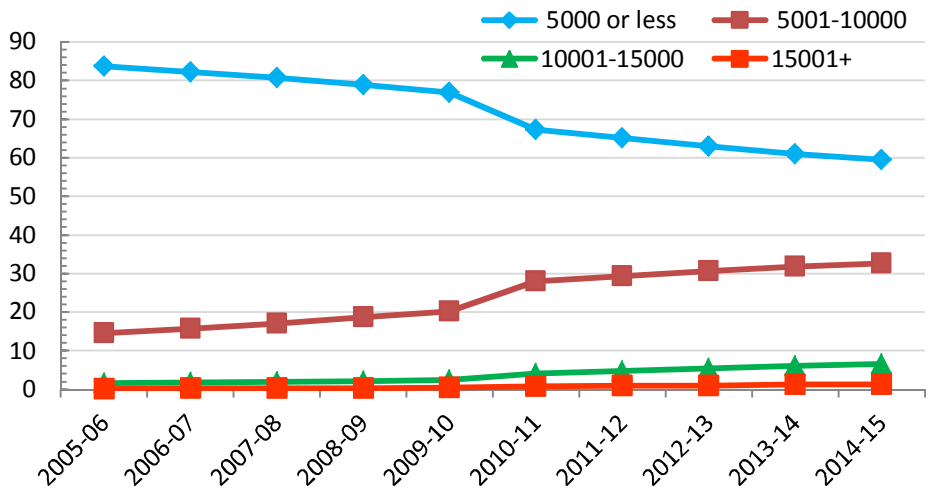
**Table 4.12. Calculated Family Pension Expenditure in Various Pension Brackets**

(in ₹ Crores)

| Year | 5000 or less | 5001-10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| 2005-06 | 285.3 | 49.45 | 5.4 | 0.59 | 340.74 |
| 2006-07 | 300.15 | 57.42 | 6.6 | 0.77 | 364.94 |
| 2007-08 | 307.46 | 64.88 | 7.62 | 0.85 | 380.81 |
| 2008-09 | 328.92 | 77.61 | 8.92 | 0.98 | 416.43 |
| 2009-10 | 391.15 | 102.9 | 12.51 | 1.81 | 508.37 |
| 2010-11 | 426.93 | 177.6 | 25.42 | 4.44 | 634.39 |
| 2011-12 | 490.17 | 220.52 | 35.49 | 6.54 | 752.72 |
| 2012-13 | 553.44 | 268.81 | 47.8 | 8.74 | 878.79 |
| 2013-14 | 610.16 | 318.15 | 61.14 | 12.08 | 1001.53 |
| 2014-15 | 725.49 | 397.5 | 80.08 | 16.1 | 1219.17 |

Source: same as Table 4.9

The proportion of calculated family pension expenditure in various pension brackets is given in the Figure 4.19. The proportion of family pension expenditure in the lowest pension bracket (less than ₹ 5,000/-) fell from about 84 per cent in 2005-06 to about 60 per cent in 2014-15. The proportion of expenditure in the pension group ₹ 5,001-10,000/- more than doubled during the period. There was also increase in the proportion of expenditure for family pensioners having basic pension more than ₹ 10,000/-. From 2 per cent the expenditure increased to about 8 per cent in the pension brackets ₹ 10,000-15000/- and ₹ 15,000+ taken together.




Source: same as Table 4.9

**Figure 4.19. Proportion of Family Pension Expenditure in Various Pension Brackets**

Even though there was substantial rise in the family pension expenditure, 60 per cent of expenditure was in the lowest pension bracket of less than ₹ 5,001/- which constituted more than 77 per cent of total family pensioners. For the remaining family pensioners of about 23 per cent, Government spent more than 40 per cent of total family pension expenditure.

Pension expenditure in Kerala has been increasing particularly in the higher pension groups which is mainly due to the periodic pay and pension revisions. Due to periodic pay revisions, pension of new pensioners has been increasing which result in the increase in the number of pensioners in the higher pension groups. Consequent to ageing number of pensioners has been increasing in Kerala. Analysis of ageing of service pensioners and its impact on pension expenditure is attempted in the next chapter.

Chapter 5

# AGEING OF SERVICE PENSIONERS AND ITS IMPACT ON PENSION EXPENDITURE

Contents



## 5.1 Introduction

Aging of population is pervasive as it is affecting all most all the countries of the world (UN, 2010). In many developing countries the ageing of population is faster than the ageing occurred in past in developed countries. Consequently the developing countries have to adapt quickly to ageing process (UN, 2015). The shift in age structure associated with population ageing has a profound impact on the economy and society. Rapid ageing of pensioners resulted in rapidly growing pension expenditure around the world (OECD, 2011). Fourteenth Finance Commission listed out longevity of pensioners as one of the reasons for the increasing pension expenditure of State Governments and Central Governments (GOI, 2014). In this chapter an attempt is made to analyse whether the service pensioners in Kerala are ageing and it has any impact on the pension expenditure.

## 5.2 Definition of Ageing

Population ageing is a multidimensional phenomenon and as such providing a definition is difficult. A chronological definition of old age is

often made by governments for administrative purposes. In general, 60 years has been used as a yardstick for old age (Prakash, 1999). The UN has recommended the age of 60 as the age marking the onset of aging (UN, 2003; 2010). Indian census has also used 60 as a cut-off point for classification. The 'ageing of a population' is defined in terms of the proportion of persons aged 60 and over in the total population (Gulati and Rajan, 1999). United Nations defined population ageing as the process whereby older individuals, i.e. those aged 60 years or older, account for a proportionally larger share of the total population (UN, 2010; 2015). Demographers also define the old in three categories: young old (60-69 years), old old (70-79 years) and oldest old (80 years and above) (Rajan, Mishra and Sarma, 1999,)

## 5.3 Measures of the Ageing Process

; Ageing process can be measured in many ways.

i. **Broad Age group**: The broad age group in any population reflects the changing composition of children (0-14), adults of working ages (15-59) and the elderly population (60+) (Suguna B 2004).

ii. **Median Age**: Median age divides the population into two equal halves. It can therefore reflect the ageing phenomenon (Yadav, 2004). A typical aging population has its median age at 30 years or more (Mohan, 2004).

iii. **Index of Ageing**: To measure the level of population ageing, demographers often use the index of ageing, which is defined as the number of persons above age 60 per 100 children below age 14 years (UN, 2003).

iv. **Proportion of the Aged**: the most commonly used measure is the proportions of aged 60 years and above due to its simplicity and easy comprehensibility. This measures aging through the proportion of people aged 60 and above in the total population. (Mohan, 2004). According to the United Nations (UN, 2003) 7 per cent is enough to make the population aged.

v. **Dependency Ratios**: Besides the traditional measures, there are other dependency measures of aging. Various forms of this measure are: (1) old-age dependency ratio, (2) potential support ratio, (3) parent support ratio, (4) youth dependency ratio, (5) total dependency ratio and (6) index of oldest-old to young old. The old-age dependency ratio is the ratio of those aged 65 years and above to those aged between 15 and 64 years of age. The potential support ratio is defined as the number of persons aged 15-64 years per every person aged 65 years or older. The parent support ratio is defined as the number of persons aged 85 years and above per 100 people in the age bracket 50-64 years. The youth dependency ratio is defined as the number of people aged 0 to 14 years per 100 people in the age group of 15 to 64 years. The total dependency ratio is the number of people under age 15 plus people aged 65 or older per 100 people aged 15 to 64 (Mohan, 2004). The population of oldest old (80 or more) per 100 population aged 60-64 year is termed as the index of oldest-old to young old (Planning Commission, 2008)

vi. **The slope of the population pyramid:** This has also been used as a single summary index of population aging. As the slope becomes steeper, the population is said to be aging (Mohan, 2004).

Even though various measures are available for the measurement of ageing process the most commonly used in the literature is the traditional measure of proportion of aged population as it is a convenient measure for calculation and easily comprehensible. Further the internationally comparable aging data (for example, UN data) for most countries is based on this method.

## 5.4 Ageing in Kerala

Kerala's demographic landscape has witnessed drastic changes over the past 50 years. A rapid transition from high to low mortality and relatively low fertility has changed the age composition of the population of Kerala. In India, the mortality decline began in the early 1920s and fertility has been declining since the early 1970s.

**Table 5.1. CBR, IMR, CDR and TFR of Kerala and India 1971-2013**

| Year | CBR | | IMR | | CDR | | TFR | |
|---|---|---|---|---|---|---|---|---|
| | Kerala | India | Kerala | India | Kerala | India | Kerala | India |
| 1971 | 31.1 | 36.9 | 58 | 129 | 9.0 | 14.9 | 4.1 | 5.2 |
| 1981 | 25.6 | 33.9 | 37 | 110 | 6.6 | 12.5 | 2.8 | 4.5 |
| 1991 | 18.3 | 29.3 | 16 | 80 | 6.0 | 9.8 | 1.8 | 3.6 |
| 2001 | 17.3 | 25.4 | 11 | 66 | 6.6 | 8.4 | 1.9 | 3.2 |
| 2006 | 14.9 | 23.5 | 15 | 57 | 6.7 | 7.5 | 1.9 | 2.7 |
| 2011 | 15.2 | 21.8 | 12 | 44 | 7.0 | 7.1 | 1.8 | 2.4 |
| 2012 | 14.9 | 21.6 | 12 | 42 | 6.9 | 7.0 | 1.8 | 2.4 |
| 2013 | 14.7 | 21.4 | 12 | 40 | 6.9 | 7.0 | 1.8 | 2.3 |

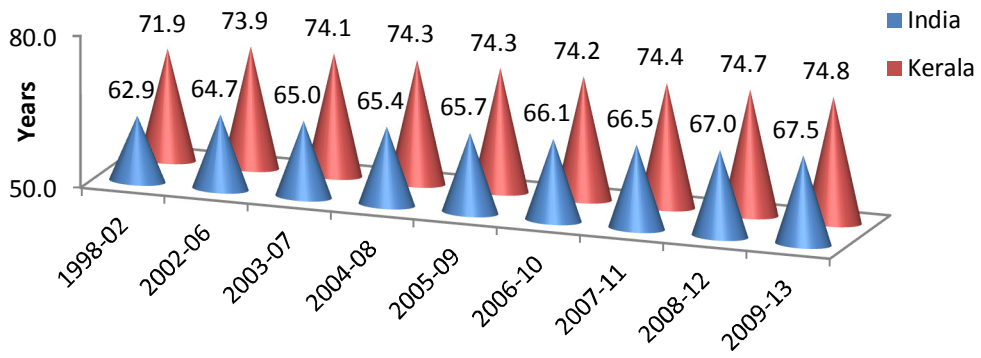
CBR: Crude Death Rate per 1,000 population, IMR: Infant Mortality Rate per 1,000 live births, CDR: Crude Death Rate per 1,000 population and TFR: Total Fertility Rate.
Source: SRS Statistical Report 2013 and Planning Commission, 2008.

Crude Birth Rate (CBR), Infant Mortality Rate (IMR), Crude Death Rate (CDR) and Total Fertility Rate (TFR) of Kerala were less than that of India from 1971 (see Table 5.1). CDR of Kerala and India was almost the same since 2011. TFR of India in 1971 was 5.2 which dipped to 2.3 in 2013.

In case of Kerala it was less than 2 from 1991. Kerala achieved the net reproduction rate of one in 1987 which means a total fertility rate of 2.1 (Nair, 2010). Net Reproduction Rate is defined as a measure of the average number of daughters who will be born to women during their life time assuming a fixed age-specific fertility and mortality rate. So net reproduction rate of one means there is just replacing of mothers in the population and so it leads to zero population growth in the long run (Nair, 2010).

### 5.4.1 Life Expectancy

Life expectancy at birth was always higher in Kerala compared to population of India (see Figure 5.1). The life expectancy of our country was steadily increasing. Even though life expectancy of population of Kerala had been increasing the difference with that of population of India had been declining from 2003-07.




Source: Various Life tables of Registrar General of India

**Figure 5.1. Life Expectancy of India and Kerala - 1999-03 to 2009-13**

Life expectancy of the aged population in Kerala and India had also been increasing. The difference of life expectancy of the age groups 60-65,

65-70 ad 70-75 of male population of Kerala with that of India was almost same from 2002-06 (see Table 5.2).

**Table 5.2. Life Expectancy of Male Population Aged 60-80 in India and Kerala**

(in years)

| Period | India | | | | Kerala | | | |
|---|---|---|---|---|---|---|---|---|
| | 60-65 | 65-70 | 70-75 | 75-80 | 60-65 | 65-70 | 70-75 | 75-80 |
| 1998-02 | 16.2 | 13.2 | 10.8 | 8.7 | 16.5 | 13.4 | 10.5 | 8.2 |
| 2002-06 | 16.6 | 13.5 | 10.9 | 8.7 | 17.6 | 14.3 | 11.4 | 9.1 |
| 2003-07 | 16.5 | 13.4 | 10.7 | 8.6 | 17.7 | 14.5 | 11.5 | 9.2 |
| 2004-08 | 16.6 | 13.4 | 10.7 | 8.5 | 17.8 | 14.4 | 11.4 | 9.2 |
| 2005-09 | 16.5 | 13.3 | 10.6 | 8.5 | 17.7 | 14.3 | 11.3 | 9.1 |
| 2006-10 | 16.5 | 13.4 | 10.7 | 8.5 | 17.8 | 14.4 | 11.4 | 9.2 |
| 2007-11 | 16.5 | 13.4 | 10.7 | 8.6 | 17.8 | 14.4 | 11.3 | 9.0 |
| 2008-12 | 16.7 | 13.5 | 10.9 | 8.8 | 17.8 | 14.4 | 11.3 | 8.9 |
| 2009-13 | 16.9 | 13.6 | 10.9 | 8.7 | 18.0 | 14.6 | 11.4 | 8.9 |

Source: Various Life tables of Registrar General of India.

Life expectancy of female population of Kerala was higher compared to the national figures. There was difference of about 2.5 year, about two years and more than one year in the life expectancy of female population of Kerala in the age groups 60-65, 65-70 and 70-75 respectively (see Table 5.3).

**Table 5.3. Life Expectancy of Female Population Aged 60-80 in India and Kerala**

(in years)

| Period | India | | | | Kerala | | | |
|---|---|---|---|---|---|---|---|---|
| | 60-65 | 65-70 | 70-75 | 75-80 | 60-65 | 65-70 | 70-75 | 75-80 |
| 1998-02 | 18.1 | 14.7 | 11.9 | 9.6 | 19.8 | 15.9 | 12.3 | 9.4 |
| 2002-06 | 18.6 | 15.1 | 12.1 | 9.7 | 21.0 | 17.0 | 13.3 | 10.2 |
| 2003-07 | 18.6 | 15.1 | 12.0 | 9.6 | 21.0 | 16.9 | 13.2 | 10.1 |
| 2004-08 | 18.6 | 15.1 | 12.0 | 9.5 | 21.2 | 17.0 | 13.3 | 10.3 |
| 2005-09 | 18.5 | 15.0 | 11.9 | 9.5 | 21.1 | 16.9 | 13.2 | 10.2 |
| 2006-10 | 18.6 | 15.0 | 12.0 | 9.5 | 20.8 | 16.7 | 13.0 | 9.9 |
| 2007-11 | 18.7 | 15.1 | 12.0 | 9.5 | 21.1 | 17.0 | 13.3 | 10.1 |
| 2008-12 | 18.8 | 15.2 | 12.2 | 9.6 | 21.5 | 17.3 | 13.6 | 10.4 |
| 2009-13 | 19.0 | 15.4 | 12.3 | 9.7 | 21.6 | 17.4 | 13.7 | 10.3 |

Source: Various Life tables of Registrar General of India.

### 5.4.2 Average Life Loss

Average life loss is the average life expectancy loss due to 'premature death'. It was the lowest in Kerala for male and female during 1970-75 and during 2006-10 (Singh and Ladusingh, 2013)

**Table 5.4. Average Life Loss: India and Kerala**

(in years)

| Period | India | | Kerala | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| 1970-75 | 23.6 | 25.1 | 18.3 | 18.0 |
| 2006-10 | 17.8 | 17.4 | 13.9 | 11.8 |

Source: Singh, and Ladusingh, L., 2013.

The average life loss of female compared to that male population was high in India during 1970-75, but became less during 2006-10 (see Table 5.4). In Kerala average life loss was the lowest during the two periods. The finding of Vaupel (1986) that countries which have highest life expectancy have the lowest average life loss is true in the case of Kerala.

### 5.4.3 The Absolute Number of Elderly Population

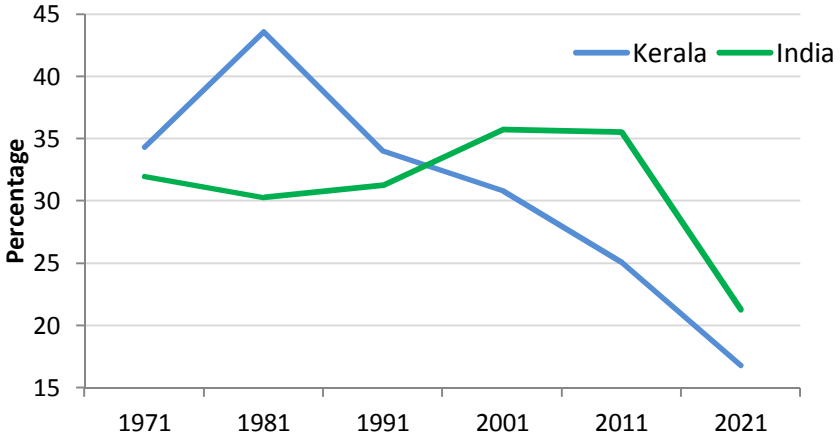
The number of elderly people in Kerala had been growing during the last 50 years (see Table 5.5). During 1961-2011 the 80 years or more aged population increased by 5.6 times nationally while in Kerala it was by 6 times. It is expected that the oldest old population (80 years or more aged) may increase by 1.87 times during the next 15 years in Kerala. The increase of old old (70-79 years aged) population was 4.4 times during 1961-2011 whereas nationally it was 4.06 times. Young old population (60-69 years aged) increased nationally at a marginally higher rate than in Kerala.

**Table 5.5. Number of Elderly Population in Kerala and India**

(in million)

| Year | 60-69 | | 70-79 | | 80 or more | | Total 60+ | |
|---|---|---|---|---|---|---|---|---|
| | Kerala | India | Kerala | India | Kerala | India | Kerala | India |
| 1961 | 0.62 | 16 | 0.28 | 7 | 0.09 | 2 | 0.99 | 25 |
| 1971 | 0.83 | 22 | 0.37 | 8 | 0.13 | 3 | 1.33 | 33 |
| 1981 | 1.20 | 28 | 0.53 | 11 | 0.19 | 4 | 1.91 | 43 |
| 1991 | 1.56 | 35.18 | 0.71 | 14.83 | 0.29 | 6.43 | 2.56 | 56.45 |
| 2001 | 1.93 | 47.32 | 1.01 | 21.26 | 0.39 | 8.04 | 3.35 | 76.62 |
| 2011 | 2.42 | 64.12 | 1.23 | 28.44 | 0.54 | 11.29 | 4.19 | 103.85 |
| 2016* | 2.83 | 68.98 | 1.51 | 35.88 | 0.65 | 13.24 | 4.99 | 118.10 |
| 2021* | 3.29 | 85.54 | 1.70 | 42.04 | 0.76 | 16.67 | 5.75 | 143.25 |
| 2026* | 4.26 | 101.09 | 2.51 | 52.22 | 1.01 | 19.88 | 7.78 | 173.19 |

Source: Up to 2011 various census; 2016 and 2021 Population Projections for India and States 2001-2026, Office of Registrar General




Source: Up to 2011 various census data; 2016 and 2021 Population Projection 2001-26 by Census Commissioner.

**Figure 5.2. Decennial Growth Rates of Elderly- Kerala and India**

The decennial growth rate of elderly (see Figure 5.2) shows fall in the growth rate in Kerala after 1981. From 2001 it became less than the national

growth rate. Population Projection for India and States for 2026 made by Technical group constituted by National Commission on Population expect fall in the growth rate of elderly at the national as well as at the state level.

### 5.4.4 Proportion of the Elderly Population

In order to know more about the ageing process a comparison of the proportion of elderly in Kerala with that of National figures is carried out. As per 1961 census figures, the proportion of 60+ years aged people was less in Kerala (see Table 5.6). From 1971 onwards it showed increasing tendency and it is expected to rise in the coming decades too. It is expected that in 2026 about 21 per cent of population of Kerala may be 60+ years aged while nationally it may about 12 per cent. Compared to young old population, proportion of oldest old population had been increasing at a faster rate in Kerala. From less than 0.5 per cent in 1961 it increased to more than 1.62 per cent in 2011 compared to the national figure of 0.93 per cent. It is estimated that in 2026, 2.71 per cent population may be 80 or more aged people in Kerala.

**Table 5.6 Proportion of Elderly Population in Kerala and India**

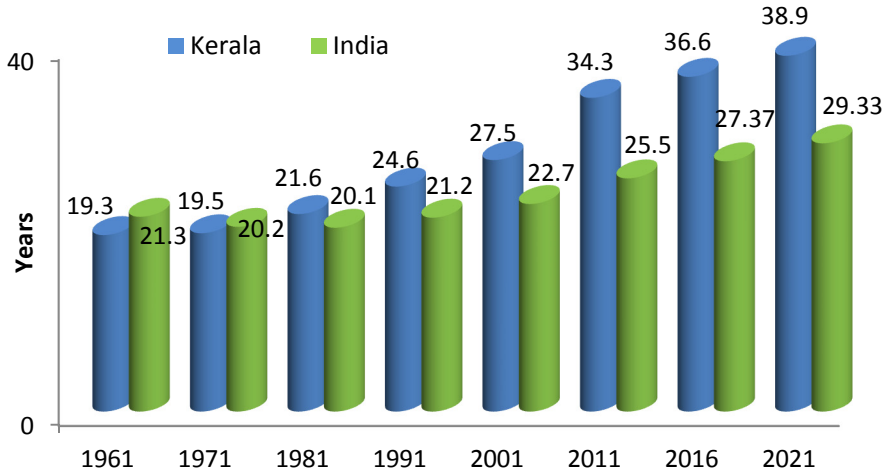
(In Percentage)

| Year | 60-69 | | 70-79 | | 80 or more | | Total 60+ | |
|---|---|---|---|---|---|---|---|---|
| | Kerala | India | Kerala | India | Kerala | India | Kerala | India |
| 1961 | 3.24 | 3.6 | 1.45 | 1.4 | 0.44 | 0.6 | 5.13 | 5.6 |
| 1971 | 3.87 | 3.9 | 1.73 | 1.5 | 0.58 | 0.6 | 6.18 | 6.0 |
| 1981 | 4.67 | 4.16 | 2.05 | 1.71 | 0.73 | 0.62 | 7.45 | 6.49 |
| 1991 | 5.06 | 4.25 | 2.44 | 1.75 | 1.00 | 0.76 | 8.85 | 6.76 |
| 2001 | 6.07 | 4.61 | 3.18 | 2.07 | 1.22 | 0.78 | 10.47 | 7.46 |
| 2011 | 7.23 | 5.29 | 3.70 | 2.35 | 1.62 | 0.93 | 12.55 | 8.57 |
| 2016 | 7.93 | 5.44 | 4.23 | 2.83 | 1.82 | 1.04 | 13.99 | 9.31 |
| 2021 | 9.00 | 6.38 | 4.65 | 3.14 | 2.08 | 1.24 | 15.73 | 10.76 |
| 2026 | 11.44 | 7.22 | 6.74 | 3.73 | 2.71 | 1.42 | 20.89 | 12.37 |

Source: Up to 2011 various census data; 2016 and 2021 Population Projection 2001-26 by Census Commissioner

### 5.4.5 Median Age

Figure 5.3 shows median age of Kerala and of India from 1961 to 2021. The increasing median age compared to national figures means population in Kerala has been ageing faster. Median age increased by about 5 years during 1961-1991 in Kerala. It is expected that compared to 1961 figure it may be doubled in 2021. There was no substantial increase in the median age of national population during 1961-2011. It is expected that median age of Indian population may be less than nearly 10 years than population of Kerala in 2021.




Source: Up to 2011 various census data; 2016 and 2021 Population Projection 2001-26 by Census Commissioner

**Figure 5.3. Median Age of the Population of Kerala and India - 1961-2021**

Compared to median age of male population, the median age of female population was higher in Kerala (see Table 5.7). As per the estimate of Zachariah and Rajan (1997) median age of female in Kerala may be about 50 in 2051. Rajan (1999) observed that as the process of ageing is more

advanced in Kerala, the two main problems of ageing, namely, the over-whelming presence of women at the older ages and the incidence of widowhood will have to be faced.

**Table 5.7. Median Age of Kerala 1961-2051**

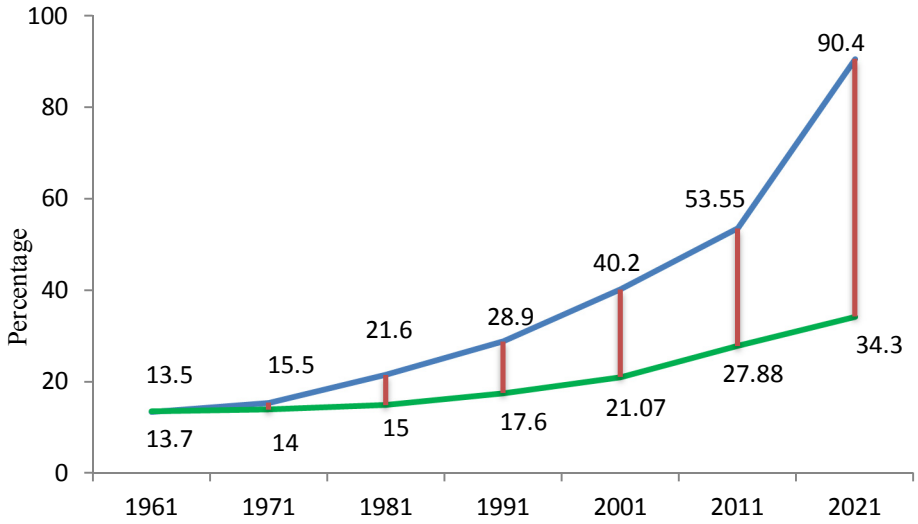
(in Years)

| Year | Male | Female | Persons |
|---|---|---|---|
| 1961 | 18.9 | 19.8 | 19.3 |
| 1971 | 19.2 | 19.7 | 19.5 |
| 1981 | 21.3 | 21.8 | 21.6 |
| 1991 | 24.3 | 24.8 | 24.6 |
| 2001 | 26.7 | 28.1 | 27.5 |
| 2011 | 33.3 | 35.2 | 34.3 |
| 2016 | 35.5 | 37.6 | 36.6 |
| 2021 | 37.7 | 40.0 | 38.9 |
| 2026 | 40.0 | 42.5 | 41.3 |
| 2031 | 41.7 | 44.7 | 43.3 |
| 2036 | 42.9 | 46.6 | 45.0 |
| 2041 | 43.5 | 47.8 | 45.7 |
| 2051 | 45.2 | 49.4 | 47.4 |

Source: 1961 to 2001 census figure and 2011 to 2051 Zachariah and Rajan (1997)

### 5.4.6 Index of Ageing

The index of ageing which is the number of persons above age 60 per 100 children below age 14 years (UN 2003) was almost the same for Kerala and India in 1961 (see Figure 5.5). But from 1971 it had been increasing at a faster rate in Kerala.




Source: Up to 2011 various census data; 2016 and 2021 Population Projection 2001-26 by Census Commissioner

**Figure 5.4. Index of Ageing 1961-2021: India and Kerala**

The gap between the index of ageing in Kerala and in India had been widening and it is expected that the gap may be more than 55 in 2021. The index of ageing in Kerala may be as high as 476 in 2061 (Planning Commission 2008).

## 5.5 Ageing of Service Pensioners

From the above it is evident that population of Kerala has been ageing faster than the ageing of population in India. Now analysis is needed to know whether the service pensioners who are part of the population are also ageing. In this analysis family pensioners are excluded as the age of new entrants to the cohort of family pensioners varies. Increasing number of family pensioners, their proportion, median age etc. may not give exact indication of their ageing.

### 5.5.1 Death Rate

The number of deaths of pensioners was less before 2000 as they were relatively young. The average death rate calculated from 2001-06 to 2010-2015 is given in the Table 5.8.

**Table 5.8. Average Death rate (Per 1000) of Service Pensioners 2001-2015**

| Year | Less than 60 | | 60-69 | | 70-79 | | 80 or more | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| 2001-05 | 3.72 | 1.61 | 9.87 | 8.44 | 19.96 | 18.00 | 52.00 | 44.36 |
| 2002-06 | 3.72 | 1.68 | 11.45 | 9.18 | 22.99 | 19.78 | 56.98 | 52.37 |
| 2003-07 | 4.05 | 1.53 | 12.29 | 8.95 | 23.76 | 19.11 | 60.09 | 54.64 |
| 2004-08 | 3.97 | 1.63 | 12.08 | 8.32 | 24.07 | 18.48 | 64.05 | 56.68 |
| 2005-09 | 4.08 | 1.69 | 11.50 | 7.62 | 24.53 | 18.47 | 66.25 | 60.59 |
| 2006-10 | 3.81 | 1.60 | 10.51 | 6.42 | 22.80 | 16.65 | 60.44 | 56.10 |
| 2007-11 | 3.90 | 1.52 | 9.72 | 5.62 | 21.53 | 15.15 | 56.62 | 52.63 |
| 2008-12 | 3.36 | 1.48 | 9.20 | 5.09 | 21.49 | 14.91 | 56.16 | 53.04 |
| 2009-13 | 3.37 | 1.38 | 8.56 | 4.77 | 20.76 | 14.80 | 54.82 | 51.80 |
| 2010-14 | 3.15 | 1.34 | 8.25 | 4.46 | 20.64 | 14.02 | 53.18 | 49.28 |
| 2011-15 | 3.03 | 1.25 | 7.70 | 4.11 | 20.08 | 13.33 | 50.47 | 46.64 |

M-Male; F-Female
Source: Data collected from Treasuries. Calculations are made.

The average death rate of service pensioners had been declining. The fall in the death rate was more pronounced in the oldest old category especially from 2006-10.

### 5.5.2 Age Profile

Age profile of service pensions, given in the Table 5.9, shows that the number of service pensioners in young old, old old and oldest old categories had been increasing. There was substantial increase in the number of old old and oldest old service pensioners during the twenty five year period.

**Table 5.9. Age Profile of Service Pensioners 1991-2015**

| Year | Less than 60 | | 60-69 | | 70-79 | | 80 or more | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| 1991 | 17,088 | 9,673 | 15,617 | 7,413 | 3,097 | 1,242 | 188 | 94 |
| 1996 | 25,247 | 15,375 | 29,755 | 15,077 | 7,576 | 3,376 | 754 | 365 |
| 2001 | 35,348 | 24,385 | 47,812 | 25,532 | 15,489 | 7,750 | 2,741 | 1,259 |
| 2006 | 46,681 | 36,804 | 62,945 | 39,198 | 27,402 | 14,585 | 6,341 | 3,006 |
| 2011 | 43,667 | 32,230 | 80,156 | 60,143 | 41,809 | 23,833 | 12,612 | 6,450 |
| 2015 | 30,582 | 22,510 | 87,931 | 68,551 | 52,421 | 33,835 | 20,892 | 11,430 |

Source: Data collected from treasuries as on 31.03.2015. Number of Pensioners as on 31st March of each Year

Tenth State Pay Commission estimated that average number of retirees during the coming years may be 21,800 per year (GOK, 2015). Considering this estimation and assuming that the present age group wise death rate of service pensioners may continue during the coming years, the number of elderly pensioners who are under the DB pension system is estimated up to 2036 and presented in the Table 5.10. The number of 60+ years aged service pensioners may increase steadily during the coming years. The number of young old pensioners is same in 2031 and 2036 due to the assumption of same death rate and retirement.

**Table 5.10. Projected Number of Elderly Service Pensioners 2016-2036**

| Year | 60-69 | 70-79 | 80 or more | Total |
|---|---|---|---|---|
| 2016 | 153,177 | 96,480 | 38,955 | 288,612 |
| 2021 | 146,561 | 129,991 | 57,519 | 334,071 |
| 2026 | 180,841 | 136,449 | 82,414 | 399,704 |
| 2031 | 210,145 | 131,222 | 111,289 | 452,656 |
| 2036 | 210,145 | 162,622 | 120834 | 461,806 |

Source: Estimated Figures

### 5.5.3 Age wise Proportion

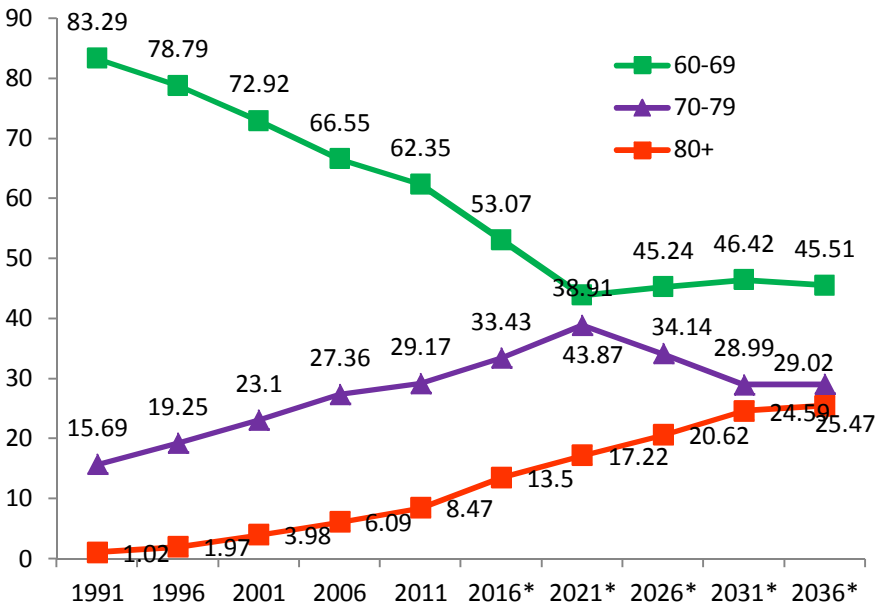
On the basis of data collected from treasuries age group wise proportion of service pensioners was calculated and presented in the Table 5.11. The proportion of young old male pensioners varied between 26 per cent and 31 per cent during 1991-2015. The female young old pensioners expected to increase to 20.89 per cent from 13.61 per cent in 1991. In the old old category female service pensioners showed 4.5 times increase.

**Table 5.11. Age Group wise proportion of Service Pensioners**

| Year | 60 or less | | 60-69 | | 70-79 | | 80 or mote | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| 1991 | 31.40 | 17.78 | 28.70 | 13.62 | 5.69 | 2.28 | 0.35 | 0.17 |
| 1996 | 25.89 | 15.77 | 30.51 | 15.46 | 7.77 | 3.46 | 0.77 | 0.37 |
| 2001 | 22.05 | 15.21 | 29.82 | 15.93 | 9.66 | 4.83 | 1.71 | 0.79 |
| 2006 | 19.70 | 15.53 | 26.56 | 16.54 | 11.56 | 6.15 | 2.68 | 1.27 |
| 2011 | 14.51 | 10.71 | 26.64 | 19.99 | 13.89 | 7.92 | 4.19 | 2.14 |
| 2015 | 9.32 | 6.86 | 26.80 | 20.89 | 15.97 | 10.31 | 6.37 | 3.48 |

Source: Data collected from Treasuries as on 31.03.2015. Calculations are made

The highest growth in the proportion was in the oldest old group. There was about 18 times increase in the case of male pensioners and about 20 times in the case of female pensioners. Besides the fact that the proportion of female service retirees was about 36 per cent prior to 1999-2000 and less than 45 per cent from 2000-01, the proportion of female service pensioners increased more than that of male service pensioners in the old old and oldest old groups. It shows that female service pensioners had been ageing faster than male service pensioners.



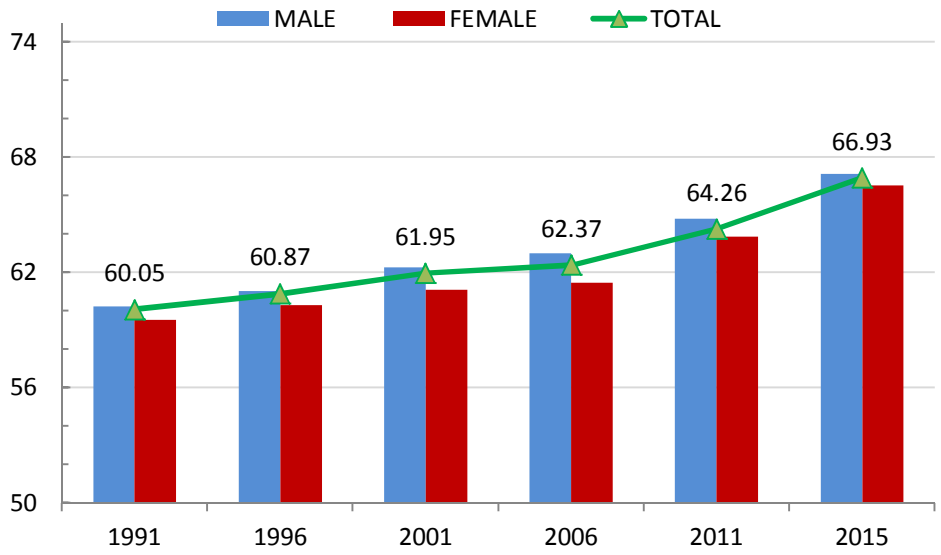

Source: Calculated figures on the basis data collected from treasuries.
*Estimated values

**Figure 5.5. Proportion of Elderly Service Pensioners**

The Figure 5.5 shows proportion of elderly service pensioners from 1991 to 2036. The proportion of young old service pensioners decreased sharply from more than 83 per cent to 62.35 per cent in 2011 and expected to fall to 38.91 per cent in 2021. The sudden fall in the proportion in 2021 is due to the hike in the retirement age during 2011-12. From 2026 the proportion may increase and may reach 45.51 per cent in 2036. The proportion of old old is expected to rise to about 44 per cent in 2021 and may fall from 2026 due to the hike in retirement age during 2011-12. In 2036 it may increase marginally. The oldest old proportion of service pensioners shows steady increase during the 1991-2036 period and the difference between the proportion of old old and oldest old pensioners has been narrowing.

### 5.5.4 Median Age

As stated above median age is an important tool for measuring ageing. The median age of pensioners especially that of female pensioners had been increasing (see Figure 5.6). During the twenty five year period there was about 7 years increase in the median age of pensioners.




Source: Data collected from Treasuries. Calculations are made

**Figure 5.6. Median Age of Service Pensioners (in Years)**

Median age of each age group had been increasing over the period (see Table 5.12). The median age of young old already crossed the age of 65 both in the case of male and female service pensioners. In the old old category median age of male service pensioner was more than 74 and that of female service pensioners was nearing 74.

**Table 5.12. Median age of Elderly Service Pensioner During 1991-2015**

| Year | 60-69 | 60-69 | 70-79 | 70-79 | 80 or more | 80 or more |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 1991 | 63.70 | 63.50 | 72.71 | 72.45 | 82.24 | 82.33 |
| 1996 | 63.24 | 63.11 | 73.21 | 73.07 | 81.92 | 82.58 |
| 2001 | 64.06 | 63.90 | 73.64 | 73.32 | 82.42 | 82.58 |
| 2006 | 64.16 | 63.82 | 73.15 | 73.07 | 83.25 | 83.09 |
| 2011 | 64.25 | 64.03 | 73.94 | 73.77 | 83.82 | 83.56 |
| 2015 | 65.00 | 65.09 | 74.17 | 73.80 | 83.82 | 83.58 |

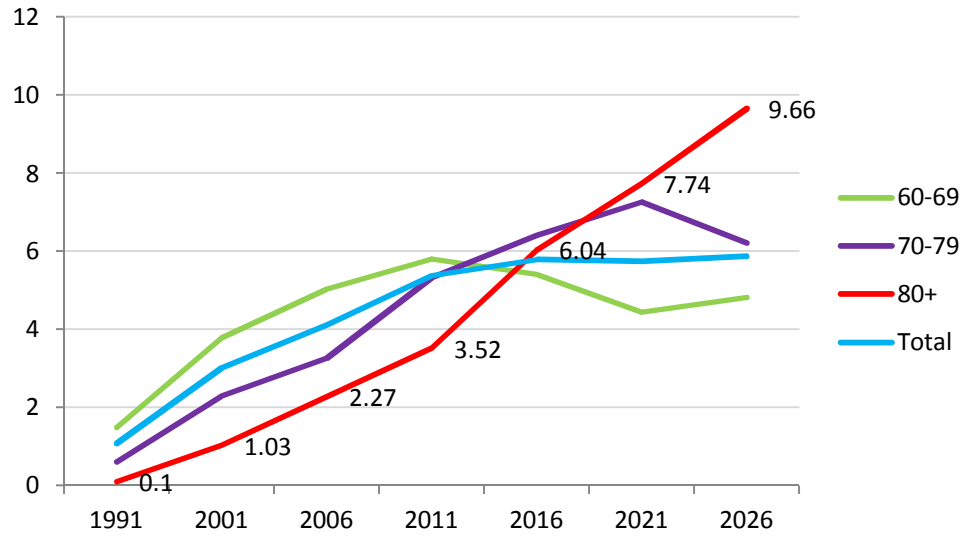
Source: Data collected from Treasuries. Calculations are made

The median age of old old and oldest old male service pensioners was higher than that of female service pensioners. The main reason for this disparity is the higher proportion of male pensioners in the past. Median age of oldest old service pensioners was reaching 84 and that of female service pensioners was already higher than 83.5. Rising median age of young old service pensioners was an indication that ageing process may be faster in the coming years.

### 5.5.5 Proportion of Elderly Service Pensioners in the Elderly Population of Kerala

In order to compare the ageing of service pensioners with population of Kerala proportionate share of elderly service pensioners in the population of Kerala aged 60+ years is calculated for 1991-2026 and presented in the Figure 5.7. From about 1 per cent of population aged 60+ years, service pensioners aged 60+ years may increase to about 6 per cent in 2026. The proportionate share of oldest old increased dramatically from about 0.1 per cent in 1991 to 6.04 per cent 2011 and it may be 9.66 per cent in 2026. It may surpass the proportion of young old and old old service pensioners to the

respective aged population in 2021. The share of old old service pensioners in old old population may be more than that of young old in 2016.




Source: Census Data, Population Projection by Census Commissioner, Data Collected from Treasuries and Estimated Number of Service Pensioners

**Figure 5.7. Proportion of Elderly Service Pensioners in Elderly Population of Kerala During 1991-2026**

### 5.5.6 Index of Oldest Old to Youngest Old

Index of oldest old to youngest old is measuring ageing of the elderly people. It is the number of oldest old (80 years or more aged) population per 100 population aged 60-64 in a year (Planning Commission, 2008). The index of the oldest-old to the young old witnessed drastic changes in Kerala during the past 50 years. From the ratio of 23 in 1961 it increased to more than 38 in 2011 (see Table 5.13).

**Table 5.13. Index of Oldest Old to Young Old – Service pensioners and Population of Kerala**

| Year | Service Pensioners* | Population of Kerala@ |
|---|---|---|
| 1991 | 1.83 | 33.26 |
| 2001 | 9.10 | 37.69 |
| 2011 | 23.08 | 38.30 |
| 2016 | 53.89 | 40.19 |
| 2021 | 75.22 | 40.73 |
| 2026 | 77.25 | 41.38 |
| 2031 | 104.31 | Not Available |
| 2036 | 113.26 | Not Available |

Source: *Calculated Figures; @Census Data and Population Projection by Census Commissioner

The index of oldest old to young old of service pensioners was very less in 1991, but it increased to 23.08 in 2011 and expected to increase drastically to 53.89 in 2016 and to 104.31 in 2031. As per the estimates of Rajan and Aliyar (2009) the index of general population may reach 100 in 2061. So the estimated index of oldest old of service pensioners is very higher compared to the index of general population. It is an indication that ageing of service pensioners is faster than ageing of population in Kerala

## 5.6 Impact of Ageing on Pension Expenditure

In order to know the impact of ageing on the pension expenditure of the state, age wise pension expenditure is needed. For this age wise expenditure for the ten year period from 2005-06 to 2014-15 was calculated by summing up pension amount of all service pensioners for each month. Pension of each pensioner is calculated by using the formula:

Monthly Pension=BP + (BP*DR)

Where BP is the Basic Pension and DR is the Dearness Relief to pensioners.

The pension expenditure calculated for each age group is presented in the Table 5.14 which shows that the calculated pension expenditure had been increasing in all age groups.

**Table 5.14. Age Group Wise Service Pension Expenditure From 2005-06 to 2014-15**

(in ₹ Crores)

| Year | Less than 60 | | 60-69 | | 70-79 | | 80-89 | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| 2005-06 | 390.77 | 324.08 | 673.18 | 441.24 | 281.20 | 141.89 | 57.95 | 28.22 |
| 2006-07 | 402.00 | 333.45 | 739.87 | 508.86 | 327.42 | 167.64 | 68.52 | 33.26 |
| 2007-08 | 431.96 | 344.50 | 784.82 | 567.21 | 367.22 | 191.72 | 78.82 | 38.84 |
| 2008-09 | 445.43 | 347.36 | 863.66 | 651.27 | 424.98 | 224.82 | 95.36 | 48.02 |
| 2009-10 | 481.75 | 371.72 | 1083.04 | 841.02 | 548.59 | 294.97 | 134.79 | 68.29 |
| 2010-11 | 554.86 | 416.40 | 1312.62 | 1035.13 | 675.98 | 373.44 | 168.46 | 84.46 |
| 2011-12 | 595.02 | 431.85 | 1572.23 | 1249.35 | 813.19 | 466.30 | 220.60 | 111.31 |
| 2012-13 | 573.92 | 408.78 | 1781.44 | 1419.55 | 966.01 | 577.29 | 280.63 | 143.02 |
| 2013-14 | 632.22 | 456.59 | 1926.87 | 1535.39 | 1090.93 | 681.87 | 349.38 | 183.10 |
| 2014-15 | 707.55 | 536.29 | 2164.14 | 1722.39 | 1270.23 | 830.27 | 454.78 | 240.81 |

Source: Calculated values

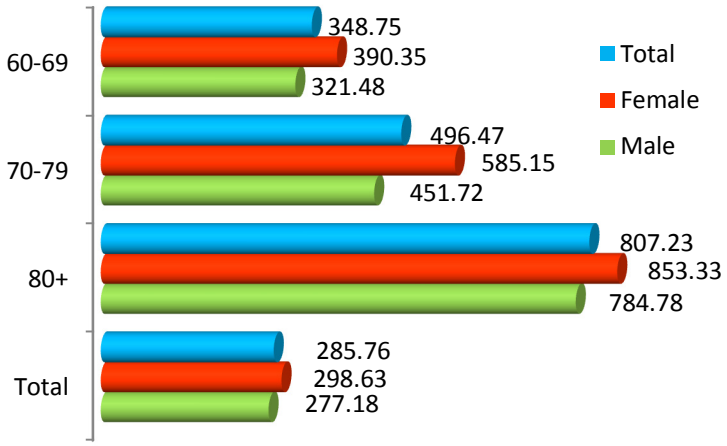
While the share of pension expenditure for less than 60 years age group had been decreasing (see Table 5.15), the share of pension expenditure for oldest old category had been increasing for both genders during the period. During 2014-15, 15.7 per cent of expenditure was for pensioners aged less than 60. 20.58 per cent of calculated expenditure was for pensioners aged 60 or less. So a hike of retirement age to 60 years may reduce pension expenditure by more than 20 per cent.

**Table 5.15. Age Group Wise Proportion of Service Pension Expenditure**

| | Less than 60 | | 60-69 | | 70-79 | | 80 or more | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| 2005-06 | 16.71 | 13.86 | 28.79 | 18.87 | 12.02 | 6.07 | 2.48 | 1.21 |
| 2006-07 | 15.58 | 12.92 | 28.67 | 19.72 | 12.69 | 6.50 | 2.65 | 1.29 |
| 2007-08 | 15.40 | 12.28 | 27.98 | 20.22 | 13.09 | 6.83 | 2.81 | 1.38 |
| 2008-09 | 14.36 | 11.20 | 27.85 | 21.00 | 13.71 | 7.25 | 3.08 | 1.55 |
| 2009-10 | 12.60 | 9.72 | 28.32 | 21.99 | 14.35 | 7.71 | 3.52 | 1.79 |
| 2010-11 | 12.01 | 9.01 | 28.40 | 22.40 | 14.63 | 8.08 | 3.65 | 1.83 |
| 2011-12 | 10.90 | 7.91 | 28.80 | 22.88 | 14.89 | 8.54 | 4.04 | 2.04 |
| 2012-13 | 9.33 | 6.65 | 28.96 | 23.08 | 15.71 | 9.39 | 4.56 | 2.33 |
| 2013-14 | 9.22 | 6.66 | 28.10 | 22.39 | 15.91 | 9.95 | 5.10 | 2.67 |
| 2014-15 | 8.93 | 6.77 | 27.30 | 21.73 | 16.03 | 10.47 | 5.74 | 3.04 |

Source: Calculated Figures

Compared to 2005-06 there was more than 850 per cent and about 780 per cent increase respectively in the expenditure for women and male pensioners of oldest old category (see Figure 5.8). This increase was very high compared to the percentage increase in the pension expenditure for the old old and young old category. Due to the ageing of service pensioners, total increase in the pension expenditure was 277.18 per cent in 2014-15 from 2005-06 level.




Source: Calculated Figures

**Figure 5.8. Percentage Increase of Calculated Pension Expenditure in 2014-15**

But the increase in the calculated pension expenditure involved revision of basic pension wef 01.07.2009 due to the implementation of Ninth Pay Revision Commission Report and periodic revision of DR. So the actual impact of ageing on pension expenditure may be lower.

In order to assess the impact of ageing on pension expenditure three assumptions are made

a) There is no change in basic pension from 01/04/2005
b) There is no Dearness Relief from 01/04/2005
c) There is no retirement after 31/03/2006.

Based on above three assumptions basic pension expenditure is calculated from 2005-06 to 2014-15. As there is no retirement is assumed after 31/03/2006 the young old pensioners are considered only from the age of 65 years otherwise there shall be sharp reductions in the expenditure for young old category after 2009-10 which may lead to wrong conclusions. The calculated basic pension expenditure from 2005-06 to 2014-15 based on above three assumptions is given in the Table 5.16

**Table 5.16. Age Group Wise Basic Pension Expenditure - 2005-06 to 2014-15**

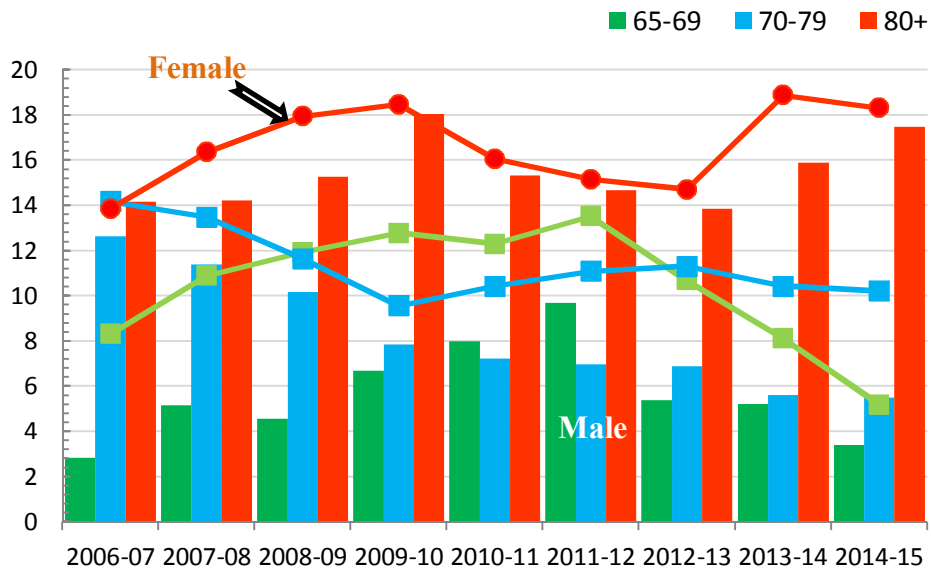
(in ₹Crores)

| Year | 65-69 | | 70-79 | | 80 or more | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| 2005-06 | 158.78 | 89.64 | 156.59 | 79.88 | 32.44 | 15.94 |
| 2006-07 | 163.31 | 97.10 | 176.36 | 91.21 | 37.04 | 18.15 |
| 2007-08 | 171.73 | 107.67 | 196.44 | 103.51 | 42.31 | 21.12 |
| 2008-09 | 179.56 | 120.50 | 216.46 | 115.56 | 48.77 | 24.91 |
| 2009-10 | 191.59 | 135.89 | 233.48 | 126.61 | 57.58 | 29.51 |
| 2010-11 | 206.93 | 152.60 | 250.36 | 139.80 | 66.4 | 34.25 |
| 2011-12 | 227.03 | 173.24 | 267.84 | 155.30 | 76.15 | 39.44 |
| 2012-13 | 239.27 | 191.78 | 286.28 | 172.87 | 86.71 | 45.24 |
| 2013-14 | 251.77 | 207.35 | 302.36 | 190.89 | 100.49 | 53.78 |
| 2014-15 | 260.38 | 218.12 | 318.95 | 210.39 | 118.08 | 63.63 |

Source: Calculated Figures

The basic pension expenditure for all the age groups increased but the increase in the old old and oldest old category was more glaring. In old old and oldest old group basic pension expenditure for female service pensioners increased by 2.6 times and 4 times respectively while the expenditure for male service pensioners increased by 2 and 3.6 times.

The annual growth rate of basic pension expenditure was shown in the figure 5.9. The annual growth rate of expenditure for female pensioners due to ageing was higher in all age groups.



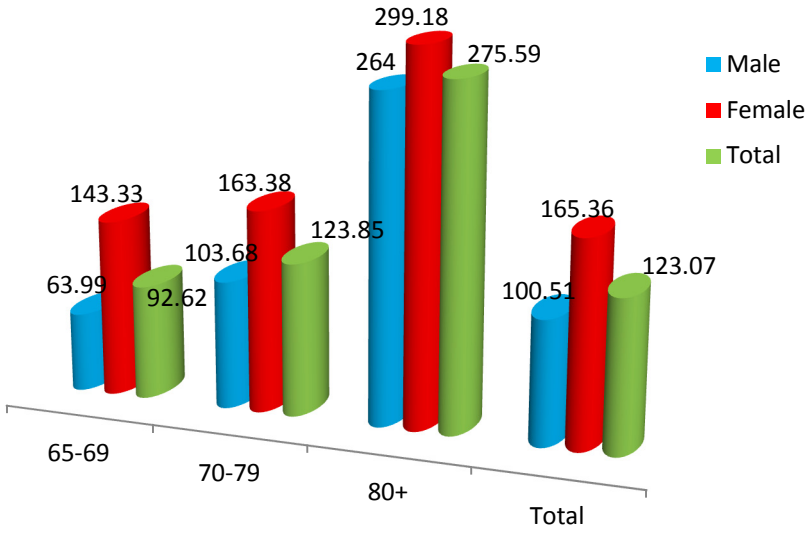

Source: Calculated Figures

**Figure 5.9. Age and Annual Growth Rate of Calculated Basic Pension Expenditure Due to Ageing**

The annual growth rate of expenditure for young old pensioners in the age group 65-69 after showing increasing tendency, decreased after 2011-12 for both male and female pensioners and became less than that of old old category. In the case of oldest old category the calculated expenditure ranged

between about 14 per cent and 18 per cent for males and between about 13.9 per cent and 18.9 per cent for females. The annual growth rate of basic pension expenditure for oldest old group was higher than that of all other age groups.

Compared to the basic pension expenditure in 2005, expenditure for female oldest old pensioners increased by 314 per cent and for male service pensioners by about 273 per cent (see Figure 5.10).




Source: Calculated Figures

**Figure 5.10. Percentage Increase of Calculated Basic Pension Expenditure in 2014-15**

The increase of about 276 per cent in oldest old category was more than double than the percentage growth in old old category. Rate of growth of pension expenditure for female pensioners was higher in all the age groups. Ageing during the ten year period raised total pension expenditure by 150 per cent in the old old and oldest old category taken together.

Service pensioners are ageing and due to the ageing pension expenditure has been increasing particularly in the old old and oldest old category. In the coming decades increase of pension expenditure due to ageing may be higher as the ageing process may be faster as evident from the rising median age of various age groups.

# Chapter 6

# IMPACT OF NEW PENSION SCHEME ON GOVERNMENT OF KERALA AND ITS EMPLOYEES

Contents



## 6.1 Introduction

Owing to the mounting pressure of pension expenditure, Kerala Government introduced the New Pension system (NPS) for the recruits who join service on or after 01/04/2013 replacing the DB pension scheme following the footsteps of Central Government and majority of states. NPS is already described in the Chapter 3. In this chapter an attempt is made to assess how much is the loss/gain to the state Government and employees due to the introduction of NPS.

## 6.2 Gain/Loss to the State Government

NPS is introduced to overcome the burgeoning pension burden but no assessment is made in Kerala whether it is beneficial to the state/employees. Under NPS employees have to contribute 10 per cent of their pay and DA to the pension fund. Matching contribution is made by the Government as an employer. As the scheme was introduced only two years back any assessment can be made only with some assumptions.

The following assumptions are made for estimating the impact of NPS on Government of Kerala:

1) The average basic pay of 11,174 employees joined during 2013-14 (data from Service and Payroll Administrative Repository for *Kerala (SPARK))* was ₹ 12,421/- So it is the average basic pay of employees joined during 2013-14 under NPS is taken as ₹ 12,400/-.

2) The employees are eligible for annual increment and promotion. So, following Sanyal, Gayithri and Erappa (2011) who assumed 3 per cent annual increase in pay for estimating pension liability of Central Government for the next 100 years, 3 per cent annual increase in pay is assumed.

3) Government has been sanctioning DA twice in a year. A 10 per cent annual DA is assumed for coming years.

4) Pay and pension revisions are implementing in Kerala once in every five years. Last pay revision was wef 01/07/2014. Government sanctioned 12 per cent hike in the salary of employees after merging the DA as on 01/07/2014. It is assumed that there shall be pay revision for every five years and 12 per cent hike shall be sanctioned after merging DA. Weightage given by the pay revisions for length of service is ignored.

5) Last pension revision sanctioned 18 per cent hike in the basic pension of pensioners after merging the existing DR. So this percentage and merging of DR is assumed for future pension revision which shall be implemented in every five years.

6) Even though there are pensioners aged more than 100 years, their number is very less. Presently there are only 35 pensioners (0.01%) aged more than 100 years. So, following Sanyal, Gayithri and Erappa (2011), it is assumed that pensioners may live only up to 100 years.

7) It is also assumed that Government will appoint fresh employees within one year after the retirement of employees and that all vacancies due to retirement shall be filled. Tenth State Pay Commission (GOK, 2015) estimated that average service period of employees under DB system is 23 years. So it is assumed that average service period of employees under DB pension system is 23 years and under NPS is 27 years.

8) Present contribution (10% of pay and DA) of employees and Government under NPS shall continue.

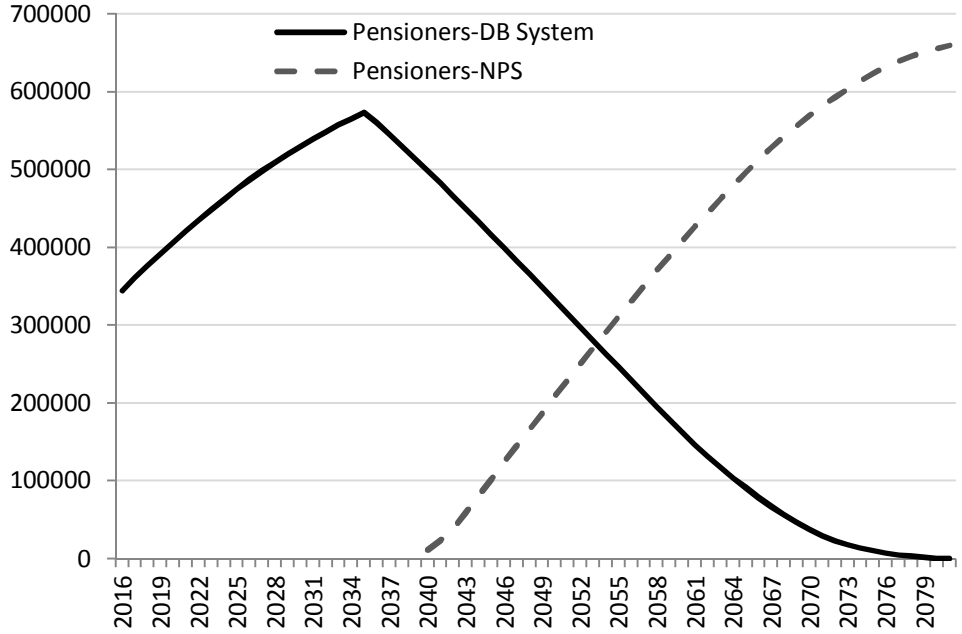
9) Retirement age of employees under NPS (60 years) and under DB pension system (56 years) shall continue.

10) In previous chapter the number of pensioners is projected up to 2036 on the basis of two assumptions - the present death rate of service pensioners shall continue and the number of retirement in coming years shall be 21,800 per year (as estimated by the Tenth Pay Commission). Same assumptions are also followed for projecting number of service pensioners. Death of employees in service is ignored in this estimation.

The number of pensioners up to March 2081 is estimated and presented in the Figure 6.1. The number of pensioners under the DB system may reach

at its maximum in 2036 and may become zero in 2081. The first batch of pensioners under the NPS system may emerge from 2040 after the successful competition of 27 years of service.

(as on 31st March of each Year)




Source: Estimated Figures

**Figure 6.1. Estimated Number of Pensioners from 2015-16 to 2080-81**

The expenditure for pension for pensioners under the DB system and NPS up to 2080-81 is estimated and presented in the Table 6.1. The pension expenditure assuming that NPS is not introduced is also given in the Table.

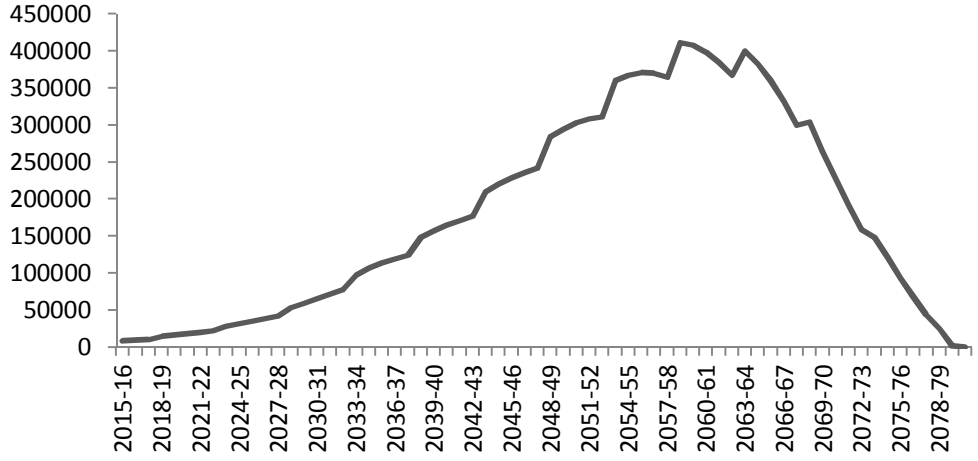
**Table 6.1. Estimated Pension Expenditure With and Without NPS**

(in ₹ Crores)

| Year | Pension Expenditure without NPS | Pension Expenditure With NPS | |
|---|---|---|---|
| | | Pension for Pensioners under DB system | Contribution of Govt. to NPS |
| 2020-21 | 18,022 | 18,022 | 1,071 |
| 2025-26 | 34,998 | 34,998 | 3,470 |
| 2030-31 | 65,195 | 65,195 | 9,194 |
| 2035-36 | 113,648 | 113,648 | 22,182 |
| 2040-41 | 172,685 | 164,657 | 43,193 |
| 2045-46 | 299,813 | 228,955 | 80,213 |
| 2050-51 | 523,883 | 303,226 | 148,963 |
| 2055-56 | 906,338 | 370,684 | 276,637 |
| 2060-61 | 1,556,538 | 398,114 | 513,740 |
| 2065-66 | 2,698,892 | 360,001 | 954,061 |
| 2070-71 | 4,684,020 | 226,938 | 1,771,777 |
| 2075-76 | 8,234,115 | 93,350 | 3,290,349 |
| 2080-81 | 14,271,336 | - | 6,110,473 |

Source: Estimated values

(in ₹ Crores)

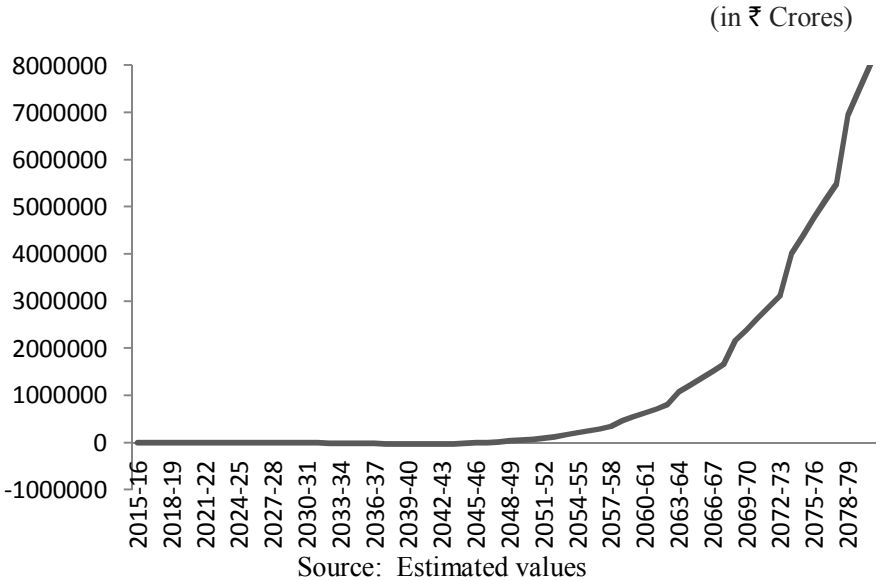



Source: Estimated values

**Figure 6.2. Estimated Pension Expenditure for Pensioners under DB System for the Period from 2015-16 to 2080-81**

So even if the number of pensioners, who are under DB system, may decrease after 2036 (See Figure 6.1) the pension expenditure may increase further till 2058-59 due to DR and pension revisions (See Figure.6.2). The pension expenditure due to the present DB system may become zero only during 2080-81.

The real benefit to Government due to the introduction of NPS, which is the difference between the pension expenditure with and without the introduction of NPS (See Table 6.1) is presented in the Figure 6.3. Anand and Ahuja (2004) found that the pension reforms entail inter-generation planning for long-term fiscal consolidation and may start yielding benefits only after 35 years or so. As per the estimates, Kerala Government may get benefit thirty three years after the implementation of the NPS i.e. from 2047-48. The benefit may be as high as ₹ 80.23 lakh crore during 2080-81. So NPS is beneficial to Government of Kerala in long run.



Source: Estimated values

**Figure 6.3. Estimated Gain of Government Due to the Introduction of NPS**

## 6.3 Gain/Loss to the Employees

As per the provisions of NPS, employees who retire at the age of 60 have to invest 40 per cent of pension assets in an annuity plan of IRDA regulated Life Insurance Company. But the annuity market in India is still small and underdeveloped which manifests itself in its small size relative to other insurance (James and Song, 2001). However some immediate annuity plans are presently available in India. LIC, SBI, Reliance, Shriram Life Insurance, Star Union Dai-Ichi, Tata AIA life group etc. have introduced immediate annuity plans.

### 6.3.1 Immediate Annuity Plan of LIC and SBI

Two Pension Fund Managers (PFMs) –LIC and SBI- already introduced immediate annuity plans-Jeevan Akshay VI of LIC and Annuity Plus of SBI. A comparison of common options of the annuity plans of the two PFMs are given in the Table 6.2.

**Table 6.2. Comparison of Annuity Plan of LIC and SBI for 60 Years Aged Investor per One Lakh**

(Amount in ₹)

| Sl. No | Options | LIC | SBI |
|---|---|---|---|
| 1 | Annuity payable for life at a uniform rate | 9,350 | 8,778 |
| 2 | Annuity payable for 15 years certain and thereafter as long as the annuitant is alive | 8,790 | 8,261 |
| 3 | Annuity for life with return of purchase price on death of the annuitant | 7,110 | 6,454 |
| 4 | Annuity payable for life increasing at a simple rate of 3% p.a | 7,530 | 7,179 |
| 5 | Annuity for life with a provision of 50% of the annuity to spouse on death of the annuitant* | 8,640 | 8,188 |
| 6 | Annuity for life with a provision of 100% of the annuity to spouse on death of the annuitant* | 8,030 | 7,659 |

* Under SBI annuity plan both annuitants with same age

Source: https://epolicy.sbilife.co.in/AnnuityPlusIndex.aspx and http://www.licindia.in/jeevan _akshay_plan_009_features.htm accessed on 20.12.2015.

The annuity plan of LIC is found more attractive. It provides highest annuity under all the options. Annuity plan of LIC is therefore used for assessing the loss or gain of employees.

### 6.3.2 Case of Four Employees and Assumptions

In order to assess how much is the loss or gain to the employee due to the introduction of NPS in Kerala, case of four employees who retired in 2015 after thirty years of service were taken. The first employee joined as Assistant Engineer in Kerala Public Works Department and retired as Chief Engineer. So he joined service in the Gazetted Rank. The second employee joined as Assistant Grade II in the Kerala Government Secretariat and retired as Special Secretary. The joining post of third employee was Lower Division Clerk in the Agricultural Department of Kerala Government and retired as Senior Superintendent in 2015. These two employees joined in the Non-Gazetted posts. The fourth employee was a class IV staff who also joined service in 1985 in the Revenue Department of Kerala Government and retired in 2015. In order to make comparisons and calculations easier the joining of the four real cases were considered as 01/07/1985 and their retirement as 30/06/2015.

Taking these four real cases as models 20 other cases with different period of service (25 years, 20 years, 15 years, 10 years and 5 years) were developed. As per NPS there is no deduction from the pay and DA arrears. So in these cases also no deduction of NPS subscription from arrears of salary is calculated. The following assumptions are made:

1) Government of Kerala introduced the NPS wef 01/01/1985.

2) All the employees in a cadre have same promotional avenues. So all employees in the same cadre get promotion in the same time interval.

3) All the employees join service on first July.

4) Date of effect of all pay revisions and promotions are first July.

5) As there is delay of more than five months in the declaration of DA in Kerala, it is assumed that there is six month delay in the date of effect of DA.

6) The Compound Annual Growth Rate of assets under each PFM as on 31.03.2015 was higher than 10 per cent (See Table 3.10). So CAGR for the thirty year period is assumed as 10 per cent.

### 6.3.3 Pay Revisions

During the thirty year period between 1985 and 2015 there were five pay revisions. The details these pay revisions were shown in the Table 6.3.

**Table 6.3. Pay Revisions During 1985-2015**

| Sl. No | Pay Revision | Year of Implementation | Pay Fixation Criteria |
|---|---|---|---|
| 1 | Fifth | 1989 | Pay +22% DA +1/3% weightage (minimum ₹ 60/-) for each year |
| 2 | Sixth | 1993 | Pay +7% of Pay |
| 3 | Seventh | 1998 | Pay +148% DA +1% weightage for each year +10% of Pay as Fitment (minimum ₹ 250/-) |
| 4 | Eight | 2006 | Pay+59% DA + 6% of Pay as fitment (minimum 350) + One increment for four years(maximum four increments) |
| 5 | Ninth | 2011 | Pay+64% DA+10% of Pay as Fitment (minimum 1000)+1/2% for each year |

Source: Various Government orders implementing Pay Revisions.

. As there is no deduction of contribution from the arrears, the date of effect of pay revisions is treated as first July of the Year of Government Order. Basic Pay of twenty cases, which were developed from the four real cases, was calculated on the basis of the pay fixation formula of each pay revision.

### 6.3.4 Dearness Allowance

The DA sanctioned by Government of Kerala during the thirty year period is given in Table 6.4. Six month delay in the actual date of effect of DA revisions is assumed as there is delay in the declaration of DA. For example in the DA calculation for the period from 01/07/1985 to 30/06/1986, DA for January 1985 and July 1985 are considered.

**Table 6.4. Dearness Allowance During 1985-2015**

| Year | January | July | | Year | January | July |
|---|---|---|---|---|---|---|
| 1985 | 13 | 18 | | 2000 | 38 | 41 |
| 1986 | 22 | 26 | | 2001 | 43 | 45 |
| 1987 | 30 | 35 | | 2002 | 49 | 52 |
| 1988 | 40 | 45 | | 2003 | 55 | 59 |
| 1989 | 29 | 34 | | 2004 | 61 | 66 |
| 1990 | 38 | 43 | | 2005 | 74 | 86 |
| 1991 | 51 | 60 | | 2006 | 15 | 20 |
| 1992 | 71 | 62 | | 2007 | 26 | 32 |
| 1993 | 69 | 73 | | 2008 | 38 | 45 |
| 1994 | 78 | 85 | | 2009 | 55 | 64 |
| 1995 | 94 | 102 | | 2010 | 78 | 94 |
| 1996 | 111 | 119 | | 2011 | 24 | 31 |
| 1997 | 128 | 140 | | 2012 | 38 | 45 |
| 1998 | 16 | 22 | | 2013 | 53 | 63 |
| 1999 | 32 | 37 | | 2014 | 73 | 80 |

Source: Various Kerala Government orders implementing DA.

### 6.3.5 Case of Gazetted Officers

A real case of an Assistant Engineer who joined Public Works Department of Kerala in 1985 and retired as Chief Engineer in 2015 was taken. He joined the service in the scale of pay of 1050-30-1200-40-2000. His basic pay was ₹ 1050/-. He got promotions as Assistant Executive Engineer after 9 years of joining. His other promotions were after 14, 18 years, 22 year, 25 years and 28 years of joining. So this employee has total six promotions during his entire service period. As per the assumptions all those who join service as Assistant Engineer in Public Works Department of Kerala Government got promotions after 9,14,18,22,25 and 28 years of joining.

The contribution of the employee and matching contribution of the government added together is 20 per cent of basic pay and DA. The interest for first year is calculated on the basis of interest calculation for the General Provident Fund (Chapter 3) ie; the employee get interest from the date of credit to the end of the year. So employees get twelve month interest for first month investment, eleven month interest for second month investment and so on. Final value of pension assets is calculated using the formula:

Value of Pension Assets = Pension Assets at the end of a year
*$(1+CAGR)^{\text{number of years}}$

In this analysis CAGR is assumed as 10 per cent. Final value of pension assets is a function of pay, DA, CAGR and service period. CAGR and DA% are constant for all employees. Thus higher the pay and service period, higher is the final value of pension assets. The calculated value of pension assets of employees joined in Gazetted rank with different service period (30, 25, 20, 15, 10 and 5 years) is presented in Appendix 1.1 to 1.6.

### 6.3.6 Case of Assistant Grade II Joined in Government Secretariat

A case of an employee who joined in Government Secretariat in 1985 and retired after thirty years of service in the rank of Special Secretary was taken. He joined in the Non Gazetted post (Non-Gazetted A). His basic pay was ₹ 755/. He got eleven promotions in his service period which is the highest in all cases. After joining service the employee got promotion on $4^{th}$, $10^{th}$, $12^{th}$, $15^{th}$, $18^{th}$, $21^{st}$, $22^{nd}$, $24^{th}$, $26^{th}$, $28^{th}$ and $30^{th}$ year. As per the assumption, an Assistant Grade II in Government Secretariat got promotions in the same time interval. The value of pension assets calculated for the employees with different service periods is given in the Appendix 1.7 to 1.12.

### 6.3.7 Case of a Lower Division Clerk in Government Department

A case of Lower Division Clerk (Non-Gazetted B) joined in the Agricultural Department of Kerala Government was the next case. He joined service in 1985 and retired in 2015. He got only five promotions during his service period in $8^{th}$, $13^{th}$, $20^{th}$, $25^{th}$ and $28^{th}$ years of service. The pension value at the retirement of a LDC who retires after 30, 25, 20, 15, 10 and 5 years of service is presented in the Appendix 1.13 to 1.18.

### 6.3.8 Case of a Class IV staff in Government Department

The fourth case is that of a Class IV staff joined in Revenue Department and retired after 30 years of service as Class IV staff. He got four time bound higher grade on completion of 10, 18, 22 and 27 years of service. Unlike other three cases class IV staff has the least number of promotions. The calculated pension assets of class IV employees with different service periods are also given in the Appendix 1.19 to 1.24.

### 6.3.9 Final Value of Pension Assets

The final value of pension assets of four categories of employees having different service span is summarised in the Table 6.5. Value of pension assets depend on service period and basic pay of the employee. Greater the service period greater is the value of pension assets of an employee. The number of promotions available in a category also influencing it, as number of promotions affects pay of the employee. So value of the pension assets of different categories of employees with same service period varies.

**Table 6.5. Value of Pension Assets of Different Categories of Employees with Different Service Period**

(in ₹)

| Period of Service | Gazetted Officer (GAZ) | Non-Gazetted-A (NGA) | Non-Gazetted-B (NGB) | Class IV (C4) |
|---|---|---|---|---|
| 30 Years | 3,236,889 | 2,760,974 | 1,783,210 | 1,207,178 |
| 25 Years | 2,718,809 | 2,204,836 | 1,415,902 | 1,034,621 |
| 20 Years | 2,202,315 | 1,471,211 | 1,071,328 | 821,786 |
| 15 Years | 1,502,468 | 915,119 | 699,372 | 582,392 |
| 10 Years | 920,171 | 633,855 | 4,38,917 | 358,279 |
| 5 Years | 519,817 | 318,704 | 220,125 | 188,429 |

Source: Estimated values

The ANOVA is used to work out whether the mean values among different categories of employees vary (See Table 6.6). The results are significant which points towards a difference between the mean values.

**Table 6.6. ANOVA – Value of Pension Assets of Different Categories of Employees**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 267390845572.483 | 3 | 89130281857.494 | 94.214 | .000 |
| Within Groups | 393551406526.400 | 416 | 946037034.919 | | |
| Total | 660942252098.883 | 419 | | | |

To identify which mean is different, Duncan's test is used (See Table 6.7). The results show that the means of the group are not homogenous subsets. Hence all the four categories are heterogeneous as resembled by the means. The mean annual pension assets are statistically different for employees under different categories.

**Table 6.7. Duncan Test – Value of Pension Assets of Different Categories of Employees**

| Category | N | Subset for alpha = 0.05 | | | |
|---|---|---|---|---|---|
| Class IV | 105 | 39663.4762 | | | |
| NGB | 105 | | 53608.1333 | | |
| NGA | 105 | | | 79092.3714 | |
| GAZ | 105 | | | | 105718.7524 |
| Sig. | | 1.000 | 1.000 | 1.000 | 1.000 |

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 105.000

Evaluation of year-wise and grade wise difference in the average value of pension assets for different categories of employees is also done using ANOVA, the results of which are significant indicating difference in mean values (See Table 6.8). The Duncan test (See Table 6.9) is used to further identify which mean is different. Irrespective of years, the Class IV staff are in the subset one only along with Non-Gazetted B staff with 5 and 10 years of service. They are heterogeneous with others. Gazetted employees with 5, 20, 25 and 30 years of service appears only in subset five and hence significantly different from the other groups.

**Table 6.8. ANOVA – Value of Pension Assets of Different Categories of Employees with Different Service Period**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 290391039135.863 | 23 | 12625697353.733 | 13.493 | .000 |
| Within Groups | 370551212963.020 | 396 | 935735386.270 | | |
| Total | 660942252098.883 | 419 | | | |

**Table 6.9. Duncan Test – Value of Pension Assets of Different Categories of Employees with Different Service Period**

| Service Period | N | Subset for alpha = 0.05 | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| Class IV-10 | 10 | 35827.9000 | | | | |
| Class IV-5 | 5 | 37685.8000 | | | | |
| C4-15 | 15 | 38826.1333 | | | | |
| C4-30 | 30 | 40580.4333 | | | | |
| C4-20 | 20 | 41089.3000 | | | | |
| C4-25 | 25 | 41384.8400 | | | | |
| NGB10 | 10 | 43891.7000 | | | | |
| NGB5 | 5 | 44025.0000 | | | | |
| NGB15 | 15 | 46624.8000 | 46624.8000 | | | |
| NGB20 | 20 | 53566.4000 | 53566.4000 | | | |
| NGB25 | 25 | 56636.0800 | 56636.0800 | | | |
| NGB30 | 30 | 59440.3333 | 59440.3333 | | | |
| NGA15 | 15 | 61007.9333 | 61007.9333 | | | |
| NGA10 | 10 | 63385.5000 | 63385.5000 | 63385.5000 | | |
| NGA5 | 5 | 63740.8000 | 63740.8000 | 63740.8000 | | |
| NGA20 | 20 | | 73560.5500 | 73560.5500 | 73560.5500 | |
| NGA25 | 25 | | | 88193.4400 | 88193.4400 | 88193.4400 |
| GAZ10 | 10 | | | | 92017.1000 | 92017.1000 |
| NGA30 | 30 | | | | 92032.4667 | 92032.4667 |
| GAZ15 | 15 | | | | 100164.5333 | 100164.5333 |
| GAZ5 | 5 | | | | | 103963.4000 |
| GAZ30 | 30 | | | | | 107896.3000 |
| GAZ25 | 25 | | | | | 108752.3600 |
| GAZ20 | 20 | | | | | 110115.7500 |
| Sig. | | .072 | .070 | .057 | .058 | .141 |

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 12.245.

### 6.3.10 Gain/Loss of Pension

As per NPS scheme, at the time of normal exit, employees have to invest minimum 40 per cent of the value of pension assets in an annuity plan of Insurance Regulatory and Development Authority of India (IRDA) regulated Life Insurance Company. If the employee invests 40 per cent of their pension assets in Jeevan Akshay VI of LIC and opts for 100 per cent of annuity for spouse, the pension from the annuity plan is shown in the Table 6.10 along with the basic pension under DB pension system.

**Table 6.10. Monthly Pensions of Three Categories of Employees Under DB and NPS**

(Amount in ₹)

| Service Period | Pension under DB system | | | | Annuity Under NPS | | | |
|---|---|---|---|---|---|---|---|---|
| | GAZ | NG – A | NG – B | Class IV | GAZ | NG - A | NG – B | Class IV |
| 30 Years | 54,000 | 56,400 | 27,000 | 17,850 | 8,664 | 7,390 | 4,773 | 3,231 |
| 25 Years | 37,083 | 36,250 | 19,083 | 14,125 | 7,277 | 5,902 | 3,790 | 2,769 |
| 20 Years | 25,800 | 17,533 | 12,833 | 9,050 | 5,895 | 3,938 | 2,868 | 2,200 |
| 15 Years | 16,763 | 10,375 | 8,500 | 8,500 | 4,022 | 2,449 | 1,872 | 1,559 |
| 10 Years | 9,675 | 8,500 | 8,500 | 8,500 | 2,463 | 1,697 | 1,175 | 959 |
| 5 Years | 4,250 | 4,250 | 4,250 | 4,250 | 1,391 | 829 | 589 | 504 |

GAZ-Gazetted; NG-Non-Gazetted
Source: Calculated Values

The employees with thirty years' service got full pension ie 50 per cent of the average pay of last ten months. As pension is related to pay and service period, basic pension of employees having different period of service and different categories of employees differ. Class IV employees with 15 and 10 years of service get only minimum pension of ₹ 8, 500/-. Employees joined service as secretariat assistant (Non Gazetted A) with thirty years of service get more pension than the employee joined service as Assistant

Engineer because of the more promotion opportunities in Secretariat Service. But Non-Gazetted A officer with 25 or less years of service get pension less than that of Gazetted Officer with same period of service. Non-Gazetted A officer with 10 years of service and Non-Gazetted B officer with 15 and 10 years of service get only minimum pension.

Employees with 9 or less years of service are eligible for ex gratia pension. Exgratia pension is related to only service period not pay or category of employees. So all pensioners with five years of service are eligible for exgratia pension of ₹ 4250/-. The ratio of minimum to maximum pension received under DB system is about 1:13. All the employees irrespective of category and service get less pension under NPS. The ratio of minimum to maximum pension under NPS is 1:17. So compared to the DB system, inequality among pensioners under NPS which based on DC system is high. Williamson (2004) rightly observed that as benefits under DC system is closely linked to contributions, they are less redistributive and therefore inequality among retirees is greater.

The loss percentage of pension due to the introduction under NPS is presented in the Table 6.11. The loss per cent of pension due to NPS is decreasing as service period is increasing up to 20 years and then is increasing for all categories of employees. Class IV staff with 10 year or less service are the highest losers. They are also the highest losers in 15 year category. Loss percentage (with DR) of Class IV staff with 10 year service is as high as 89.65 per cent. This is due to their lower pay compared to others. Loss of Non-Gazetted Officer B with 30/ 25 years of service and of Class IV staff with same service is almost same. The lowest loser in 5 year and 10 year category is the employee joined service in gazetted post. Pension loss of

employees with 20 years of service is more or less same irrespective of their class. The Assistant , who join in Secretariat service, with 30 years of service loss about 87 per cent of basic pension and with 25 years of service loss 83.72 per cent. They are the highest losers in the 25 and 30 year category.

**Table 6.11. Pension Loss Due to NPS**

(in%)

| Service Period | Basic Pension only | | | | Basic Pension With DR of 9 % (as on 01.01.2016) | | | |
|---|---|---|---|---|---|---|---|---|
| | GAZ | NG A | NG B | Class IV | GAZ | NG A | NG B | Class IV |
| 30 Years | 83.96 | 86.9 | 82.32 | 81.9 | 85.28 | 87.98 | 83.78 | 83.39 |
| 25 Years | 80.38 | 83.72 | 80.14 | 80.4 | 82.00 | 85.06 | 81.78 | 82.02 |
| 20 Years | 77.15 | 77.54 | 77.65 | 75.7 | 79.04 | 79.39 | 79.50 | 77.70 |
| 15 Years | 76.01 | 76.40 | 77.98 | 81.7 | 77.99 | 78.34 | 79.79 | 83.17 |
| 10 Years | 74.54 | 80.04 | 86.18 | 88.7 | 76.64 | 81.68 | 87.32 | 89.65 |
| 5 Years | 67.27 | 79.93 | 86.14 | 88.1 | 69.97 | 81.59 | 87.29 | 89.12 |

GAZ-Gazetted; NG-Non-Gazetted
Source: Calculated Figures from Table 6.10

Of course employees under NPS get a lump sum at the time of retirement. Of this lump sum 50 per cent is his/her contribution with returns. After investing 40 per cent in annuity scheme the employee get 10 per cent of the value of pension assets. If he invests 10 per cent more in annuity plan he get 25 per cent more annuity than shown in the Table 6.10. It may reduce the loss by certain percentage. But in order to get at least the present basic pension under DB system the employee has to invest 122.21 per cent to 354.54 per cent of the value of their pension assets as shown in the Table 6.12. It is not possible for the employees, especially the lower category employees to invest more than 100 per cent of their pension assets.

**Table 6.12. Minimum % of the Value of Pension Asset to be Invested to Get Present Basic Pension Under DB System**

| Service Period | Gazetted Officer | Non-Gazetted A | Non-Gazetted B | Class IV |
|---|---|---|---|---|
| 30 Years | 249.31 | 305.28 | 226.27 | 220.98 |
| 25 Years | 203.84 | 245.68 | 201.40 | 204.04 |
| 20 Years | 175.06 | 178.09 | 178.98 | 164.55 |
| 15 Years | 166.71 | 169.46 | 181.62 | 218.09 |
| 10 Years | 157.13 | 200.35 | 289.36 | 354.54 |
| 5 Years | 122.21 | 199.30 | 288.62 | 337.30 |

Source: Calculated from the Table 6.10.

Every increase in DR means increase in the loss percentage to the pensioners under NPS. Further the pensioners get hike of pension in every five years. Tenth Pay commission recommended 18 per cent hike in basic pension and Kerala Government sanctioned the same. Since the pension from the annuity plan is constant every hike in basic pension and DR increase the loss percentage of employees.

While the pensioners under DB system are protected against inflation, there is no such protection under NPS. Of course the pensioners can opt for annual increase of 3 per cent in annuity. But it will reduce their annuity by about 20 per cent and there shall be no family pension. The 3 per cent hike may not be enough to overcome the inflation. Further as discussed in the last chapter service pensioners in Kerala are ageing. So in long run the real value of annuity may deplete and the aged pensioners under NPS may suffer. OECD (2009, 2013) observed that pension under the DC system will diminish across all earning range in long run.

### 6.3.11 Gain/Loss of Family Pension

In addition to the pension family of the pensioners are eligible for family pension under DB system. Family pension is the 30 per cent of the last pay drawn subject to the minimum of ₹ 8, 500/- and maximum of ₹ 36, 000/-. Family pensioners are eligible for DR. Family of exgratia pensioners are eligible family pensions at a fixed rate. Family pension at the higher rate which is half of the pay last drawn or twice the amount of family pension admissible, whichever is less is eligible for the family for a maximum period of seven years or till the age of 62 in the case of superannuation at 55 or 67 years of age in case of superannuation at 60. Family pension at the higher rate is not considered for the comparative study.

**Table 6.13. Family Pension under DB System**

| Service Period | Family Pension Under DB System (in ₹ ) | | | |
|---|---|---|---|---|
| | GAZ | NG A | NG B | Class IV |
| 30 Years | 32,400 | 33,840 | 16,200 | 10,710 |
| 25 Years | 26,700 | 26,100 | 13,740 | 10,170 |
| 20 Years | 23,220 | 15,780 | 11,550 | 8,500 |
| 15 Years | 20,115 | 12,450 | 9,450 | 8,500 |
| 10 Years | 17,415 | 11,250 | 8,500 | 8,500 |
| 5 Years | 1,275 | 1,275 | 1,275 | 1,275 |

GAZ-Gazetted; NG-Non-Gazetted
Source: Calculated as per Family Pension Rules

As family pension is a function of last pay drawn, it is different for three different categories of employees and different for employees having different period of service. Class IV staff get the lowest family pension under DB system (See Table 6.13).

**Table 6.14. Family Pension Loss due to NPS**

(in%)

| Service Period | Basic Pension only | | | | Basic Pension With DR of 9% (as on 01.01.2016) | | | |
|---|---|---|---|---|---|---|---|---|
| | GAZ | NG A | NG B | Class IV | GAZ | NG A | NG B | Class IV |
| 30 Years | 73.26 | 78.16 | 70.54 | 69.83 | 75.47 | 79.97 | 72.97 | 72.32 |
| 25 Years | 72.75 | 77.39 | 72.42 | 72.77 | 75.00 | 79.25 | 74.69 | 75.02 |
| 20 Years | 74.61 | 75.04 | 75.17 | 74.12 | 76.71 | 77.10 | 77.22 | 76.25 |
| 15 Years | 80.00 | 80.33 | 80.19 | 81.66 | 81.66 | 81.95 | 81.83 | 83.17 |
| 10 Years | 85.86 | 84.92 | 86.18 | 88.72 | 87.02 | 86.16 | 87.32 | 89.65 |
| 5 Years | -9.10 | 33.1 | 53.8 | 60.47 | -0.09 | 38.62 | 57.62 | 63.73 |

GAZ-Gazetted; NG-Non-Gazetted
Source: Calculated from Table 6.2 and Tale 6.13

The loss of family pension due to NPS is given in the Table 6.14. Under NPS the family pension without DR of gazetted officer with five years of service may be higher by about 9 per cent. But with DR, there is only negligible gain. Loss of family pension of employees with 20 years of service, irrespective of their category, with or without DR under DB system is almost same.

Thus NPS is beneficial to the Government, but not beneficial to the employees. Further employees may be exposed to the risks of financial market. Study of Samwick and Skinner (1998) had revealed that DC plans appear to expose workers to more risk from stock and bond rates of return. The pension under NPS, as discussed above, may be very low compared to the pension under DB system. In the later part of the life it may be difficult for the pensioners to cope up with vagaries of old age and keep their standard of living. So many countries, which implemented pension reforms, protected the lowest earners from the pension cut (OECD, 2013).

Chapter 7

# FAMILY STATUS AND EXPENDITURE PATTERN OF PENSIONERS

Contents



## 7.1 Introduction

Service pensioners in Kerala have been ageing and they found pension as their sole source of income. In this chapter an attempt is made to analyse the family status and expenditure pattern of pensioners. This chapter is based on primary survey conducted among 500 service pensioners. Family pensioners were not covered in this analysis. The data was collected before the implementation of last pension revision which was implemented in January 2016.

## 7.2 Utilisation of Pensionary Benefits

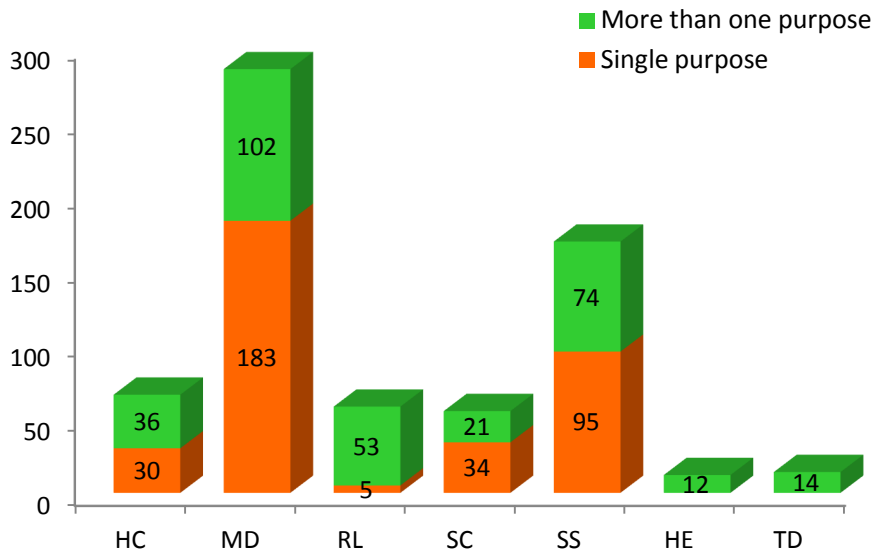
As discussed in Chapter 3 pensioners get one-time benefit of DCRG, terminal earned leave surrender value and commuted value of their pension. In the pilot study an attempt was made to collect value of the pensionary benefits, but majority of the sample respondents did not give any answer to this question. So this question was avoided in the final questionnaire and only the utilisation of these benefits was included.

The DCRG of the pensioner, as detailed in the Chapter 3, is depended on DA at the time of retirement and last pay and service period of the pensioner. Terminal earned leave surrender is not only depended on DA and last pay but also on the earned leave at the credit of the pensioner. Commuted value is depended on the commuted portion of the basic pension and commuted value for one rupee which is same for most of the pensioners.

Of the 500 sample respondents, one pensioner did not answer the question of utilisation of pensionary benefits. 347 (69.5%) utilised the full pensionary benefits for a single purpose and others utilised it for more than one purpose (See Figure 7.1). Out of 347 pensioners, who utilised for a single purpose, 183 utlised the full amount for the marriage of their daughters and 95 for saving for their future use.

Majority of the pensioners (57%) utilised their full or part of the pensionary benefits for the marriage of their daughters. While 33.8 per cent of pensioners utilised full or part of the amount for their future self-use, 11 per cent saved for their children or grandchildren. Another 13.2 per cent constructed or purchased house and 11.6 per cent repaid loans by utilising part or full of their pensionary benefits. 2.8 per cent and 2.4 per cent used

part of their pensionary benefits for the treatment of their diseases and higher education of their children respectively. Majority of pensioners spent their pensionary benefits for the welfare of the family rather than for self-use.




(HC- House Counstruction/Purchase; MD- Marriage of Daughter; RL-Repayment of Loan: SC-Saving for Children/Grandchildren: SS-Saving for self use; HE-Higher Education of Children; TD-Treatment of diseases)
Source: Primary Survey

**Figure 7.1. Utilisation of Pensionary Benefits**

The Table 7.1 shows age group wise use of pensionary benefits. More percentage of pensioners retired 25 or more years ago (80 or more years aged group) save more for their children or grandchildren. But number of pensioners saves for self-use is increasing among recently retired pensioners. There is little 'generation gap' in the use of pensionary benefits for house construction or purchase, marriage of daughter and repayment of loan. In the case of higher education of children there is substantial difference among various age groups.

**Table 7.1. Age and Utilisation of Pensionary Benefits**

| Purpose | Less than 60 | 60-69 | 70-79 | 80 or more | Total |
|---|---|---|---|---|---|
| Higher Education of Children | 1(1.52) | 7(2.36) | 4(3.54) | 0(0) | 12(2.4) |
| House Construction or Purchase | 9(13.64) | 32(10.77) | 21(18.58) | 4(17.39) | 66(13.23) |
| Marriage of Daughter | 32(48.48) | 177(59.6) | 63(55.75) | 13(56.52) | 285(57.11) |
| Repayment of Loan | 7(10.61) | 33(11.11) | 15(13.27) | 3(13.04) | 58(11.62) |
| Saving for Children/ Grand Children | 5(7.58) | 30(10.1) | 14(12.39) | 6(26.09) | 55(11.02) |
| Saving for Self | 25(37.88) | 101(34.01) | 36(31.86) | 5(21.74) | 167(33.47) |
| Treatment for Diseases | 2(3.03) | 7(2.36) | 4(3.54) | 1(4.35) | 14(2.81) |
| Total* | 66(100) | 297(100) | 113(100) | 23(100) | 499(100) |

Source: Primary Survey. Figures in the bracket % to total number of pensioners who responded to this query

## 7.3 Income from Other Sources

Only 6 (1.2%) pensioners are reemployed/self-employed after retirement. Only 9.6 per cent pensioners have income from other sources including saving (See Table 7.2). 437 pensioners responded that they have no income from other sources and 15 pensioners did not give any reply.

**Table 7.2. Other Income of Pensioners**

| Income Range | Number | Percentage |
|---|---|---|
| 0 | 437 | 87.40 |
| 1-1000 | 4 | 0.80 |
| 1001-2000 | 35 | 7.00 |
| 2001-3000 | 8 | 1.60 |
| 3000+ | 1 | 0.20 |
| Not Answered | 15 | 3.00 |
| Total | 500 | 100.00 |

Source: Primary Survey

## 7.4 Dependency on Pensioners

Usually elders are depended on the younger generations. But in case of 67 per cent of pensioners, children are dependent on them. As seen from the Table 7.3 dependencies of children on pensioners is less in old old and oldest old category of pensioners.

**Table 7.3. Number of Children Dependent on Pensioners**

| Age Group | Zero | One | Two | More than 2 | Total |
|---|---|---|---|---|---|
| less than 60 | 11 (2.2 ) | 22 (4.4 ) | 24 (4.8 ) | 9 (1.8 ) | 66 (13.2 ) |
| 60-69 | 95 (19 ) | 140 (28 ) | 45 (9 ) | 14 (2.8 ) | 294 (58.8 ) |
| 70-79 | 40 (8 ) | 69 (13.8 ) | 4 (0.8 ) | 0 (0 ) | 113(22.6 ) |
| 80 or more | 15 (3 ) | 8 (1.6 ) | 0 (0 ) | 0 (0 ) | 23 (4.6 ) |
| Total | 161 (32.2 ) | 239 (47.8 ) | 73 (14.6 ) | 23 (4.6 ) | 496(99.2 ) |

Source: Primary Survey. Figures in Bracket shows percentage to total sample size)

In the case of 47.8 per cent of pensioners there is dependency of one person. Major reason, as evident from the primary survey, is unemployment and studentship of their children. In some cases employed children are seen dependent on pensioners. On inquiry, the pensioners informed that even though their children are employed they are dependent due to widowhood and low salary.

## 7.5 Health Problems

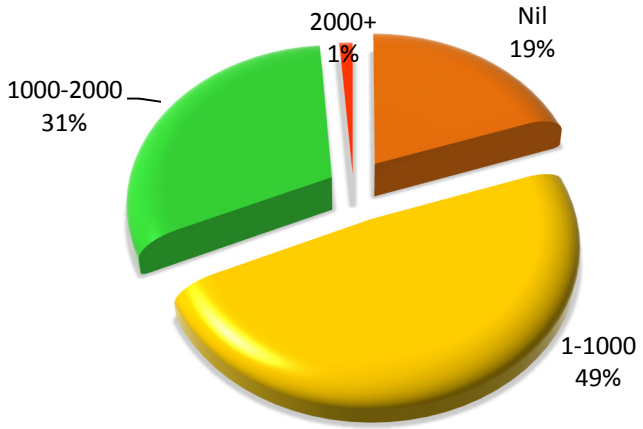
Out of 500 pensioners about 82 per cent of pensioners are suffering from one or combinations of diseases (See Table 7.4). As seen from table more than 34 per cent of pensioners are suffering from diabetes alone or diabetes with other diseases. Cancer affected about 11 per cent of pensioners. As age of the pensioner increases more pensioners are affected with one or more diseases.

**Table 7.4. Number of Pensioners Suffering from Various Diseases**

| Sl. No | Name of Disease | 60< | 60-69 | 70-79 | 80 or more | Total |
|---|---|---|---|---|---|---|
| 1 | BP | 4 (6.06) | 41 (13.8) | 13 (11.5) | 4 (16.67) | 62 (12.4) |
| 2 | BP /Cholesterol | 4 (6.06) | 14 (4.71) | 12 (10.62) | 0 (0) | 30 (6) |
| 3 | Cancer | 4 (6.06) | 37 (12.46) | 14 (12.39) | 1 (4.17) | 56 (11.2) |
| 4 | Cholesterol | 3 (4.55) | 26 (8.75) | 10 (8.85) | 2 (8.33) | 41 (8.2) |
| 5 | Diabetes | 15 (22.73) | 53 (17.85) | 22 (19.47) | 8 (33.33) | 98 (19.6) |
| 6 | Diabetes/BP | 4 (6.06) | 21 (7.07) | 8 (7.08) | 3 (12.5) | 36 (7.2) |
| 7 | Diabetes /BP /Cholesterol | 6 (9.09) | 24 (8.08) | 8 (7.08) | 1 (4.17) | 39 (7.8) |
| 8 | Rheumatic Arthritis | 2 (3.03) | 14 (4.71) | 5 (4.42) | 2 (8.33) | 23 (4.6) |
| 9 | Others | 5 (7.58) | 16 (5.39) | 3 (2.65) | 0 (0) | 24 (4.8) |
| 10 | No Diseases | 19 (28.79) | 51 (17.17) | 18 (15.93) | 3 (12.5) | 91 (18.2) |
| 11 | Total | 66 (100) | 297 (100) | 113 (100) | 24 (100) | 500 (100) |

Source: Primary Survey. Figures in bracket are % to total. BP: Blood Pressure

The monthly expenditure on medicines ranges from ₹ 400-2500. 49 per cent of Pensioners spent monthly ₹ 1,000/- or less for medicine and 19 per cent pensioners have no expenditure for medicines (See Figure 7.2).




Source: Primary Survey

**Figure 7.2. Monthly Expenditure for Medicines**

Only 52.6 per cent of pensioners have medical insurance (See Table 7.5). Majority of pensioners have medical insurance for ₹ 2 lakh. 43.8 per cent of medical insurance premium is paid by pensioners themselves and 1.4 per cent by others.

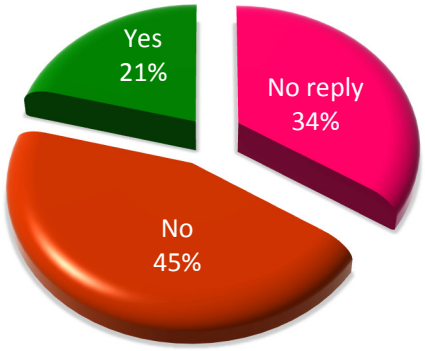
**Table 7.5. Medical Insurance of Pensioners**

| Insured Amount | Premium Paid by | | | | Total |
|---|---|---|---|---|---|
| | Self | Children | Self and Children | Others | |
| 1,00,000 | 37(75.51) | 12(24.49) | 0(0) | 0(0) | 49(100) |
| 1,50,000 | 54(90) | 0(0) | 2(3.33) | 4(6.67) | 60(100) |
| 2,00,000 | 71(86.59) | 7(8.54) | 4(4.88) | 0(0) | 82(100) |
| 3,00,000 | 40(80) | 3(6) | 4(8) | 3(6) | 50(100) |
| 4,00,000 | 13(100) | 0(0) | 0(0) | 0(0) | 13(100) |
| 5,00,000 | 4(100) | 0(0) | 0(0) | 0(0) | 4(100) |
| Nil | 0 | 0 | 0 | 0 | 242(100) |
| **Total** | **219(43.8)** | **22(4.4)** | **10(2)** | **7(1.4)** | **500(100)** |

Source: Primary Survey. Figures in Brackets show percentage to total.

## 7.6 Financial Support from Children

Large number of pensioners did not give any reply to the question relating to the financial support from children. 45 per cent of pensioners have responded that they are not getting and 21 per cent responded that they are getting financial support from their children (See Figure 7.3).




Source: Primary Survey

**Figure 7.3. Financial Support From Children**

## 7.7 Loan Liability of Pensioners

There are 42 (8.4% of total sample size) pensioners have loan liability ranging from Rupees one lakh to 12 lakhs (see Table 7.6). The reasons for the liability are purchase/construction of house and marriage of their daughters.

**Table 7.6. Loan Liability of Pensioners**

| Loan Liability | Number of Pensioners | Percentage |
|---|---|---|
| 1 lakh to 1.9 lakh | 10 | 23.81 |
| 2 lakh to 2.9 lakh | 6 | 14.29 |
| 3 lakh to 3.9 Lakh | 4 | 9.52 |
| 4 Lakh to 4.9 Lakh | 4 | 9.52 |
| 5 Lakh or more | 18 | 42.86 |
| Total | 42 | 100 |

Source: Primary Survey

## 7.8 Saving Habit

The study of Börsch-Supan (1992) had revealed that savings are not decreasing but increasing with age and consequently financial assets of the

elderly is increasing contradictory to the life cycle theory. Primary survey had revealed that percentage of pensioners save a portion of their pension is high in the old old and oldest old categories of pensioners (See Table 7.7). While 59 per cent of pensioners aged less than 60 years have saving habit, it increased to about 92 per cent in the oldest old category. There is a strong association between age and saving habit of pensioners as substantiated by the Chi-Square test (See Table 7.8).

**Table 7.7. Age and Saving Habit**

| Age Group | Yes | No | Total |
|---|---|---|---|
| Less than 60 | 39 (59.09) | 27 (40.91) | 66 (100) |
| 60-69 | 170 (57.24) | 127 (42.76) | 297 (100) |
| 70-79 | 97 (85.84) | 16 (14.16) | 113 (100) |
| 80 or more | 22 (91.67) | 2 (8.33) | 24 (100) |
| Total | 328 (65.6) | 172 (34.4) | 500 (100) |

Source: Primary Survey. Figures in brackets shows percentage to total

**Table 7.8. Chi-Square Test Result: Age and Saving Habit**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 38.181[a] | 3 | .000 |
| Likelihood Ratio | 42.929 | 3 | .000 |
| N of Valid Cases | 500 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.26.

Basic pension also plays an important role in the saving habit of pensioners. As the basic pension increases more and more pensioners save a portion of their pension (See Table 7.9). While about 51 per cent of pensioners in the lowest pension bracket (₹ 5,000/- or less) have saving habit, it increased to about 86 per cent in the highest pension bracket (₹ 15,000+). The strong association between the basic pension and saving habit of pensioners is substantiated by the Chi-Square test (See Table 7.10).

**Table 7.9. Basic Pension and Saving Habit**

| Basic Pension (in ₹ ) | Yes | No | Total |
|---|---|---|---|
| 5,000 or less | 66(50.77) | 64(49.23) | 130(100) |
| 5,001- 10,000 | 115(64.25) | 64(35.75) | 179(100) |
| 10,001-15,000 | 117(75) | 39(25) | 156(100) |
| 15,000+ | 30(85.71) | 5(14.29) | 35(100) |
| Total | 328(65.6) | 172(34.4) | 500(100) |

Source: Primary Survey

**Table 7.10: Chi-Square Test Result: Basic Pension and Saving habit**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 25.200[a] | 3 | .000 |
| Likelihood Ratio | 25.896 | 3 | .000 |
| N of Valid Cases | 500 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.04.

## 7.9 Assets of the Pensioners

There are about 95 per cent pensioners have own house either with sole ownership or joint ownership (See Table 7.11). An enquiry among pensioners who have no house revealed that in most cases the houses are owned by their spouse. 0.6 per cent of pensioners are staying with their children.

**Table 7.11. Basic Pension and Ownership of House**

| Basic Pension(in ₹) | Yes | No | Total |
|---|---|---|---|
| 5,000 or less | 122 (93.85) | 8 (6.15) | 130 (100) |
| 5,001- 10,000 | 167 (93.3) | 12 (6.7) | 179 (100) |
| 10,001-15,000 | 150 (96.15) | 6 (3.85) | 156 (100) |
| 15,000+ | 34 (97.14) | 1 (2.86) | 35 (100) |
| Total | 473 (94.6) | 27 (5.4) | 500 (100) |

Source: Primary Survey

There are about 75 per cent of pensioners possess car or two wheeler or both (See Table 7.12). About 80 per cent of pensioners in highest pension

bracket (₹ 15,000+) possess car. About one third of pensioners in the lowest pension bracket (₹ 5,000/- or less) have no vehicles. The Chi-Square test (See Table 7.13) shows positive association between the basic pension and ownership of vehicle.

**Table 7.12. Basic Pension and Ownership of Vehicle**

| Type of Vehicle | 5000 or less | 5001-10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| No Reply | 0 (0) | 15 (8.38) | 13 (8.33) | 0 (0) | 28 (5.6) |
| Car | 37 (28.46) | 67 (37.43) | 78 (50) | 24 (68.57) | 206 (41.2) |
| Car and Two Wheeler | 0 (0) | 2 (1.12) | 14 (8.97) | 4 (11.43) | 20 (4) |
| Two Wheeler | 50 (38.46) | 60 (33.52) | 36 (23.08) | 2 (5.71) | 148 (29.6) |
| No Vehicle | 43 (33.08) | 35 (19.55) | 15 (9.62) | 5 (14.29) | 98 (19.6) |
| Total | 130 (100) | 179 (100) | 156 (100) | 35 (100) | 500 (100) |

Source: Primary Survey. Figures in bracket are percentage to total

**Table 7.13. Chi-Square Test Result: Basic Pension and Ownership of Vehicles**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 86.076[a] | 12 | .000 |
| Likelihood Ratio | 99.689 | 12 | .000 |
| N of Valid Cases | 500 | | |

a. 2 cells (10.0%) have expected count less than 5. The minimum expected count is 1.40.

The value of total assets of pensioners ranges from ₹ 5 lakhs to 2 crores. (See Table 7.14). Majority of pensioners (35.2%) have assets worth ₹ 20-39 lakhs and only 2 per cent have assets worth ₹ 80 lakhs or more. 34 per cent of pensioners in the highest pension bracket have total assets of ₹ 40 lakhs or more. About 50 per cent of pensioners in lowest pension brackets have assets of ₹ 20 lakhs or less.

**Table 7.14. Basic Pension and Value of Assets of Pensioners**

(in ₹)

| Value of Assets (in Lakhs) | 5000 or less | 5001-10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| No reply | 19 (14.62) | 38 (21.23) | 24 (15.38) | 7 (20) | 88 (17.6) |
| Less than 20 | 47 (36.15) | 37 (20.67) | 35 (22.44) | 10 (28.57) | 129 (25.8) |
| 20-39 | 45 (34.62) | 64 (35.75) | 61 (39.1) | 6 (17.14) | 176 (35.2) |
| 40-60 | 16 (12.31) | 28 (15.64) | 22 (14.1) | 8 (22.86) | 74 (14.8) |
| 60-80 | 2 (1.54) | 12 (6.7) | 6 (3.85) | 3 (8.57) | 23 (4.6) |
| 80 or more | 1 (0.77) | 0 (0) | 8 (5.13) | 1 (2.86) | 10 (2) |
| Total | 130 (100) | 179 (100) | 156 (100) | 35 (100) | 500 (100) |

Source: Primary Survey. Figures in bracket show the percentage to total.

## 7.10 Up Keeping of Standard of Living Pensioners had during Service Period

Pension system should provide sufficient income after retirement in order to enable individuals to maintain a descent standard of living (Mattil, B, 2006). Honourable Supreme Court held that a pension scheme consistent with available resources must provide that "the pensioner would be able to live free from want, with decency, independence and self-respect and at a standard equivalent at the pre-retirement level" (AIR 1983, SC 130). It is widely considered that less income is required in old age to maintain descent standard of living than during working life due to less family obligations and absence of work related expenditure (Council of the European Union 2003).

63 per cent of total pensioners stated that they can keep the standard of living they had prior to retirement (See Table 7.15). The percentage of pensioners who can keep the same standard of living is high in the basic pension group ₹ 15,000+ followed by pensioners in the lowest pension group. About 60 per cent of pensioners in the basic pension group ₹ 10,001-

15,000/- group can keep the same standard of living they had prior to retirement.

**Table 7.15. Basic Pension and Up Keeping of Standard of Living**

| Basic Pension | Yes | No | Total |
|---|---|---|---|
| 5,000 or less | 88 (67.69) | 42 (32.31) | 130 (100) |
| 5,001- 10,000 | 110 (61.45) | 69 (38.55) | 179 (100) |
| 10,001-15,000 | 93 (59.62) | 63 (40.38) | 156 (100) |
| 15,000+ | 24 (68.57) | 11 (31.43) | 35 (100) |
| Total | 315 (63) | 185 (37) | 500 (100) |

Source: Primary Survey. Figures in bracket show the percentage to total.

The proportion of pensioners who can maintain the standard of living they had prior to retirement is high in older age groups and less in younger age groups (See Table 7.16). As age increases more and more pensioners have found that they can keep the same standard of living they had during service period. More than 79 per cent of oldest old category of pensioners can keep their standard of living. But in the less than 60 years age category only one-third can keep their previous standard of living.

**Table 7.16. Age, Gender and Up Keeping of Standard of Living**

| Sex | | Less than 60 | 60-69 | 70-79 | 80 or more | Total |
|---|---|---|---|---|---|---|
| Male | Yes | 5(7.58) | 105(35.35) | 43(38.05) | 10(41.67) | 163(32.6) |
| | No | 23(34.85) | 64(21.55) | 26(23.01) | 4(16.67) | 117(23.4) |
| Female | Yes | 17(25.76) | 89(29.97) | 37(32.74) | 9(37.5) | 152(30.4) |
| | No | 21(31.82) | 39(13.13) | 7(6.19) | 1(4.17) | 68(13.6) |
| Total | Yes | 22(33.33) | 194(65.32) | 80(70.8) | 19(79.17) | 315(63) |
| | No | 44(66.67) | 103(34.68) | 33(29.2) | 5(20.83) | 185(37) |
| | Total | 66(100) | 297(100) | 113(100) | 24(100) | 500(100) |

Source: Primary Survey. Figures in brackets denotes % to total

An enquiry was made on up keeping of standard of living by having discussions with some pensioners in various age categories. Majority of pensioners in the young old and less than 60 years of age groups have stated that after retirement there is no substantial reduction in their need for money but their income was halved or more than halved. Children of some pensioners are still students and some have loans. Pensioners of less than 60 years of age are the most affected due to the sudden reduction in their income. So they forced to rearrange their needs and make some adjustments in life. They have stated that their standard of living is lower than what they had during their service periods.

Majority of pensioners in the old old and oldest old category have stated that their present pension is more than their last pay they had drawn. It is due to various pension revisions especially the pension revision consequent to the Eight Pay Revision which granted one rank one pension. Majority of pensioners in these age groups have stated they have little financial obligations now and their children are settled. Further they said their needs are limited and their standard of living is much higher than what they had during their service period. Chi-Square test (See Table 7.17) proves that age of the pensioner and up keeping of standard of living are dependents.

**Table 7.17. Result of Chi-Square Test - Age and Standard of Living**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 31.243[a] | 3 | .000 |
| Likelihood Ratio | 30.483 | 3 | .000 |
| N of Valid Cases | 500 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.88.

The "more-recently-born pensioners are more deprived at a given age and income than those born longer ago" which means each successive generation of pensioners require more pension than its predecessors (Berthoud, Blekesaune and Hancock, R., 2009) to keep their standard of living or improve it. So at a lesser income aged pensioner, can keep or improve their standard of living than young pensioners.

The pensioners in the oldest old and old old category claimed that they have more income than their last pay which requires a comparative analysis between them. As last pay is available in the pension payment order, except one pensioner others provided their last pay. The last pay was inflated to 2009 level as the Ninth Pension Revision was effected as on 01/07/2009. The base of the Consumer Price Index (CPI) used is 1970=100. The CPI of the years shown in the Table 7.18 was considered as last pay revisions of the pensioners who participated in the survey were implemented in these years.

**Table 7.18. Consumer Price Index**

| Year | CPI (Base 1970=100) | Event |
|---|---|---|
| 1978 | 165 | Third Pay Revision |
| 1983 | 273 | Fourth Pay Revision |
| 1988 | 395 | Fifth Pay Revision |
| 1992 | 553 | Sixth Pay Revision |
| 1997 | 911 | Seventh Pay Revision |
| 2004* | 1246 | Eight Pay Revision |
| 2009* | 1669 | Ninth Pay Revision |

Source: Economic Review Various years *Converted base year from 1999 to 1970

The ratio statistics of pension and last pay shows that the ratio of basic pension to inflated last pay is increasing as age increases (See Table 7.19). Basic pension of 80 or more years aged pensioners is ranging from 0.94 to

1.39 and they are getting an average of 1.13 times of their last pay which is almost double to the overall average. The old old category of pensioners also gets more than overall average of the last pay. The coefficient of dispersion is very high in this category. The coefficient of concentration within 10 per cent of median shows that 69.6 per cent of pensioners in oldest old category get 1.15±0.115 times of their inflated last pay. So about 70 per cent pensioners in the oldest old category get pension more than equivalent to their last pay inflated to 2009 level.

**Table 7.19. Ratio Statistics - Basic Pension and Inflated Last Pay**

| Age Group | Mean | Median | Minimum | Maximum | CD* | CC# |
|---|---|---|---|---|---|---|
| Less than 60 | .443 | .430 | .346 | .500 | 0.052 | 71.2% |
| 60-69 | .572 | .590 | .368 | .678 | 0.056 | 82.2% |
| 70-79 | .639 | .610 | .541 | .950 | 0.105 | 68.1% |
| 80 or more | 1.131 | 1.146 | .942 | 1.390 | 0.065 | 69.6% |
| Overall | .596 | .590 | .346 | 1.390 | 0.134 | 63.7% |

Source: Primary Survey. Calculations are made

*Coefficient of Dispersion. # Coefficient of Concentration within 10% of Median inclusive

## 7.11 Facing Uncertainties in Life

The fundamental objective of any pension system is to provide income security in old age (Beattie, R., and W. McGillivray. 1995). So CSP finds an important place in facing uncertainty during old age. The Table 7.20 shows number and proportion of pensioners in various pension groups and extent of facing of uncertainties. While 48.04 per cent of pensioners have stated that the present pension help them to face uncertainties to a moderate extent, more than 22 per cent can face it to a small or very small extent. 38.46 per cent of pensioners in the lowest pension group can face uncertainty only to small extent.

**Table 7.20. Basic Pension and Facing Uncertainties in Life**

| Basic Pension Group | 5000 or less | 5001-10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| No Reply | 3(2.31) | 6(3.35) | 17(10.9) | 0(0) | 6(3.35) |
| Very Great Extent | 4(3.08) | 7(3.91) | 3(1.92) | 1(2.86) | 7(3.91) |
| Great Extent | 26(20) | 40(22.35) | 28(17.95) | 8(22.86) | 40(22.35) |
| Moderate Extent | 39(30) | 86(48.04) | 67(42.95) | 15(42.86) | 86(48.04) |
| Small Extent | 50(38.46) | 36(20.11) | 29(18.59) | 10(28.57) | 36(20.11) |
| Very Small Extent | 8(6.15) | 4(2.23) | 12(7.69) | 1(2.86) | 4(2.23) |
| Total | 130(100) | 179(100) | 156(100) | 35(100) | 179(100) |

Source: Primary Survey. Figures in bracket shows % to total).

Proportion of pensioners facing uncertainties to a very great extent is very low (3.35%). Chi square test (See Table 7.21) revealed that there is significant and high association between facing uncertainties in life and basic pension of pensioners

**Table 7.21. Chi-Square Test Result: Basic Pension and Facing Uncertainties**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 42.475[a] | 15 | .000 |
| Likelihood Ratio | 42.509 | 15 | .000 |
| N of Valid Cases | 500 | | |

a. 5 cells (20.8%) have expected count less than 5. The minimum expected count is 1.05.

The Table 7.22 shows gender of the pensioner and the extent of facing uncertainties in life. Proportion of female pensioners who can face uncertainties with the present pension to a very great and great extent is marginally higher (about 1%) than male pensioners. The proportion of both genders is same in the very small extent category.

**Table 7.22. Gender and Facing Uncertainties in Life**

| Extent of Facing Uncertainty | Male | Female | Total |
|---|---|---|---|
| No Reply | 15 (5.36) | 12 (5.45) | 27 (5.4) |
| Very Great Extent | 9 (3.21) | 9 (4.09) | 18 (3.6) |
| Great Extent | 57 (20.36) | 45 (20.45) | 102 (20.4) |
| Moderate Extent | 125 (44.64) | 93 (42.27) | 218 (43.6) |
| Small Extent | 60 (21.43) | 50 (22.73) | 110 (22) |
| Very Small Extent | 14 (5) | 11 (5) | 25 (5) |
| Total | 280 (100) | 220 (100) | 500 (100) |

Source: Primary Survey

While the proportion of pensioners who can face uncertainty to a great or very great extent is 41.66 per cent in age group 80 or more years, it is only 15.15 per cent in age group less than 60 years (See Table 7.23). 42.4 per cent of pensioners responded that with the present pension amount they can face uncertainties in life to a moderate extent and 4.8 per cent to a very small extent only. Only 3.4 per cent of pensioner can face uncertainties to a very great extent.

**Table 7.23. Age and Facing Uncertainties in Life**

| Extent of Facing Uncertainties | less than 60 | 60-69 | 70-79 | 80 or more | Total |
|---|---|---|---|---|---|
| No Reply | 4 (6.06) | 17 (5.72) | 5 (4.42) | 0 (0) | 27 (5.4) |
| Very Great Extent | 2 (3.03) | 6 (2.02) | 5 (4.42) | 2 (8.33) | 17 (3.4) |
| Great Extent | 8 (12.12) | 57 (19.19) | 29 (25.66) | 8 (33.33) | 98 (19.6) |
| Moderate Extent | 24 (36.36) | 114 (38.38) | 55 (48.67) | 14 (58.33) | 212 (42.4) |
| Small Extent | 22 (33.33) | 84 (28.28) | 19 (16.81) | 0 (0) | 122 (24.4) |
| Very Small Extent | 6 (9.09) | 19 (6.4) | 0 (0) | 0 (0) | 24 (4.8) |
| Total | 66 (100) | 297 (100) | 113 (100) | 24 (100) | 500 (100) |

Source: Primary survey

There exist a significant relationship between the age and facing uncertainties in life as evident from the chi square result (See Table 7.24).

**Table 7.24. Chi-Square Test Result: Age and Facing Uncertainties**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 38.077[a] | 15 | .001 |
| Likelihood Ratio | 50.805 | 15 | .000 |
| N of Valid Cases | 500 | | |

a. 4 cells (16.7%) have expected count less than 5. The minimum expected count is .72.

## 7.12 Sufficiency of Pension

In case of sufficiency of pension to meet the monthly expenses more than 55 per cent of pensioners find it difficult in all time or some times to meet their monthly expenses (See Table 7.25) with the present income from pension. While the percentage of pensioners who find it difficult to meet expenses all times is less in the pension group less than ₹ 5,001/- (about 7%), it is high (about 23 %) in the pension group ₹ 15,000+. Highest percentage of pensioners (38.46 %) who are of the opinion that pension is enough to meet their expenses is in the pension bracket ₹ 10,000-15000/-.

**Table 7.25. Basic Pension and Sufficiency of Pension**

| BP Group | No Reply | Difficult All Time | Difficult Some Times | Enough | Total |
|---|---|---|---|---|---|
| 5,000 or less | 0(0) | 9(6.92) | 60(46.15) | 61(46.92) | 130(100) |
| 5,001- 10,000 | 1(0.56) | 24(13.41) | 67(37.43) | 87(48.6) | 179(100) |
| 10,001-15,000 | 1(0.64) | 18(11.54) | 77(49.36) | 60(38.46) | 156(100) |
| 15,000+ | 0(0) | 8(22.86) | 14(40) | 13(37.14) | 35(100) |
| Total | 2(0.4) | 59(11.8) | 218(43.6) | 221(44.2) | 500(100) |

Source: Primary Survey

The proportion of pensioners who find it enough to meet expenses is 12.12 per cent in the age group less than 60 and it is increasing as age

increases (See Table 7.26). The proportion is highest (75%) in the oldest old pensioners' category followed by old old category. More than 75 per cent of pensioners in age category less than 60 find it difficult in some time to meet their monthly expenses and 12.12 per cent find it difficult in all times. More than 60 per cent in the young old category find it difficult in all time or some time. No pensioners in the oldest old category find it difficult in all time.

**Table 7.26. Age and Sufficiency of Pension**

| Age Group | No Reply | Difficult All Time | Difficult Some Times | Enough | Total |
|---|---|---|---|---|---|
| Less than 60 | 0(0) | 8(12.12) | 50(75.76) | 8(12.12) | 66(100) |
| 60-69 | 1(0.34) | 36(12.12) | 142(47.81) | 118(39.73) | 297(100) |
| 70-79 | 1(0.88) | 15(13.27) | 20(17.7) | 77(68.14) | 113(100) |
| 80 or more | 0(0) | 0(0) | 6(25) | 18(75) | 24(100) |
| Total | 2(0.4) | 59(11.8) | 218(43.6) | 221(44.2) | 500(100) |

Source: Primary Survey

The oldest old category of pensioners gets more or less same proportion of their last pay and their needs are limited. They find that the present pension amount is enough to meet their monthly expenses. The age and meeting expenses are related and there is high association between the two as proved by the Chi-Square test (See Table 7.27).

**Table 7.27. Chi-Square Test: Age and Sufficiency of Pension**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 76.793[a] | 9 | .000 |
| Likelihood Ratio | 85.676 | 9 | .000 |
| N of Valid Cases | 500 | | |

a. 5 cells (31.3%) have expected count less than 5. The minimum expected count is .10.

More than 52 per cent of female pensioners find that the pension amount is enough to meet the monthly expenses (See Table 7.28). But the proportion is less than 42 in the case of male pensioners. 11.36 per cent of female pensioners and 9.29 per cent male pensioners have stated that it is difficult all times to meet the expenses.

**Table 7.28. Gender and Sufficiency of Pension**

| Response | Female | Male | Total |
|---|---|---|---|
| No Reply | 1(0.45%) | 1(0.36%) | 2(0.4%) |
| Difficult All Time | 25(11.36%) | 26(9.29%) | 51(10.2%) |
| Difficult some times | 79(35.91%) | 136(48.57%) | 215(43%) |
| Enough | 115(52.27%) | 117(41.79%) | 232(46.4%) |
| Total | 220(100%) | 280(100%) | 500(100%) |

Source: Primary Survey. Figures in bracket % to total

## 7.13 Expenditure Behaviour Pensioners

Table 7.29 shows age group wise monthly expenditure of pensioners. Lion share of expenditure of pensioners is for basic needs (food, clothing and electricity and water charges). There is no substantial difference among various age groups is seen.

**Table 7.29. Age and Monthly Expenditure**

(in ₹)

| Expenditure Heads | less than 60 | 60-69 | 70-79 | 80 or more | Total |
|---|---|---|---|---|---|
| Basic Needs | 5.16(71.56) | 20.88(70.49) | 6.9(70.73) | 1.56(70.6) | 34.49(70.7) |
| Education | 0.3(4.16) | 0.22(0.73) | 0(0) | 0(0) | 0.52(1.06) |
| Loan Re-payments | 0.3(4.16) | 0.64(2.16) | 0.21(2.15) | 0.02(0.68) | 1.17(2.39) |
| Medicine | 0.47(6.46) | 2.32(7.84) | 0.88(9.03) | 0.19(8.6) | 3.86(7.91) |
| Others | 0.98(13.65) | 5.56(18.77) | 1.77(18.09) | 0.44(20.11) | 8.75(17.94) |
| **Total** | **7.2(100)** | **29.62(100)** | **9.76(100)** | **2.2(100)** | **48.78(100)** |

Source: Primary Survey. Figures in bracket % to total

For education, pensioners aged less than 60 years spent 4 per cent of their total expenditure for education which is less than one for young old category of pensioners and zero percentage for others. Expenditure for loan repayment is also high among pensioners aged less than 60 years and for medicine is high in the old old category of pensioners.

Expenditure pattern of pensioners among various pension brackets (See Table 7.30) also show that expenditure for basic needs is the primary concern of pensioners. Expenditure for education of children is high among high pension group. There is only marginal difference in the expenditure of repayment of loan.

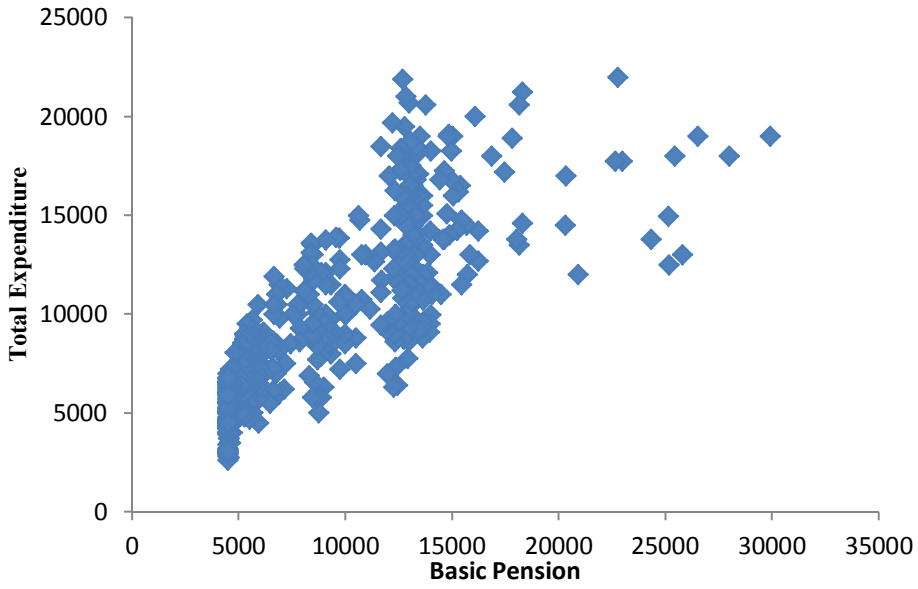
**Table 7.30. Basic Pension and Monthly Expenditure**

(in ₹)

| Purpose | 5000 or less | 5001- 10000 | 10001-15000 | 15000+ | Total |
|---|---|---|---|---|---|
| Basic Needs | 4.79(72.9) | 10.88(71.11) | 14.65(69.26) | 4.17(72.43) | 34.49(70.7) |
| Education | 0.09(1.3) | 0.14(0.91) | 0.2(0.93) | 0.1(1.65) | 0.52(1.06) |
| Loan Re-payments | 0.15(2.28) | 0.36(2.35) | 0.52(2.43) | 0.14(2.43) | 1.17(2.39) |
| Medicine | 0.63(9.66) | 1.59(10.42) | 1.39(6.59) | 0.24(4.12) | 3.86(7.91) |
| Others | 0.91(13.86) | 2.33(15.21) | 4.4(20.8) | 1.12(19.37) | 8.75(17.94) |
| Total | 6.57(100) | 15.3(100) | 21.16(100) | 5.76(100) | 48.78(100) |

Source: Primary Survey. Figures in brackets % to total

In the case of expenditure for other items, there is substantial difference among various pension groups. The expenditure for various items is increasing as the basic pension is increasing. The Figure 7.4 shows positive relationship between monthly pension and monthly expenditure




Source: Primary Survey

**Figure 7.4. Scatter Plot - Monthly Pension and Monthly Expenditure**

Regression Model for the relationship between monthly pension and monthly expenditure can be written as: $Y_i = \beta_1 + \beta_2 X_i + ui$ where $Y_i$ = Monthly Expenditure, the dependent variable, $X_i$= Basic Pension, the independent variable, $\beta_1$ is intercept, $\beta_2$ is slope and *ui* is stochastic disturbance term. The result is shown in the Table 7.31.

The slope coefficient for the relationship between monthly pension and monthly expenditure is significant at 1 per cent level and indicates positive relationship. The coefficient value indicates that for one unit increase in pension, the expenditure will increase by 0.78 units. The "R square value" indicates a fairly good fit of the model.

**Table 7.31. Regression Results - Basic Pension and Expenditure**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .814[a] | .662 | .661 | 2610.502 |

a. Predictors: (Constant), Basic Pension

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 6643031495 | 1 | 6643031495 | 974.8058 | 0.0000 |
| | Residual | 3393732200 | 498 | 6814723.292 | | |
| | Total | 10036763695 | 499 | | | |

a. Predictors: (Constant), Basic Pension
b. Dependent Variable: Monthly Expenditure

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t* | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2696.464 | 254.495 | | 10.595 | .000 |
| | Basic Pension | .779 | .025 | .814 | 31.222 | .000 |

a. Dependent Variable: Monthly Expenditure
* 1% Significant level

Pension is the main source of expenditure of pensioners. Only few pensioners have other sources of income which are also limited. Most of the pensioners did not get any financial support from their children and in majority of cases children are dependent on the pensioners. Pension helps them to lead a decent life after retirement.

# Chapter 8

# SUMMARY AND CONCLUSIONS

Contents



## 8.1 Conclusions

This study leads to some major conclusions relating to the CSP system and pension expenditure in Kerala. The conclusions are summarised under five heading for better understanding of the issue.

### 8.1.1 Civil Service Pension System

India has separate CSP scheme like other South Asian Countries. The CSP in India covers the salaried workforce in Central and State Governments and Union Territory Administrations. State Governments have their own pension rules which are more or less similar to the rules of Central Government. While all the State Government employees are entitled to pensionary benefits, most States, like Kerala also extend such benefits to employees in grants-in-aid educational institutions; urban local bodies such as municipalities; panchayat raj institutions, etc.

The rules of the CSP in Kerala are more or less similar to that of the Central Government. Employees with less than ten years of qualifying service, who are not eligible for statutory pension, are eligible for exgratia

pension in Kerala. Pensioners in Kerala are eligible for a simplified version of one rank one pension scheme. Even though the concept of one rank one pension scheme was not implemented fully, the scheme removed wide disparity in the pension of pensioners retired during different period by ensuring at least a proportionate share of the minimum pay of the last post.

Taking cue from Central Government, Government of Kerala implemented the NPS for the recruits from 01-04-2013. The rules of NPS are same in Kerala and at the Centre. As per this scheme there is a mandatory contribution of 10 per cent (of basic and DA) by the employees. The contribution along with the matching contribution of the Government has been transferring to individual non withdrawable pension account so as to invest the same as per the provisions of Government of India / Pension Fund Regulatory and Development Authority (PFRDA). Employees can normally exit at or after 60 years. At the time of normal exit it is mandatory for the employees to invest 40 per cent of the pension wealth to purchase an annuity from an Insurance Regulatory and Development Authority of India (IRDA) regulated Life Insurance Company.

### 8.1.2 Pension Expenditure in Kerala

Pension Expenditure in Kerala and Southern States has been growing. ANOVA shows no statistically significant difference in the mean pension expenditure of the Southern States during the period between 1990-91 and 2014--2015. But as percentage to GDP, revenue expenditure, revenue receipts and own revenue it was highest in Kerala compared to Central Government and Southern States during the twenty five year period.

The proportion of pensioners in the highest two pension categories (₹ 10,001-15,000 and ₹15,000+) had been increasing in Kerala compared to the lowest two pension categories (₹ 5,000 or less and ₹ 5,001- ₹ 10,000). Government had been spending more for the pensioners in the highest pension bracket (₹ 15,000+ ) which constitute only about 7 per cent of total pensioners than for pensioners in the lowest pension bracket (₹ 5,000 or less) which constitute about 26 per cent of total pensioners.

### 8.1.3 Ageing of Service Pensioners

Service pensioners in Kerala have been ageing. Number of pensioners aged 60+ has been increasing. Presently more than 2.75 lakh pensioners are aged 60 years or more. It is estimated that in 2036 the number may reach 4.62 lakh. As a proportion to total pensioners, oldest old (80 years or more aged) category of pensioners increased from just 1 per cent in 1991 to 13.5 per cent in 2016. The old old (70-79 years aged) category also witnessed increase in proportion during the period from 15.69 per cent to 33.43 per cent. But the proportion of young old (60-69 years aged) pensioners decreased from 83.29 per cent to 53.07 per cent. The median age of service pensioners increased from 60 to 67 in 2015. The proportion and median age of female aged pensioners has been increasing at a faster rate than that of male pensioners.

The proportion of service pensioners aged 60 years or more in the respective age groups of population of Kerala has been increasing. Highest increase is seen in the oldest old category. Index of the oldest old to the youngest old service pensioners has also been increasing. It is estimated that it is about 54 in 2016 and it may reach as high as 113 in 2036. The index of

general population in 2016 may be only 40 and as per the estimates of Rajan and Aliyar (2009) it may reach 100 in 2061. So the estimated index of oldest old of service pensioners is very high compared to the index of general population. It is an indication that ageing of service pensioners is faster than ageing of general population in Kerala.

Due to ageing the number of pensioners has been increasing in Kerala. Increase in the number of pensioners means increase in pension expenditure. Based on three assumptions-no increase in basic pension, no DR and no new retirement-it is found that ageing alone raised pension expenditure by 123 per cent during the period between 2005-06 and 2014-15. The impact of ageing is more pronounced in the case of 80 years or more aged pensioners. It is estimated that due to ageing pension expenditure for the oldest old category of pensioners increased by about 275 per cent.

### 8.1.4 Impact of New Pension System

The mounting pressure of increasing pension expenditure prompted Government of Kerala to introduce NPS, which is based on DC system, for the recruits from 01-04-2013. The returns of the pension assets of the employee depend on the performance of investment made by the PFMs. It is found that the value of pension assets of the employees depend on the service period and category of employees.

As per the provisions of NPS employees who retire at the age of 60 have to invest minimum 40 per cent of their pension assets in an annuity plan of IRDA regulated Life Insurance Company. But the annuity market in India is still small and underdeveloped which manifests itself in its small size relative to other insurance (James and Song, 2001). It is estimated that

employees may loss about 67 per cent to 89 per cent of their basic pension due to the introduction of NPS depending on their category and service. Compared to the DB system, inequality among pensioners under NPS which based on DC system may be high. The Government may reap benefit from the NPS from the year 2047- 48 and the pension expenditure for the pensioners under the DB system may become zero only during 2080-81.

### 8.1.5 Expenditure Pattern of Pensioners

The majority of pensioners have only one source of income- their pension. Dependency of even employed children on pensioners is found. It is also found that more percentage of pensioners retired 25 or more years ago (80 years or more aged group) save more for their children or grandchildren. But number of pensioners saves for self-use is increasing among recently retired pensioners. Most of pensioners spent their pensionary benefits (DCRG, commuted value of pension and terminal earned leave surrender value) for the welfare of the family.

Majority of pensioners are suffering from one or more than one disease. About 63 per cent of pensioners, as per this study, can keep the standard of living they had prior to retirement. More pensioners in the oldest old category of pensioners keep the same standard of living before and after retirement. It is found that about 70 per cent pensioners in this category get pension more than equivalent to their last pay inflated to 2009 level.

While 48.04 per cent of pensioners have stated that the present pension help them to face uncertainties to a moderate extent, more than 22 per cent can face it to a small or very small extent. More than 55 per cent of pensioners find it difficult all time or some times to meet their monthly expenses with

the present pension amount. Lion share of expenditure of pensioners is for basic needs (food, clothing and electricity and water charges). This study found a positive relationship between monthly pension and monthly expenditure of the pensioners. Linear regression analysis shows that with one unit increase in pension, the expenditure would increase by 0.78 units.

## 8.2 Policy Options

1) At present Government of Kerala is spending more for higher pension group which constitute only 7 per cent of total pensioners than the lowest pension group. Steps may be taken to lower the upper limit of pension. The reduction may affect only a small proportion of pensioners but it will reduce pension expenditure.

2) Government may initiate parametric changes like reducing replacement rate and increasing the average period of calculation of pension for reducing pension expenditure.

3) Compared to retirement age of 60 years in majority of states, it is only 56 years in Kerala except for few categories of employees. A hike of 4 years of retirement age of existing employees under DB system may reduce pension expenditure by 20.58 per cent.

4) Government may provide a minimum pension for lower categories of employees who are under the NPS. This may ensure a minimum income for the employees after retirement.

5) Government may also increase the retirement age of all employees under NPS to 65 so that they can save more for pension.

6) Employees under NPS may be encouraged to save more under Tier II so as to enable them to lead a descent life after retirement.

## 8.3 Scope for Further Research

The present study includes only budgetary expenditure for pension and excluded pension expenditure of Universities, Boards and Corporations. Studies are needed about the performance of financial market in handling the pension funds and relative merits of each investment options.

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# APPENDICES

## Appendix I

## Calculated Value of Pension Assets of Employees

### Appendix 1.1: Gazetted Officer with 30 years of Service

| Sl No | As on | BP | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At Retirement |
| 1 | 01-07-1985 | 1,050 | 1,953 | 2,910 | 3,043 | 48,271 |
| 2 | 01-07-1986 | 1,080 | 3,110 | 3,214 | 3,361 | 48,469 |
| 3 | 01-07-1987 | 1,110 | 4,329 | 3,658 | 3,826 | 50,159 |
| 4 | 01-07-1988 | 1,140 | 5,814 | 3,898 | 4,077 | 48,590 |
| 5 | 01-07-1989 | 1,620 | 6,124 | 5,112 | 5,346 | 57,922 |
| 6 | 01-07-1990 | 1,680 | 8,165 | 5,666 | 5,926 | 58,370 |
| 7 | 01-07-1991 | 1,740 | 11,588 | 6,494 | 6,792 | 60,818 |
| 8 | 01-07-1992 | 1,800 | 14,364 | 7,192 | 7,522 | 61,231 |
| 9 | 01-07-1993 | 2,120 | 18,062 | 8,700 | 9,099 | 67,335 |
| 10 | 01-07-1994 | 2,375 | 23,228 | 10,346 | 10,820 | 72,792 |
| 11 | 01-07-1995 | 2,450 | 28,812 | 11,642 | 12,176 | 74,467 |
| 12 | 01-07-1996 | 2,525 | 34,845 | 13,030 | 13,627 | 75,765 |
| 13 | 01-07-1997 | 2,600 | 41,808 | 14,602 | 15,271 | 77,187 |
| 14 | 01-07-1998 | 7,650 | 17,442 | 21,848 | 22,849 | 1,04,991 |
| 15 | 01-07-1999 | 8,250 | 34,155 | 26,632 | 27,853 | 1,16,349 |
| 16 | 01-07-2000 | 8,500 | 40,290 | 28,458 | 29,762 | 1,13,021 |
| 17 | 01-07-2001 | 8,750 | 46,200 | 30,240 | 31,626 | 1,09,182 |
| 18 | 01-07-2002 | 9,000 | 54,540 | 32,508 | 33,998 | 1,06,700 |
| 19 | 01-07-2003 | 10,000 | 68,400 | 37,680 | 39,407 | 1,12,433 |
| 20 | 01-07-2004 | 10,300 | 78,486 | 40,418 | 42,270 | 1,09,637 |
| 21 | 01-07-2005 | 10,600 | 1,01,760 | 45,792 | 47,891 | 1,12,924 |
| 22 | 01-07-2006 | 19,800 | 41,580 | 55,836 | 58,395 | 1,25,175 |
| 23 | 01-07-2007 | 21,200 | 73,776 | 65,636 | 68,644 | 1,33,768 |
| 24 | 01-07-2008 | 21,700 | 1,08,066 | 73,694 | 77,072 | 1,36,538 |
| 25 | 01-07-2009 | 22,200 | 1,58,508 | 84,982 | 88,877 | 1,43,137 |
| 26 | 01-07-2010 | 23,200 | 2,39,424 | 1,03,564 | 1,08,310 | 1,58,577 |
| 27 | 01-07-2011 | 46,640 | 1,53,912 | 1,42,718 | 1,49,259 | 1,98,664 |
| 28 | 01-07-2012 | 47,640 | 2,37,247 | 1,61,786 | 1,69,201 | 2,04,733 |
| 29 | 01-07-2013 | 50,640 | 3,52,454 | 1,92,026 | 2,00,827 | 2,20,910 |
| 30 | 01-07-2014 | 51,640 | 4,74,055 | 2,18,748 | 2,28,774 | 2,28,774 |
| | **Total Value of Pension Assets at Retirement** | | | | | **32,36,889** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.2

## Gazetted Officer with 25 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1990 | 1,450 | 7,047 | 4,890 | 5,114 | 50,372 |
| 2 | 01/07/1991 | 1,490 | 9,923 | 5,560 | 5,815 | 52,069 |
| 3 | 01/07/1992 | 1,530 | 12,209 | 6,420 | 6,714 | 54,654 |
| 4 | 01/07/1993 | 2,120 | 18,062 | 9,124 | 9,542 | 70,613 |
| 5 | 01/07/1994 | 2,180 | 21,320 | 9,932 | 10,387 | 69,879 |
| 6 | 01/07/1995 | 2,240 | 26,342 | 11,092 | 11,600 | 70,945 |
| 7 | 01/07/1996 | 2,300 | 31,740 | 12,328 | 12,893 | 71,684 |
| 8 | 01/07/1997 | 2,360 | 37,949 | 13,726 | 14,355 | 72,557 |
| 9 | 01/07/1998 | 6,850 | 15,618 | 20,934 | 21,893 | 100,598 |
| 10 | 01/07/1999 | 7,450 | 30,843 | 25,538 | 26,708 | 111,566 |
| 11 | 01/07/2000 | 7,650 | 36,261 | 27,142 | 28,386 | 107,796 |
| 12 | 01/07/2001 | 7,875 | 41,580 | 28,792 | 30,112 | 103,955 |
| 13 | 01/07/2002 | 8,100 | 49,086 | 30,878 | 32,293 | 101,349 |
| 14 | 01/07/2003 | 8,325 | 56,943 | 33,034 | 34,548 | 98,569 |
| 15 | 01/07/2004 | 9,000 | 68,580 | 37,116 | 38,817 | 100,681 |
| 16 | 01/07/2005 | 9,250 | 88,800 | 41,810 | 43,726 | 103,104 |
| 17 | 01/07/2006 | 17,100 | 35,910 | 51,642 | 54,009 | 115,773 |
| 18 | 01/07/2007 | 17,550 | 61,074 | 57,844 | 60,495 | 117,888 |
| 19 | 01/07/2008 | 18,900 | 94,122 | 67,964 | 71,079 | 125,921 |
| 20 | 01/07/2009 | 19,350 | 138,159 | 77,942 | 81,514 | 131,279 |
| 21 | 01/07/2010 | 19,800 | 204,336 | 92,348 | 96,580 | 141,403 |
| 22 | 01/07/2011 | 37,940 | 125,202 | 123,684 | 129,353 | 172,169 |
| 23 | 01/07/2012 | 40,640 | 202,387 | 146,142 | 152,840 | 184,936 |
| 24 | 01/07/2013 | 41,640 | 289,814 | 166,226 | 173,844 | 191,228 |
| 25 | 01/07/2014 | 42,640 | 391,435 | 189,152 | 197,821 | 197,821 |
| | **Total Value of Pension Assets at Retirement** | | | | | **2,718,809** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.3

## Gazetted Officer with 20 Years of Service

| Sl No | As on | BP | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1995 | 2,060 | 24,226 | 10,202 | 10,670 | 65,257 |
| 2 | 01/07/1996 | 2,120 | 29,256 | 11,364 | 11,885 | 66,080 |
| 3 | 01/07/1997 | 2,180 | 35,054 | 12,678 | 13,259 | 67,017 |
| 4 | 01/07/1998 | 6,850 | 15,618 | 20,934 | 21,893 | 100,598 |
| 5 | 01/07/1999 | 7,025 | 29,084 | 24,082 | 25,186 | 105,208 |
| 6 | 01/07/2000 | 7,200 | 34,128 | 25,546 | 26,717 | 101,458 |
| 7 | 01/07/2001 | 7,375 | 38,940 | 26,964 | 28,200 | 97,354 |
| 8 | 01/07/2002 | 7,550 | 45,753 | 28,780 | 30,099 | 94,464 |
| 9 | 01/07/2003 | 7,750 | 53,010 | 30,752 | 32,161 | 91,759 |
| 10 | 01/07/2004 | 8,325 | 63,437 | 34,332 | 35,905 | 93,128 |
| 11 | 01/07/2005 | 8,550 | 82,080 | 38,646 | 40,417 | 95,301 |
| 12 | 01/07/2006 | 15,510 | 32,571 | 46,840 | 48,987 | 105,008 |
| 13 | 01/07/2007 | 15,890 | 55,297 | 52,374 | 54,774 | 106,739 |
| 14 | 01/07/2008 | 16,270 | 81,025 | 58,508 | 61,190 | 108,402 |
| 15 | 01/07/2009 | 17,620 | 125,807 | 70,974 | 74,227 | 119,543 |
| 16 | 01/07/2010 | 18,070 | 186,482 | 84,278 | 88,141 | 129,047 |
| 17 | 01/07/2011 | 33,680 | 111,144 | 109,796 | 114,828 | 152,836 |
| 18 | 01/07/2012 | 34,500 | 171,810 | 124,062 | 129,748 | 156,995 |
| 19 | 01/07/2013 | 37,040 | 257,798 | 147,864 | 154,641 | 170,105 |
| 20 | 01/07/2014 | 37,940 | 348,289 | 168,302 | 176,016 | 176,016 |
| | **Total Value of Pension Assets at Retirement** | | | | | **22,02,315** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.4

## Gazetted Officer with 15 Years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2000 | 6,675 | 31,640 | 22,348 | 23,372 | 88,755 |
| 2 | 01/07/2001 | 6,850 | 36,168 | 23,674 | 24,759 | 85,475 |
| 3 | 01/07/2002 | 7,025 | 42,572 | 25,374 | 26,537 | 83,284 |
| 4 | 01/07/2003 | 7,200 | 49,248 | 27,130 | 28,373 | 80,951 |
| 5 | 01/07/2004 | 7,375 | 56,198 | 28,940 | 30,266 | 78,502 |
| 6 | 01/07/2005 | 7,550 | 72,480 | 32,616 | 34,111 | 80,432 |
| 7 | 01/07/2006 | 13,610 | 28,581 | 38,380 | 40,139 | 86,042 |
| 8 | 01/07/2007 | 13,990 | 48,685 | 43,314 | 45,299 | 88,275 |
| 9 | 01/07/2008 | 14,370 | 71,563 | 48,800 | 51,037 | 90,415 |
| 10 | 01/07/2009 | 15,510 | 110,741 | 59,372 | 62,093 | 100,001 |
| 11 | 01/07/2010 | 15,890 | 163,985 | 70,934 | 74,185 | 108,614 |
| 12 | 01/07/2011 | 29,180 | 96,294 | 89,290 | 93,382 | 124,291 |
| 13 | 01/07/2012 | 29,860 | 148,703 | 101,404 | 106,051 | 128,322 |
| 14 | 01/07/2013 | 30,610 | 213,046 | 116,074 | 121,394 | 133,533 |
| 15 | 01/07/2014 | 32,860 | 301,655 | 139,196 | 145,576 | 145,576 |
| | **Total Value of Pension Assets at Retirement** | | | | | **15,02,468** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.5

## Gazetted Officer with 10 Years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2005 | 6,675 | 64,080 | 28,836 | 30,158 | 71,111 |
| 2 | 01/07/2006 | 11,350 | 23,835 | 32,008 | 33,475 | 71,757 |
| 3 | 01/07/2007 | 11,630 | 40,472 | 36,006 | 37,656 | 73,381 |
| 4 | 01/07/2008 | 11,910 | 59,312 | 40,446 | 42,300 | 74,937 |
| 5 | 01/07/2009 | 12,250 | 87,465 | 46,894 | 49,043 | 78,984 |
| 6 | 01/07/2010 | 12,590 | 129,929 | 56,202 | 58,778 | 86,057 |
| 7 | 01/07/2011 | 25,280 | 83,424 | 77,356 | 80,901 | 107,679 |
| 8 | 01/07/2012 | 25,900 | 128,982 | 87,956 | 91,987 | 111,304 |
| 9 | 01/07/2013 | 26,520 | 184,579 | 100,564 | 105,173 | 115,690 |
| 10 | 01/07/2014 | 29,180 | 267,872 | 123,606 | 129,271 | 129,271 |
| | **Total Value of Pension Assets at Retirement** | | | | | **9,20,171** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.6

## Gazetted Officer with 5 Years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2010 | 11,070 | 114,242 | 49,416 | 51,681 | 75,666 |
| 2 | 01/07/2011 | 24,660 | 81,378 | 75,460 | 78,918 | 105,040 |
| 3 | 01/07/2012 | 25,280 | 125,894 | 85,850 | 89,785 | 108,640 |
| 4 | 01/07/2013 | 25,900 | 180,264 | 98,212 | 102,713 | 112,984 |
| 5 | 01/07/2014 | 26,520 | 243,454 | 112,338 | 117,487 | 117,487 |
| | **Total Value of Pension Assets at Retirement** | | | | | **5,19,817** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.7

## Non Gazetted Officer 'A' With 30 years of Service

| Sl No | As on | BP | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1985 | 755 | 1,404 | 2,092 | 2,188 | 34,708 |
| 2 | 01/07/1986 | 775 | 2,232 | 2,306 | 2,412 | 34,783 |
| 3 | 01/07/1987 | 795 | 3,101 | 2,528 | 2,644 | 34,663 |
| 4 | 01/07/1988 | 840 | 4,284 | 2,872 | 3,004 | 35,802 |
| 5 | 01/07/1989 | 1,220 | 6,222 | 4,172 | 4,363 | 47,272 |
| 6 | 01/07/1990 | 1,250 | 6,075 | 4,216 | 4,409 | 43,427 |
| 7 | 01/07/1991 | 1,280 | 8,525 | 4,778 | 4,997 | 44,745 |
| 8 | 01/07/1992 | 1,290 | 10,294 | 5,154 | 5,390 | 43,876 |
| 9 | 01/07/1993 | 1,440 | 12,269 | 5,910 | 6,181 | 45,741 |
| 10 | 01/07/1994 | 1,700 | 16,626 | 7,406 | 7,745 | 52,104 |
| 11 | 01/07/1995 | 1,760 | 20,698 | 8,364 | 8,747 | 53,496 |
| 12 | 01/07/1996 | 1,940 | 26,772 | 10,010 | 10,469 | 58,207 |
| 13 | 01/07/1997 | 2,000 | 32,160 | 11,232 | 11,747 | 59,375 |
| 14 | 01/07/1998 | 6,275 | 14,307 | 17,922 | 18,743 | 86,124 |
| 15 | 01/07/1999 | 6,675 | 27,635 | 21,548 | 22,536 | 94,138 |
| 16 | 01/07/2000 | 6,850 | 32,469 | 22,934 | 23,985 | 91,083 |
| 17 | 01/07/2001 | 7,025 | 37,092 | 24,278 | 25,391 | 87,657 |
| 18 | 01/07/2002 | 7,400 | 44,844 | 26,728 | 27,953 | 87,728 |
| 19 | 01/07/2003 | 7,600 | 51,984 | 28,636 | 29,948 | 85,445 |
| 20 | 01/07/2004 | 7,800 | 59,436 | 30,608 | 32,011 | 83,028 |
| 21 | 01/07/2005 | 8,475 | 81,360 | 36,612 | 38,290 | 90,286 |
| 22 | 01/07/2006 | 17,100 | 35,910 | 48,222 | 50,432 | 108,105 |
| 23 | 01/07/2007 | 17,550 | 61,074 | 54,334 | 56,824 | 103,876 |
| 24 | 01/07/2008 | 20,700 | 103,086 | 70,298 | 73,520 | 123,300 |
| 25 | 01/07/2009 | 21,200 | 151,368 | 81,154 | 84,873 | 130,588 |
| 26 | 01/07/2010 | 23,200 | 239,424 | 103,564 | 108,310 | 152,888 |
| 27 | 01/07/2011 | 46,640 | 153,912 | 142,718 | 149,259 | 193,295 |
| 28 | 01/07/2012 | 48,640 | 242,227 | 165,182 | 172,753 | 205,248 |
| 29 | 01/07/2013 | 49,740 | 346,190 | 188,614 | 197,258 | 215,011 |
| 30 | 01/07/2014 | 53,040 | 486,907 | 224,678 | 234,975 | 234,975 |
| | **Total Value of Pension Assets at Retirement** | | | | | **27,60,974** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

**Appendix 1.8: Non Gazetted Officer 'A' With 25 years of Service**

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1990 | 950 | 4,617 | 3,204 | 3,351 | 33,006 |
| 2 | 01/07/1991 | 975 | 6,494 | 3,638 | 3,805 | 34,071 |
| 3 | 01/07/1992 | 1,000 | 7,980 | 4,196 | 4,388 | 35,720 |
| 4 | 01/07/1993 | 1,350 | 11,502 | 5,810 | 6,076 | 44,964 |
| 5 | 01/07/1994 | 1,380 | 13,496 | 6,288 | 6,576 | 44,240 |
| 6 | 01/07/1995 | 1,410 | 16,582 | 6,982 | 7,302 | 44,658 |
| 7 | 01/07/1996 | 1,440 | 19,872 | 7,718 | 8,072 | 44,880 |
| 8 | 01/07/1997 | 1,470 | 23,638 | 8,550 | 8,942 | 45,197 |
| 9 | 01/07/1998 | 4,600 | 10,488 | 14,058 | 14,702 | 67,555 |
| 10 | 01/07/1999 | 5,500 | 22,770 | 18,854 | 19,718 | 82,367 |
| 11 | 01/07/2000 | 5,650 | 26,781 | 20,046 | 20,965 | 79,615 |
| 12 | 01/07/2001 | 6,100 | 32,208 | 22,302 | 23,324 | 80,521 |
| 13 | 01/07/2002 | 6,275 | 38,027 | 23,920 | 25,016 | 78,511 |
| 14 | 01/07/2003 | 6,450 | 44,118 | 25,594 | 26,767 | 76,369 |
| 15 | 01/07/2004 | 6,975 | 53,150 | 28,766 | 30,084 | 78,030 |
| 16 | 01/07/2005 | 7,150 | 68,640 | 32,318 | 33,799 | 79,696 |
| 17 | 01/07/2006 | 14,370 | 30,177 | 43,398 | 45,387 | 97,291 |
| 18 | 01/07/2007 | 15,510 | 53,975 | 51,122 | 53,465 | 104,188 |
| 19 | 01/07/2008 | 15,890 | 79,132 | 57,140 | 59,759 | 105,867 |
| 20 | 01/07/2009 | 16,270 | 116,168 | 65,536 | 68,540 | 110,384 |
| 21 | 01/07/2010 | 17,550 | 181,116 | 81,854 | 85,605 | 125,334 |
| 22 | 01/07/2011 | 36,140 | 119,262 | 117,816 | 123,216 | 164,000 |
| 23 | 01/07/2012 | 37,040 | 184,459 | 133,196 | 139,301 | 168,554 |
| 24 | 01/07/2013 | 40,640 | 282,854 | 162,234 | 169,669 | 186,636 |
| 25 | 01/07/2014 | 41,640 | 382,255 | 184,716 | 193,182 | 193,182 |
| **Total Value of Pension Assets at Retirement** | | | | | | **22,04,836** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.9

### Non Gazetted Officer 'A' With 20 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1995 | 1,200 | 14,112 | 5,942 | 6,214 | 38,004 |
| 2 | 01/07/1996 | 1,230 | 16,974 | 6,592 | 6,894 | 38,330 |
| 3 | 01/07/1997 | 1,260 | 20,261 | 7,328 | 7,664 | 38,737 |
| 4 | 01/07/1998 | 4,600 | 10,488 | 14,058 | 14,702 | 67,555 |
| 5 | 01/07/1999 | 4,700 | 19,458 | 16,112 | 16,850 | 70,387 |
| 6 | 01/07/2000 | 4,800 | 22,752 | 17,030 | 17,811 | 67,637 |
| 7 | 01/07/2001 | 4,900 | 25,872 | 17,914 | 18,735 | 64,678 |
| 8 | 01/07/2002 | 5,000 | 30,300 | 19,060 | 19,934 | 62,561 |
| 9 | 01/07/2003 | 5,100 | 34,884 | 20,236 | 21,163 | 60,381 |
| 10 | 01/07/2004 | 5,500 | 41,910 | 22,682 | 23,722 | 61,529 |
| 11 | 01/07/2005 | 5,650 | 54,240 | 25,538 | 26,708 | 62,976 |
| 12 | 01/07/2006 | 10,550 | 22,155 | 31,862 | 33,322 | 71,429 |
| 13 | 01/07/2007 | 10,790 | 37,549 | 35,564 | 37,194 | 72,481 |
| 14 | 01/07/2008 | 11,070 | 55,129 | 39,808 | 41,632 | 73,754 |
| 15 | 01/07/2009 | 11,910 | 85,037 | 47,974 | 50,173 | 80,804 |
| 16 | 01/07/2010 | 12,250 | 126,420 | 57,134 | 59,753 | 87,484 |
| 17 | 01/07/2011 | 22,920 | 75,636 | 74,720 | 78,145 | 104,011 |
| 18 | 01/07/2012 | 24,660 | 122,807 | 88,678 | 92,742 | 112,218 |
| 19 | 01/07/2013 | 25,280 | 175,949 | 100,918 | 105,543 | 116,097 |
| 20 | 01/07/2014 | 25,900 | 237,762 | 114,892 | 120,158 | 120,158 |
| **Total Value of Pension Assets at Retirement** | | | | | | **14,71,211** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

**Appendix 1.10**

**Non Gazetted Officer 'A' With 15 years of Service**

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2000 | 4,000 | 18,960 | 13,392 | 14,006 | 53,188 |
| 2 | 01/07/2001 | 4,090 | 21,595 | 14,136 | 14,784 | 51,038 |
| 3 | 01/07/2002 | 4,190 | 25,391 | 15,134 | 15,828 | 49,675 |
| 4 | 01/07/2003 | 4,600 | 31,464 | 17,332 | 18,126 | 51,716 |
| 5 | 01/07/2004 | 4,700 | 35,814 | 18,442 | 19,287 | 50,026 |
| 6 | 01/07/2005 | 4,800 | 46,080 | 20,736 | 21,686 | 51,134 |
| 7 | 01/07/2006 | 8,190 | 17,199 | 23,096 | 24,155 | 51,778 |
| 8 | 01/07/2007 | 8,390 | 29,197 | 25,976 | 27,167 | 52,941 |
| 9 | 01/07/2008 | 8,590 | 42,778 | 29,172 | 30,509 | 54,049 |
| 10 | 01/07/2009 | 9,190 | 65,617 | 35,180 | 36,792 | 59,254 |
| 11 | 01/07/2010 | 9,390 | 96,905 | 41,918 | 43,839 | 64,185 |
| 12 | 01/07/2011 | 17,860 | 58,938 | 54,652 | 57,157 | 76,076 |
| 13 | 01/07/2012 | 18,300 | 91,134 | 62,146 | 64,994 | 78,643 |
| 14 | 01/07/2013 | 18,740 | 130,430 | 71,062 | 74,319 | 81,751 |
| 15 | 01/07/2014 | 20,240 | 185,803 | 85,736 | 89,665 | 89,665 |
| | **Total Value of Pension Assets at Retirement** | | | | | **9,15,119** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.11

### Non Gazetted Officer 'A' With 10 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2005 | 4,000 | 38,400 | 17,280 | 18,072 | 42,613 |
| 2 | 01/07/2006 | 8,190 | 17,199 | 23,096 | 24,155 | 51,778 |
| 3 | 01/07/2007 | 8,390 | 29,197 | 25,976 | 27,167 | 52,941 |
| 4 | 01/07/2008 | 9,190 | 45,766 | 31,210 | 32,640 | 57,824 |
| 5 | 01/07/2009 | 9,390 | 67,045 | 35,946 | 37,593 | 60,544 |
| 6 | 01/07/2010 | 9,590 | 98,969 | 42,810 | 44,772 | 65,551 |
| 7 | 01/07/2011 | 16,580 | 54,714 | 50,734 | 53,059 | 70,622 |
| 8 | 01/07/2012 | 16,980 | 80,576 | 57,664 | 60,307 | 72,971 |
| 9 | 01/07/2013 | 17,420 | 115,675 | 66,056 | 69,083 | 75,991 |
| 10 | 01/07/2014 | 18,740 | 163,955 | 79,382 | 83,020 | 83,020 |
| **Total Value of Pension Assets at Retirement** | | | | | | **6,33,855** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.12

### Non Gazetted Officer 'A' With 5 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2010 | 7,990 | 82,457 | 35,668 | 37,303 | 54,615 |
| 2 | 01/07/2011 | 14,260 | 47,058 | 43,636 | 45,636 | 60,742 |
| 3 | 01/07/2012 | 14,620 | 72,808 | 49,650 | 51,926 | 62,830 |
| 4 | 01/07/2013 | 15,780 | 109,829 | 59,838 | 62,580 | 68,838 |
| 5 | 01/07/2014 | 16,180 | 148,532 | 68,538 | 71,679 | 71,679 |
| **Total Value of Pension Assets at Retirement** | | | | | | **3,18,704** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

**Appendix 1.13: Non Gazetted Officer 'B' With 30 years of Service**

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1985 | 640 | 1,190 | 1,774 | 1,855 | 29,426 |
| 2 | 01/07/1986 | 655 | 1,886 | 1,950 | 2,039 | 29,404 |
| 3 | 01/07/1987 | 670 | 2,613 | 2,130 | 2,228 | 29,209 |
| 4 | 01/07/1988 | 685 | 3,494 | 2,342 | 2,449 | 29,188 |
| 5 | 01/07/1989 | 1,075 | 5,483 | 3,676 | 3,844 | 41,649 |
| 6 | 01/07/1990 | 1,100 | 5,346 | 3,710 | 3,880 | 38,217 |
| 7 | 01/07/1991 | 1,130 | 7,526 | 4,218 | 4,411 | 39,497 |
| 8 | 01/07/1992 | 1,220 | 9,736 | 4,876 | 5,099 | 41,507 |
| 9 | 01/07/1993 | 1,250 | 10,650 | 5,130 | 5,365 | 39,702 |
| 10 | 01/07/1994 | 1,280 | 12,518 | 5,576 | 5,832 | 39,235 |
| 11 | 01/07/1995 | 1,310 | 15,406 | 6,226 | 6,511 | 39,821 |
| 12 | 01/07/1996 | 1,340 | 18,492 | 6,914 | 7,231 | 40,204 |
| 13 | 01/07/1997 | 1,440 | 23,155 | 8,088 | 8,459 | 42,756 |
| 14 | 01/07/1998 | 4,700 | 10,716 | 13,424 | 14,039 | 64,509 |
| 15 | 01/07/1999 | 4,800 | 19,872 | 15,494 | 16,204 | 67,688 |
| 16 | 01/07/2000 | 4,900 | 23,226 | 16,406 | 17,158 | 65,157 |
| 17 | 01/07/2001 | 5,000 | 26,400 | 17,280 | 18,072 | 62,389 |
| 18 | 01/07/2002 | 5,125 | 31,058 | 18,512 | 19,360 | 60,760 |
| 19 | 01/07/2003 | 5,250 | 35,910 | 19,782 | 20,689 | 59,028 |
| 20 | 01/07/2004 | 5,650 | 43,053 | 22,170 | 23,186 | 60,139 |
| 21 | 01/07/2005 | 5,800 | 55,680 | 25,056 | 26,204 | 61,788 |
| 22 | 01/07/2006 | 10,790 | 22,659 | 30,428 | 31,823 | 68,215 |
| 23 | 01/07/2007 | 11,070 | 38,524 | 34,272 | 35,843 | 69,848 |
| 24 | 01/07/2008 | 11,350 | 56,523 | 38,544 | 40,311 | 71,413 |
| 25 | 01/07/2009 | 12,190 | 87,037 | 46,664 | 48,803 | 78,598 |
| 26 | 01/07/2010 | 12,470 | 128,690 | 55,666 | 58,217 | 85,236 |
| 27 | 01/07/2011 | 22,920 | 75,636 | 70,136 | 73,350 | 97,629 |
| 28 | 01/07/2012 | 24,660 | 122,807 | 83,746 | 87,584 | 105,977 |
| 29 | 01/07/2013 | 25,280 | 175,949 | 95,862 | 100,255 | 110,281 |
| 30 | 01/07/2014 | 25,900 | 237,762 | 109,712 | 114,740 | 114,740 |
| **Total Value of Pension Assets at Retirement** | | | | | | **17,83,210** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.14

### Non Gazetted Officer 'B' With 25 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1990 | 825 | 4,010 | 2,782 | 2,910 | 28,663 |
| 2 | 01/07/1991 | 845 | 5,628 | 3,154 | 3,299 | 29,540 |
| 3 | 01/07/1992 | 865 | 6,903 | 3,630 | 3,796 | 30,900 |
| 4 | 01/07/1993 | 970 | 8,264 | 4,174 | 4,365 | 32,302 |
| 5 | 01/07/1994 | 990 | 9,682 | 4,510 | 4,717 | 31,734 |
| 6 | 01/07/1995 | 1,010 | 11,878 | 5,002 | 5,231 | 31,992 |
| 7 | 01/07/1996 | 1,030 | 14,214 | 5,520 | 5,773 | 32,097 |
| 8 | 01/07/1997 | 1,200 | 19,296 | 6,980 | 7,300 | 36,898 |
| 9 | 01/07/1998 | 4,090 | 9,325 | 12,500 | 13,073 | 60,070 |
| 10 | 01/07/1999 | 4,190 | 17,347 | 14,364 | 15,022 | 62,751 |
| 11 | 01/07/2000 | 4,290 | 20,335 | 15,222 | 15,920 | 60,456 |
| 12 | 01/07/2001 | 4,390 | 23,179 | 16,050 | 16,786 | 57,950 |
| 13 | 01/07/2002 | 4,600 | 27,876 | 17,536 | 18,340 | 57,559 |
| 14 | 01/07/2003 | 4,700 | 32,148 | 18,650 | 19,505 | 55,650 |
| 15 | 01/07/2004 | 4,800 | 36,576 | 19,796 | 20,703 | 53,698 |
| 16 | 01/07/2005 | 4,900 | 47,040 | 22,148 | 23,163 | 54,617 |
| 17 | 01/07/2006 | 9,190 | 19,299 | 27,754 | 29,026 | 62,220 |
| 18 | 01/07/2007 | 9,390 | 32,677 | 30,950 | 32,368 | 63,076 |
| 19 | 01/07/2008 | 9,590 | 47,758 | 34,486 | 36,067 | 63,895 |
| 20 | 01/07/2009 | 9,830 | 70,186 | 39,596 | 41,411 | 66,693 |
| 21 | 01/07/2010 | 10,070 | 103,922 | 46,966 | 49,119 | 71,915 |
| 22 | 01/07/2011 | 19,240 | 63,492 | 62,722 | 65,597 | 87,310 |
| 23 | 01/07/2012 | 19,740 | 98,305 | 70,986 | 74,239 | 89,829 |
| 24 | 01/07/2013 | 20,240 | 140,870 | 80,798 | 84,501 | 92,951 |
| 25 | 01/07/2014 | 21,800 | 200,124 | 96,704 | 101,136 | 101,136 |
| **Total Value of Pension Assets at Retirement** | | | | | | **14,15,902** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

**Appendix 1.15**

**Non Gazetted Officer 'B' With 20 years of Service**

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/1995 | 950 | 11,172 | 4,704 | 4,920 | 30,090 |
| 2 | 01/07/1996 | 970 | 13,386 | 5,200 | 5,438 | 30,235 |
| 3 | 01/07/1997 | 990 | 15,919 | 5,758 | 6,022 | 30,438 |
| 4 | 01/07/1998 | 3,125 | 7,125 | 9,550 | 9,988 | 45,895 |
| 5 | 01/07/1999 | 3,200 | 13,248 | 10,970 | 11,473 | 47,926 |
| 6 | 01/07/2000 | 3,275 | 15,524 | 11,620 | 12,153 | 46,151 |
| 7 | 01/07/2001 | 3,350 | 17,688 | 12,248 | 12,809 | 44,220 |
| 8 | 01/07/2002 | 4,000 | 24,240 | 15,248 | 15,947 | 50,049 |
| 9 | 01/07/2003 | 4,090 | 27,976 | 16,230 | 16,974 | 48,429 |
| 10 | 01/07/2004 | 4,190 | 31,928 | 17,280 | 18,072 | 46,874 |
| 11 | 01/07/2005 | 4,290 | 41,184 | 19,390 | 20,279 | 47,817 |
| 12 | 01/07/2006 | 7,650 | 16,065 | 23,104 | 24,163 | 51,796 |
| 13 | 01/07/2007 | 8,190 | 28,501 | 26,994 | 28,231 | 55,014 |
| 14 | 01/07/2008 | 8,390 | 41,782 | 30,170 | 31,553 | 55,898 |
| 15 | 01/07/2009 | 8,590 | 61,333 | 34,600 | 36,186 | 58,278 |
| 16 | 01/07/2010 | 8,790 | 90,713 | 40,996 | 42,875 | 62,773 |
| 17 | 01/07/2011 | 16,580 | 54,714 | 54,050 | 56,527 | 75,237 |
| 18 | 01/07/2012 | 16,980 | 84,560 | 61,060 | 63,858 | 77,268 |
| 19 | 01/07/2013 | 17,420 | 121,243 | 69,540 | 72,727 | 80,000 |
| 20 | 01/07/2014 | 18,740 | 172,033 | 83,130 | 86,940 | 86,940 |
| **Total Value of Pension Assets at Retirement** | | | | | | **10,71,328** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

**Appendix 1.16**

**Non Gazetted Officer 'B' With 15 years of Service**

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2000 | 3,050 | 14,457 | 10,212 | 10,680 | 40,557 |
| 2 | 01/07/2001 | 3,125 | 16,500 | 10,800 | 11,295 | 38,993 |
| 3 | 01/07/2002 | 3,200 | 19,392 | 11,558 | 12,088 | 37,937 |
| 4 | 01/07/2003 | 3,275 | 22,401 | 12,340 | 12,906 | 36,822 |
| 5 | 01/07/2004 | 3,350 | 25,527 | 13,146 | 13,749 | 35,661 |
| 6 | 01/07/2005 | 3,425 | 32,880 | 14,796 | 15,474 | 36,487 |
| 7 | 01/07/2006 | 6,080 | 12,768 | 17,146 | 17,932 | 38,439 |
| 8 | 01/07/2007 | 6,680 | 23,246 | 20,682 | 21,630 | 42,151 |
| 9 | 01/07/2008 | 6,840 | 34,063 | 23,228 | 24,293 | 43,037 |
| 10 | 01/07/2009 | 7,000 | 49,980 | 26,796 | 28,024 | 45,133 |
| 11 | 01/07/2010 | 7,160 | 73,891 | 31,962 | 33,427 | 48,940 |
| 12 | 01/07/2011 | 13,870 | 45,771 | 42,442 | 44,387 | 59,079 |
| 13 | 01/07/2012 | 14,620 | 72,808 | 49,650 | 51,926 | 62,830 |
| 14 | 01/07/2013 | 14,980 | 104,261 | 56,804 | 59,407 | 65,348 |
| 15 | 01/07/2014 | 15,340 | 140,821 | 64,980 | 67,958 | 67,958 |
| **Total Value of Pension Assets at Retirement** | | | | | | **6,99,372** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

**Appendix 1.17**

**Non Gazetted Officer 'B' With 10 years of Service**

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2005 | 3,050 | 29,280 | 13,176 | 13,780 | 32,493 |
| 2 | 01/07/2006 | 5,380 | 11,298 | 15,172 | 15,867 | 34,012 |
| 3 | 01/07/2007 | 5,510 | 19,175 | 17,060 | 17,842 | 34,769 |
| 4 | 01/07/2008 | 5,650 | 28,137 | 19,188 | 20,067 | 35,550 |
| 5 | 01/07/2009 | 5,790 | 41,341 | 22,164 | 23,180 | 37,332 |
| 6 | 01/07/2010 | 5,930 | 61,198 | 26,472 | 27,685 | 40,534 |
| 7 | 01/07/2011 | 11,020 | 36,366 | 33,722 | 35,268 | 46,942 |
| 8 | 01/07/2012 | 13,210 | 65,786 | 44,862 | 46,918 | 56,771 |
| 9 | 01/07/2013 | 13,540 | 94,238 | 51,344 | 53,697 | 59,067 |
| 10 | 01/07/2014 | 13,870 | 127,327 | 58,754 | 61,447 | 61,447 |
| **Total Value of Pension Assets at Retirement** | | | | | | **4,38,917** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

**Appendix 1.18**

**Non Gazetted Officer 'B' With 5 years of Service**

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01-07-2010 | 5,250 | 54,180 | 23,436 | 24,510 | 35,885 |
| 2 | 01-07-2011 | 10,210 | 33,693 | 31,242 | 32,674 | 43,489 |
| 3 | 01-07-2012 | 10,480 | 52,190 | 35,590 | 37,221 | 45,037 |
| 4 | 01-07-2013 | 10,750 | 74,820 | 40,764 | 42,632 | 46,895 |
| 5 | 01-07-2014 | 11,020 | 101,164 | 46,680 | 48,819 | 48,819 |
| **Total Value of Pension Assets at Retirement** | | | | | | **2,20,125** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.19

## Class IV Staff With 30 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01-07-1985 | 550 | 1,023 | 1,524 | 1,594 | 25,286 |
| 2 | 01-07-1986 | 560 | 1,613 | 1,666 | 1,742 | 25,121 |
| 3 | 01-07-1987 | 570 | 2,223 | 1,812 | 1,895 | 24,843 |
| 4 | 01-07-1988 | 580 | 2,958 | 1,984 | 2,075 | 24,730 |
| 5 | 01-07-1989 | 790 | 4,029 | 2,702 | 2,826 | 30,619 |
| 6 | 01-07-1990 | 805 | 3,912 | 2,714 | 2,838 | 27,954 |
| 7 | 01-07-1991 | 825 | 5,495 | 3,080 | 3,221 | 28,842 |
| 8 | 01-07-1992 | 845 | 6,743 | 3,376 | 3,531 | 28,743 |
| 9 | 01-07-1993 | 931 | 7,932 | 3,820 | 3,995 | 29,564 |
| 10 | 01-07-1994 | 965 | 9,438 | 4,204 | 4,397 | 29,581 |
| 11 | 01-07-1995 | 980 | 11,525 | 4,658 | 4,871 | 29,791 |
| 12 | 01-07-1996 | 995 | 13,731 | 5,134 | 5,369 | 29,851 |
| 13 | 01-07-1997 | 1,010 | 16,241 | 5,672 | 5,932 | 29,983 |
| 14 | 01-07-1998 | 3,025 | 6,897 | 8,640 | 9,036 | 41,520 |
| 15 | 01-07-1999 | 3,090 | 12,793 | 9,974 | 10,431 | 43,573 |
| 16 | 01-07-2000 | 3,240 | 15,358 | 10,848 | 11,345 | 43,083 |
| 17 | 01-07-2001 | 3,310 | 17,477 | 11,440 | 11,964 | 41,303 |
| 18 | 01-07-2002 | 3,380 | 20,483 | 12,208 | 12,768 | 40,071 |
| 19 | 01-07-2003 | 3,450 | 23,598 | 13,000 | 13,596 | 38,791 |
| 20 | 01-07-2004 | 3,520 | 26,822 | 13,812 | 14,445 | 37,467 |
| 21 | 01-07-2005 | 3,590 | 34,464 | 15,508 | 16,219 | 38,244 |
| 22 | 01-07-2006 | 6,680 | 14,028 | 18,838 | 19,701 | 42,231 |
| 23 | 01-07-2007 | 7,160 | 24,917 | 22,168 | 23,184 | 45,179 |
| 24 | 01-07-2008 | 7,320 | 36,454 | 24,858 | 25,997 | 46,055 |
| 25 | 01-07-2009 | 7,480 | 53,407 | 28,634 | 29,946 | 48,228 |
| 26 | 01-07-2010 | 7,640 | 78,845 | 34,106 | 35,669 | 52,223 |
| 27 | 01-07-2011 | 15,780 | 52,074 | 48,286 | 50,499 | 67,214 |
| 28 | 01-07-2012 | 16,180 | 80,576 | 54,948 | 57,466 | 69,534 |
| 29 | 01-07-2013 | 16,580 | 115,397 | 62,872 | 65,754 | 72,329 |
| 30 | 01-07-2014 | 16,980 | 155,876 | 71,928 | 75,225 | 75,225 |
| **Total Value of Pension Assets at Retirement** | | | | | | **12,07,178** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.20

### Class IV Staff With 25 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01-07-1990 | 750 | 3,645 | 2,530 | 2,646 | 26,062 |
| 2 | 01-07-1991 | 760 | 5,062 | 2,836 | 2,966 | 26,558 |
| 3 | 01-07-1992 | 770 | 6,145 | 3,232 | 3,380 | 27,514 |
| 4 | 01-07-1993 | 871 | 7,421 | 3,748 | 3,920 | 29,009 |
| 5 | 01-07-1994 | 883 | 8,636 | 4,024 | 4,208 | 28,309 |
| 6 | 01-07-1995 | 895 | 10,525 | 4,432 | 4,635 | 28,347 |
| 7 | 01-07-1996 | 907 | 12,517 | 4,862 | 5,085 | 28,272 |
| 8 | 01-07-1997 | 919 | 14,778 | 5,346 | 5,591 | 28,260 |
| 9 | 01-07-1998 | 2,670 | 6,088 | 8,160 | 8,534 | 39,213 |
| 10 | 01-07-1999 | 2,845 | 11,778 | 9,752 | 10,199 | 42,604 |
| 11 | 01-07-2000 | 2,910 | 13,793 | 10,324 | 10,797 | 41,002 |
| 12 | 01-07-2001 | 2,975 | 15,708 | 10,876 | 11,374 | 39,266 |
| 13 | 01-07-2002 | 3,040 | 18,422 | 11,588 | 12,119 | 38,035 |
| 14 | 01-07-2003 | 3,105 | 21,238 | 12,320 | 12,885 | 36,762 |
| 15 | 01-07-2004 | 3,170 | 24,155 | 13,074 | 13,673 | 35,464 |
| 16 | 01-07-2005 | 3,310 | 31,776 | 14,962 | 15,648 | 36,897 |
| 17 | 01-07-2006 | 6,380 | 13,398 | 19,268 | 20,151 | 43,195 |
| 18 | 01-07-2007 | 6,530 | 22,724 | 21,522 | 22,508 | 43,862 |
| 19 | 01-07-2008 | 6,680 | 33,266 | 24,022 | 25,123 | 44,507 |
| 20 | 01-07-2009 | 6,840 | 48,838 | 27,552 | 28,815 | 46,407 |
| 21 | 01-07-2010 | 7,000 | 72,240 | 32,648 | 34,144 | 49,990 |
| 22 | 01-07-2011 | 13,900 | 45,870 | 45,314 | 47,391 | 63,077 |
| 23 | 01-07-2012 | 14,980 | 74,600 | 53,868 | 56,337 | 68,168 |
| 24 | 01-07-2013 | 15,380 | 107,045 | 61,398 | 64,212 | 70,633 |
| 25 | 01-07-2014 | 15,780 | 144,860 | 70,000 | 73,208 | 73,208 |
| **Total Value of Pension Assets at Retirement** | | | | | | **10,34,621** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.21

## Class IV Staff With 20 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01-07-1995 | 775 | 9,114 | 3,838 | 4,014 | 24,549 |
| 2 | 01-07-1996 | 787 | 10,861 | 4,218 | 4,411 | 24,525 |
| 3 | 01-07-1997 | 799 | 12,848 | 4,648 | 4,861 | 24,570 |
| 4 | 01-07-1998 | 2,670 | 6,088 | 8,160 | 8,534 | 39,213 |
| 5 | 01-07-1999 | 2,730 | 11,302 | 9,358 | 9,787 | 40,883 |
| 6 | 01-07-2000 | 2,790 | 13,225 | 9,900 | 10,354 | 39,319 |
| 7 | 01-07-2001 | 2,850 | 15,048 | 10,420 | 10,898 | 37,623 |
| 8 | 01-07-2002 | 2,910 | 17,635 | 11,094 | 11,602 | 36,412 |
| 9 | 01-07-2003 | 2,970 | 20,315 | 11,786 | 12,326 | 35,168 |
| 10 | 01-07-2004 | 3,170 | 24,155 | 13,074 | 13,673 | 35,464 |
| 11 | 01-07-2005 | 3,235 | 31,056 | 14,622 | 15,292 | 36,058 |
| 12 | 01-07-2006 | 5,790 | 12,159 | 17,486 | 18,287 | 39,200 |
| 13 | 01-07-2007 | 5,930 | 20,636 | 19,546 | 20,442 | 39,836 |
| 14 | 01-07-2008 | 6,070 | 30,229 | 21,828 | 22,828 | 40,441 |
| 15 | 01-07-2009 | 6,210 | 44,339 | 25,014 | 26,160 | 42,131 |
| 16 | 01-07-2010 | 6,630 | 68,422 | 30,922 | 32,339 | 47,348 |
| 17 | 01-07-2011 | 12,550 | 41,415 | 40,914 | 42,789 | 56,952 |
| 18 | 01-07-2012 | 12,880 | 64,142 | 46,316 | 48,439 | 58,611 |
| 19 | 01-07-2013 | 13,210 | 91,942 | 52,734 | 55,151 | 60,666 |
| 20 | 01-07-2014 | 13,540 | 124,297 | 60,064 | 62,817 | 62,817 |
| **Total Value of Pension Assets at Retirement** | | | | | | **8,21,786** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.22

## Class IV Staff With 15 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2000 | 2,610 | 12,371 | 8,738 | 9,138 | 34,702 |
| 2 | 01/07/2001 | 2,670 | 14,098 | 9,228 | 9,651 | 33,318 |
| 3 | 01/07/2002 | 2,730 | 16,544 | 9,860 | 10,312 | 32,363 |
| 4 | 01/07/2003 | 2,790 | 19,084 | 10,512 | 10,994 | 31,367 |
| 5 | 01/07/2004 | 2,850 | 21,717 | 11,184 | 11,697 | 30,339 |
| 6 | 01/07/2005 | 2,910 | 27,936 | 12,572 | 13,148 | 31,002 |
| 7 | 01/07/2006 | 5,250 | 11,025 | 14,806 | 15,485 | 33,193 |
| 8 | 01/07/2007 | 5,380 | 18,722 | 16,656 | 17,419 | 33,945 |
| 9 | 01/07/2008 | 5,510 | 27,440 | 18,712 | 19,570 | 34,669 |
| 10 | 01/07/2009 | 5,790 | 41,341 | 22,164 | 23,180 | 37,332 |
| 11 | 01/07/2010 | 5,930 | 61,198 | 26,472 | 27,685 | 40,534 |
| 12 | 01/07/2011 | 11,620 | 38,346 | 35,558 | 37,188 | 49,497 |
| 13 | 01/07/2012 | 11,920 | 59,362 | 40,480 | 42,335 | 51,225 |
| 14 | 01/07/2013 | 12,220 | 85,051 | 46,338 | 48,462 | 53,308 |
| 15 | 01/07/2014 | 12,550 | 115,209 | 53,162 | 55,598 | 55,598 |
| **Total Value of Pension Assets at Retirement** | | | | | | **5,82,392** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.23

## Class IV Staff With 10 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2005 | 2,610 | 25,056 | 11,276 | 11,793 | 27,807 |
| 2 | 01/07/2006 | 4,510 | 9,471 | 12,718 | 13,301 | 28,512 |
| 3 | 01/07/2007 | 4,630 | 16,112 | 14,334 | 14,991 | 29,213 |
| 4 | 01/07/2008 | 4,750 | 23,655 | 16,132 | 16,871 | 29,888 |
| 5 | 01/07/2009 | 4,870 | 34,772 | 18,642 | 19,496 | 31,399 |
| 6 | 01/07/2010 | 4,990 | 51,497 | 22,276 | 23,297 | 34,109 |
| 7 | 01/07/2011 | 9,690 | 31,977 | 29,652 | 31,011 | 41,276 |
| 8 | 01/07/2012 | 9,940 | 49,501 | 33,756 | 35,303 | 42,717 |
| 9 | 01/07/2013 | 10,210 | 71,062 | 38,716 | 40,490 | 44,539 |
| 10 | 01/07/2014 | 11,020 | 101,164 | 46,680 | 48,819 | 48,819 |
| **Total Value of Pension Assets at Retirement** | | | | | | **3,58,279** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

## Appendix 1.24

## Class IV Staff With 5 years of Service

| Sl No | As on | Basic Pay | Yearly DA | Yearly CBN | Value of Pension Assets | |
|---|---|---|---|---|---|---|
| | | | | | At the end of a year | At the time of retirement |
| 1 | 01/07/2010 | 4,510 | 46,543 | 20,132 | 21,055 | 30,827 |
| 2 | 01/07/2011 | 8,730 | 28,809 | 26,714 | 27,938 | 37,185 |
| 3 | 01/07/2012 | 8,960 | 44,621 | 30,428 | 31,823 | 38,506 |
| 4 | 01/07/2013 | 9,190 | 63,962 | 34,848 | 36,445 | 40,090 |
| 5 | 01/07/2014 | 9,440 | 86,659 | 39,988 | 41,821 | 41,821 |
| **Total Value of Pension Assets at Retirement** | | | | | | **1,88,429** |

Source: Estimated data; DA-Dearness Allowance; CBN-Contribution

# Appendix 2

## Questionnaire

This questionnaire is intended to collect information for a research work on *Civil Service Pension Benefits and Expenditure in Kerala.* The information collected shall be used only for the research work and it shall not be used for any other purpose.

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of Science and Technology, Kochi-6820 22
Mobile : 9446912325; 9061934933

1. Sex : Male ☐ Female ☐ 2. Marital Status : Married ☐ Single ☐

3. Date of Birth : 4. Date of Joining of Service :

5. Educational Qualification :

6. Date of Retirement : 7. Pay at the time of retirement :

8. Did you commute the pension? Yes ☐ No ☐

9. Basic Pension before and after commutation :

10. How did you utilise DCRG and Commutation benefits ? a. Marriage of Daughter ☐
b. Repayment of Loan ☐ c. House Construction/Purchase ☐
d. Savings for self ☐ e. Savings for Children/Grand Children ☐
f. Any other Purpose ☐ ☐

11. Are you engaged in any business/job after retirement? Yes ☐ No ☐

If yes, monthly income from business/job :

12. Dou have any other income from savings/land etc : Yes ☐ No ☐

If yes, monthly income:

13. What is the status of your Spouse? a. Employed ☐ b. Pensioner ☐
c. self employed ☐ d. not working ☐ e. Others ☐

14. Is the present pension amount sufficient to keep up the same standard of living as you had during your service period? Yes ☐ No ☐

15. Does the service pension help you to face uncertainties in life? Yes ☐ No ☐

16. If yes, to what extent does it help you? a. to a very great extent ☐

b. to a great extent ☐ c. to a moderate extent ☐

d. to a small extent ☐ e. to a very small extent ☐

17. Can you meet your monthly expenditure with the present pension amount?

a. Enough to meet expense ☐ b. Difficult some times ☐

b. Difficult all times ☐

18. Are you suffering from any particular disease? Yes ☐ No ☐

If yes which Disease

a. Rheumatic arthritis ☐ b. Diabetes ☐ c. Cancer ☐

d. Blood Pressure ☐ e. Cholesterol ☐

f. Others ☐

19. How much is your average monthly expenditure on medicine/treatment? :

20. Do you have any Medical Insurance? Yes ☐ No ☐

If yes a) Insured Amount :

b) Premium paid by i. children ☐ ii. self ☐ iii. others ☐

21. How much do you spend monthly (average) for basic needs :

(Food, clothing, water charges, electricity charges etc)

22. Do you have any loan liability? Yes ☐ No ☐

If yes, a. amount of liability:

b. Monthly repayment amount :

23. How much do you spend monthly (average) on other purposes? (like, travel, news paper, social commitments etc) ☐

24. How many children do you have? Nil ☐ One ☐ Two ☐ More than two ☐

25. Number of girl Child : Nil ☐ One ☐ Two ☐ More than two ☐

26. Number of boy child : Nil ☐ One ☐ Two ☐ More than two ☐

27. What is the status your children? Students ☐ Employed ☐ Not Employed ☐

28. If Children are studying, average monthly expenditure on their education:

29. If Children are employed, do you get any financial support from children: Yes ☐ No ☐

30. How many children are dependent on you:

31. Do you save anything from the pension for future use? Yes ☐ No ☐

32. Do you have own house? Yes ☐ No ☐

33. Where are you staying? a. own house ☐ b. rented house ☐

c. house of daughter/son ☐ d. old age home ☐

d. others ☐

34. If staying in rented house/old age home

a. Monthly expenditure: ☐

b. Who is paying the expenditure? a. Son/Daughter ☐ b. Self ☐ c. others ☐

35. Do you have any landed property? Yes ☐ No ☐

36. If yes, approximate value of your land and House ☐

37. Which type of vehicles do you own? a. Nil ☐ b. scooter/bike ☐

c. car ☐ d. bus ☐ e. three wheeler ☐ f. others ☐

38. Do You have any other assets like other buildings/gold etc ? Yes ☐ No ☐

39. If yes, approximate value of your other assets ☐

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