

NEW PENSION SYSTEM AND ITS IMPACT ON GOVERNMENT OF KERALA AND ITS EMPLOYEES

M. S. Ansar* and P. Arunachalam**

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. 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.

* Research Scholar.

** Professor, Department of Applied Economics, Cochin University of Science and Technology, Kochi-22.

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.

STATEMENT OF THE PROBLEM

In Kerala, except for the recruits from 01-04-2013, pensions are mandatory and redistributive 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).

Life Expectancy and retirement age of selected Countries and Southern states are shown in the Table 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

Table 1
Life Expectancy and Retirement Age - Southern States and Selected Countries

<i>Countries/States</i>	<i>Life Expectancy in 2013</i>	<i>Retirement Age</i>	<i>Difference</i>
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

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.

OBJECTIVE OF THE STUDY

This paper is based on the objective of studying the Civil Service Pension System in Kerala

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.

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.

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 from 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.

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 2
Primary Data -Sample Size and Proportion to Total Pensioners

<i>Basic Pension Groups</i>	<i>Number</i>	<i>% to Total</i>	<i>Data Collected</i>	<i>% to Total Sample Size</i>
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.

DATA ANALYSIS

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

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.

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 implemented New Pension System (NPS) based on Defined Contribution (DC) system for those who join service wef 01.01.2004. Following the footsteps of Central Government all states except West Bengal and Tripura implemented the scheme. Kerala Government implemented the NPS wef 01/04/2013.

THE NPS

NPS consists of two tiers. The first tier is mandatory with 10% (of basic and DA) contribution by the new recruits with the matching contribution by the Government. 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% 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% of the pension amount. If an employee leave tier I before attaining 60 years the mandatory investment limit is 80% (GOI 2003).

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. 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 Rs. 12,421/- So it is the average basic pay of employees joined during 2013-14 under NPS is taken as Rs. 12,400/-.

- 2) The employees are eligible for annual increment and promotion. So, following Sanyal, Gayithri and Erappa (2011) who assumed 3% annual increase in pay for estimating pension liability of Central Government for the next 100 years, 3% annual increase in pay is assumed.
- 3) Government has been sanctioning DA twice in a year. A 10% 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% 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% 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% 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) Tenth State Pay Commission estimated that the number of retirement in coming years shall be 21,800 per year. This estimation is taken for estimation of pensioners for the coming years. It is also assumed that the present death rate of pensioner shall continue for the coming years

The number of pensioners up to March 2081 is estimated and presented in the Figure 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.

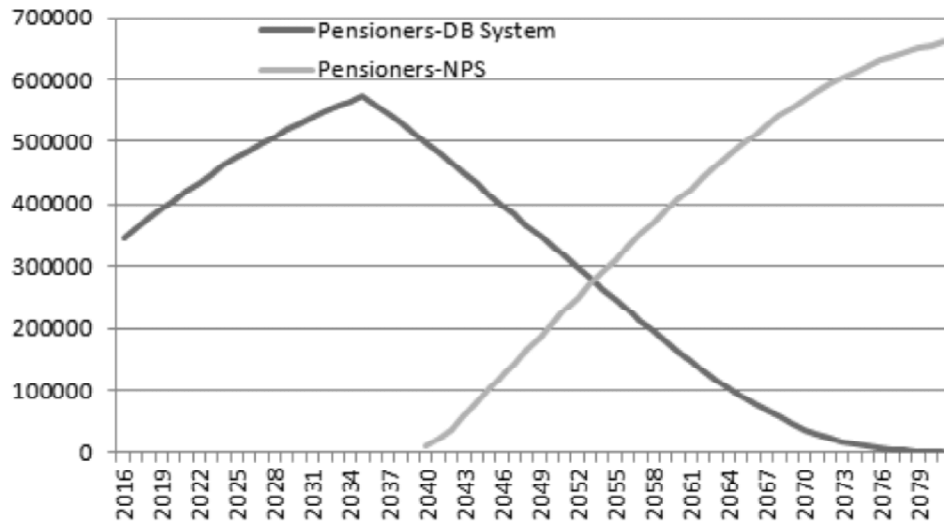


Figure 1. Estimated Number of Pensioners from 2015-16 to 2080-81

Source: Estimated Figures

The expenditure for pension for pensioners under the DB system and NPS up to 2080-81 is estimated and presented in the table- 3. The pension expenditure assuming that NPS is not introduced is also given in the Table 3.

Table 3. Estimated Pension Expenditure With and Without NPS

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

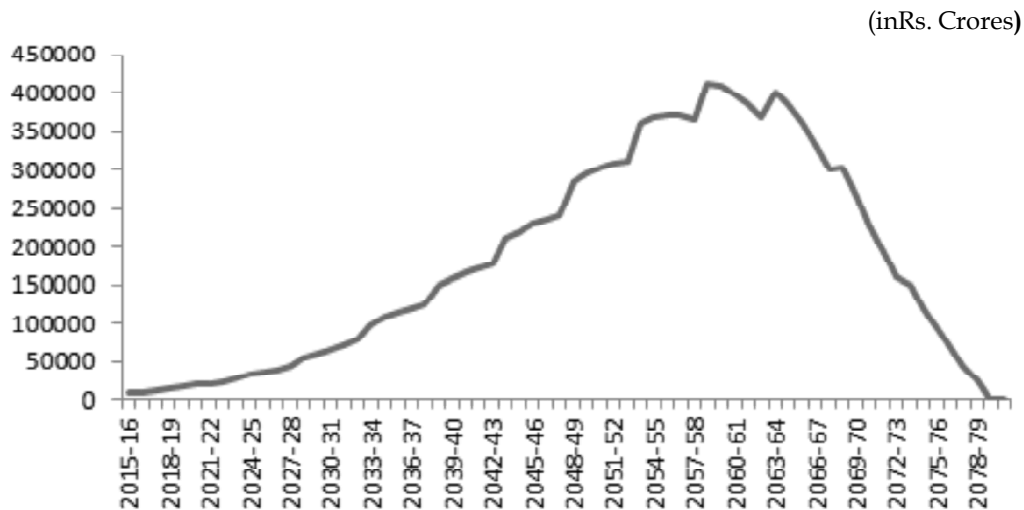


Figure 2: Estimated Pension Expenditure for Pensioners under DB System for the Period from 2015-16 to 2080-81

Source: Estimated values

So even if the number of pensioners, who are under DB system, may decrease after 2036 (See Figure 1) the pension expenditure may increase further till 2058-59 due to DR and pension revisions (See Figure 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 3) is presented in the Figure 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 Rs. 80.23 lakh crore during 2080-81. So NPS is beneficial to Government of Kerala in long run.

GAIN/LOSS TO THE EMPLOYEES

As per the provisions of NPS, employees who retire at the age of 60 have to invest 40% 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,

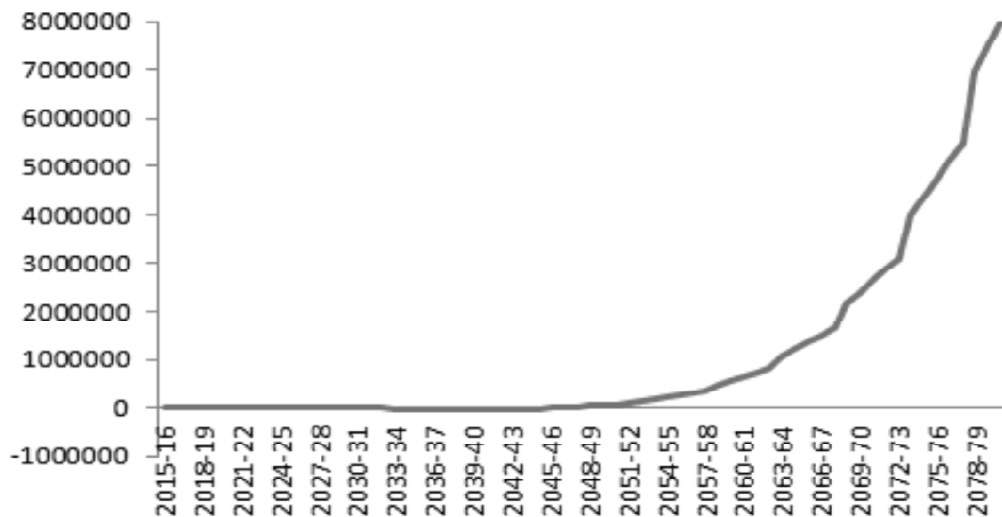


Figure 3. Estimated Gain of Government Due to the Introduction of NPS

Source: Estimated values

Reliance, Shriram Life Insurance, Star Union Dai-Ichi, Tata AIA life group etc. have introduced immediate annuity plans.

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 2.

Table 4
Comparison of Annuity Plan of LIC and SBI for 60 Years Aged Investor per One Lakh

		(Amount in Rs.)	
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.

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% . So CAGR for the thirty year period is assumed as 10%.

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 3

Table 5
Pay Revisions During 1985-2015

<i>Sl. No</i>	<i>Pay Revision</i>	<i>Year of Implementation</i>	<i>Pay Fixation Criteria</i>
1	Fifth	1989	Pay +22% DA +1/3% weightage (minimumRs.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 Rs. 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.

DEARNNESS ALLOWANCE

The DA sanctioned by Government of Kerala during the thirty year period is given in Table 6. Six month delay in the actual date of effect of DA revisions is assumed

Table 6
Dearness Allowance During 1985-2015

<i>Year</i>	<i>January</i>	<i>July</i>	<i>Year</i>	<i>January</i>	<i>July</i>
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.

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.

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% of basic pay and DA. The interest for first year is calculated on the basis of interest calculation for the General Provident Fund i.e; 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:

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

In this analysis CAGR is assumed as 10%. 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.

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 4th, 10th, 12th, 15th, 18th, 21st, 22nd, 24th, 26th, 28th and 30th year. As per the assumption, an Assistant Grade II in Government Secretariat got promotions in the same time interval.

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 8th, 13th, 20th, 25th and 28th years of service.

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.

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 7. 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 7
Value of Pension Assets of Different Categories of Employees with Different Service Period

<i>Period of Service</i>	<i>Gazetted Officer (GAZ)</i>	<i>Non-Gazetted-A (NGA)</i>	<i>Non-Gazetted-B (NGB)</i>	<i>Class IV (C4)</i>
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 8). The results are significant which points towards a difference between the mean values.

To identify which mean is different, Duncan's test is used (See Table - 9). 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 8
ANOVA - Value of Pension Assets of Different Categories of Employees

	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	267390845572.483	3	89130281857.494	94.214	.000
Within Groups	393551406526.400	416	946037034.919		
Total	660942252098.883	419			

Table 9
Duncan Test - Value of Pension Assets of Different Categories of Employees

<i>Category</i>	<i>N</i>	<i>Subset for alpha = 0.05</i>			
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 - 10). The Duncan test (See Table 11 is used to further identify which means are 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 appear only in subset five and hence significantly different from the other groups.

Table 10
ANOVA - Value of Pension Assets of Different Categories of Employees with Different Service Period

	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	290391039135.863	23	12625697353.733	13.493	.000
Within Groups	370551212963.020	396	935735386.270		
Total	660942252098.883	419			

GAIN/LOSS OF PENSION

As per NPS scheme, at the time of normal exit, employees have to invest minimum 40% of the value pension assets in an annuity plan of Insurance Regulatory and

Table 11
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.

Development Authority of India (IRDA) regulated Life Insurance Company. If the employee invests 40% of their pension assets in Jeevan Akshay VI of LIC and opts for 100% of annuity for spouse, the pension from the annuity plan is shown in the Table 12 along with the basic pension under DB pension system.

Table 12
Monthly Pensions of Three Categories of Employees Under DB and NPS

(Amount in Rs.)

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% 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 13. The loss % 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%. 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% of basic pension and with 25 years of service loss 83.72%. They are the highest losers in the 25 and 30 year category.

Table 13
Pension Loss Due to NPS

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 12

Of course employees under NPS get a lump sum at the time of retirement. Of this lump sum 50% is his/her contribution with returns. After investing 40% in annuity scheme the employee get 10% of the value of pension assets. If he invests 10% more in annuity plan he get 25% 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% to 354.54 % of the value of their pension assets as shown in the Table - 14. It is not possible for the employees, especially the lower category employees to invest more than 100% of their pension assets 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% 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% in annuity. But it will reduce their annuity by about 20% and there shall be

Table 14
Minimum % of the Value of Pension Asset to be Invested to Get Present Basic Pension Under DB System

<i>Service Period</i>	<i>Gazetted Officer</i>	<i>Non-Gazetted A</i>	<i>Non-Gazetted B</i>	<i>Class IV</i>
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 12.

no family pension. The 3% 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.

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% 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 15
Family Pension under DB System

<i>Service Period</i>	<i>Family Pension Under DB System (in Rs.)</i>			
	<i>GAZ</i>	<i>NG A</i>	<i>NG B</i>	<i>Class IV</i>
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.

Table 16
Family Pension Loss due to NPS

Service Period	Basic Pension only				Basic Pension With DR of 9% (as on 01.01.2016)				(in %)
	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 - 4 and Tale 15

The loss of family pension due to NPS is given in the Table - 16. Under NPS the family pension without DR of gazetted officer with five years of service may be higher by about 9%. 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).

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.

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 40per cent of the pension wealth to purchase an annuity from an Insurance Regulatory and Development Authority of India (IRDA) regulated Life Insurance Company.

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 7per cent of total pensioners than for pensioners in the lowest pension bracket (₹ 5,000 or less) which constitute about 26per cent of total pensioners.

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 13.5per 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 83.29per cent to 53.07per 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 123per 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.

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 40per 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 67per cent to 89per 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.

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 63per 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 70per 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 22per 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.

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 decent life after retirement.

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