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Demographic Dividend: Is India ready for its economy that will age?

Contemporary Concern Study

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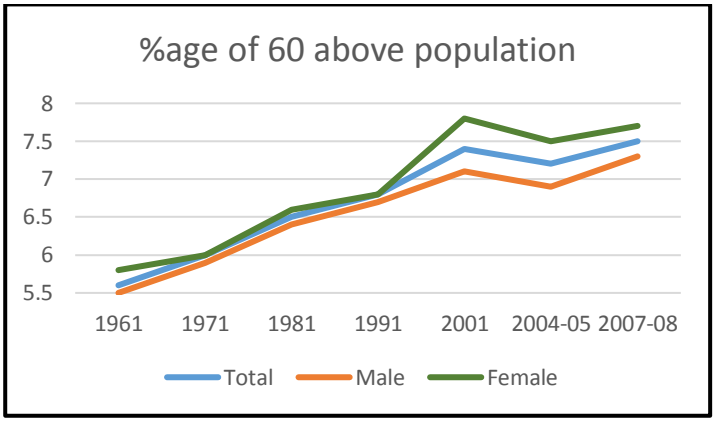
INTRODUCTION

The world population is seeing an inevitable shift in demographic structure from a younger to older age. This phenomenon of ageing, lately, has been associated with the developed countries of the world like Japan and Europe, without recognizing that developing nations are also experiencing a similar ageing trend.

Today, India is basking in its rich share of young and working demographics with most of its population under 25 years[1], opening windows of opportunity for the country to drive the economy. But the population is slowly but steadily ageing. The share of elderly has increased from 5.6% in 1961 to 8.6% in 2011[2]. By 2050, India is projected to be in a similar position as today's developed countries.[3]This changing population dynamics of the country finds its root in the dual problem of increasing life expectancy and falling birth rate and fertility.

Percentage of 60 above population			
Year	Total	Male	Female
1961	5.6	5.5	5.8
1971	6	5.9	6
1981	6.5	6.4	6.6
1991	6.8	6.7	6.8
2001	7.4	7.1	7.8
2004-05	7.2	6.9	7.5
2007-08	7.5	7.3	7.7

* Source: Census India and NSSO



The trend in a demographic shift in India's age is not just characterized by growing number of older people, but also a significant increase in the number of people above 80 years of age. While the population of the country will grow by 55% in the next three decades, population of the 60 above people will increase by 326% and that of 80 plus by 700%[4]. With individuals reaching older ages in huge numbers and demanding varying resources, it is likely to pose new social, medical and economic challenges for the country. The country's budging older cohort implies the need for

Years	Total Population (millions)	60+ (millions)	80+ (millions)
2000	1008	76	6
2050	1572	324	48

Source: World population Ageing: 1950-2050; Department of Economic and Social affairs, Population Division, United Nations. New York.2002

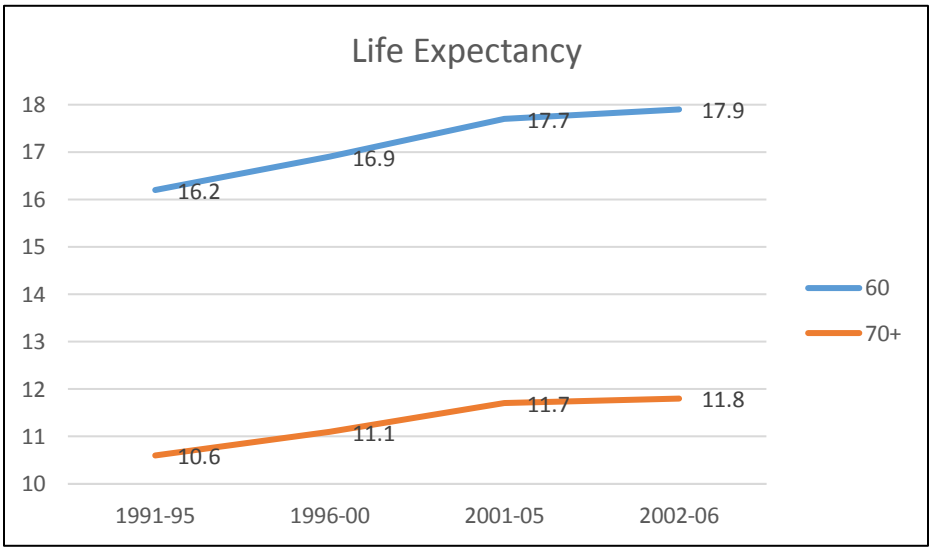
better quality geriatric services, income and social security and better quality of life. It warrants the need for a strong policy and promotion of harmony between demography and associated

[1] Financial Security for India's Elderly, CRISIL 2017
[2] ibid
[3] ibid
[4] National Policy on Senior Citizen, 2011

development for a happy and secure life. In this backdrop, India's low priority for aligning policies with changing demographics is a recipe for disaster. With ample focus on tapping onto the young bracket of the population, there is a clear gap regarding considering the bracket of the elderly population. Also, without a holistic focus on policies, i.e. inclusion of elderly focus, many of the current agendas do not make sense or are simply unachievable.[5]

NEED FOR STUDY

Taking care of the older segment becomes an increasingly difficult subject for the state with the changing social structure. With shifting trend towards nuclear families with fewer children, the ageing population receives less attention and care and thus to fulfil their needs, the country requires more personnel with skilled nursing. Given the changing socio economic conditions and family structure of the country, the elderly are more likely to get exposed to an emotional, physical, mental and financial vulnerability shortly. With access to better healthcare services, globalization and technology, life expectancy is globally high. India too witnesses a similar trend (refer to graph below), which implies more number of senior citizens with increased life, and hence an overall increased demand for elderly support.



Source: Situation Analysis of Elderly in India, 2011 – MOSPI, GOI

The old age dependency ratio, which gives an idea about the proportion of people who need support from the working population (age 15-59), has constantly been increasing for India. From 122 in 1991, 131 in 2001 to 142 in 2011[6], shows an upward trend in the burden of supporting the older population, and thus demands a comprehensive, forward-thinking approach towards policy making catering to the current and future needs of all the segments of the population.

[5] World Report on Health and Ageing, WHO 2015
[6] www.censusindia.gov.in/2011.../Census_2011_Age_data-final-12-09-2013.ppt

Also, the investment made toward the ageing population stretches beyond altruism by enabling the enrichment of the workforce, stimulating consumption, participation, innovation, and social and cultural contribution.

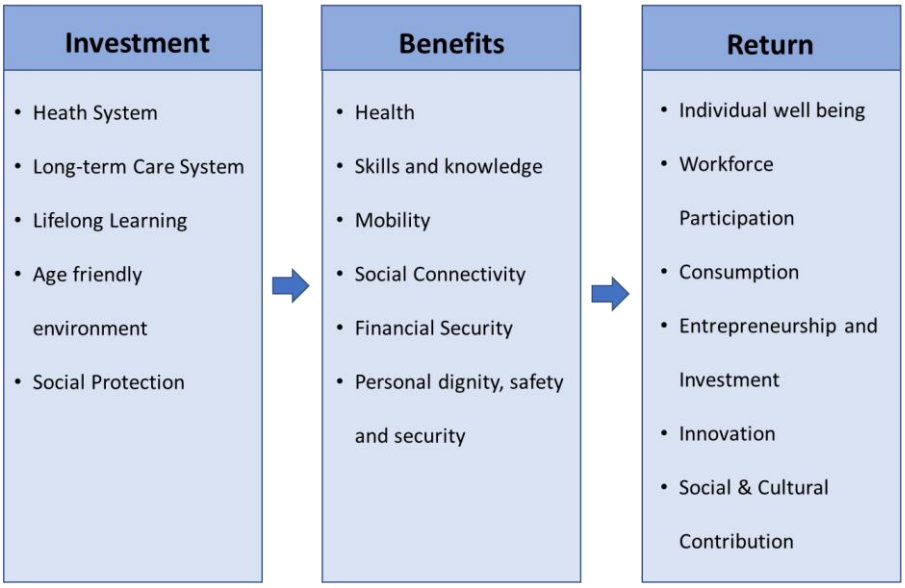


Figure 1: Investment in and return on investment in ageing population[7]

CURRENT SITUATION ANALYSIS

Increasing older population has profound social and economic implications on the country. Apart from straining the health care system, longer life also increases the government pension bill and reduces tax base, adding on to the fiscal problems. Along with the issue of shrinking resources and increasing expenditure for the government, the transition to an old aged demography is not similar across various states in India. This makes it of paramount importance to break the problem to the state level and identify existing gaps if any. For instance, states in Southern India are leading in terms of increasing old age population while north central states of Jharkhand, Madhya Pradesh, etc. have lower proportions of ageing population. [8] Figure 1 shows the density map of India based on the proportion of elderly in that state.

[7] World Economic Forum's Global Agenda on Ageing, 2013

[8] India stats – census data

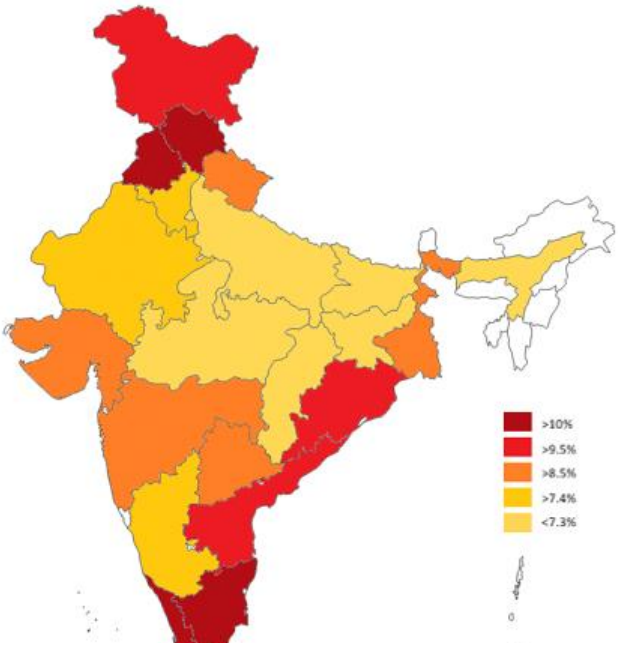


Figure 2 Density map based on proportion of 60+ population

Another characteristic of Indian aging profile is the increasing number of older women. Compounded by loss of spouse and complete neglect adds to their vulnerability. In India, around 40.1%[9] of the women aged 60 and above are either widows, divorced or separated from their husbands. Data also shows that around 75% are housed in rural India.[10] Inaccessibility to good health care and financial security are more critical to this cohort of the population than the urban counterparts.

This study, hence, aims to unravel the challenges that this looming old age crisis throws at us, check for preparedness of the country to mitigate negative consequences and look at practical ways to deal with them.

METHODOLOGY OF STUDY

To observe the gaps in the policies (hence, the preparedness), we use the elements of Sustainable Development Goals' framework used by UN, which has four key elements – Health, Income Security, Capability and Enabling environment.

We undertake a multi-sectoral approach to evaluate the preparedness of the nation in the above four elements. The sectors under focus are – Health, Education, Pension and Housing. We begin by understanding the current situation of all the states under these sectors to identify their performance

[9] NSSO survey report
[10] ibid

under various metrics. This will lead to developing a broad analysis of the gaps present in their policy framework, following with case studies of international practices and recommendations.

SECTORAL ANALYSIS

I. HEALTH

Old age brings along unforeseeable unfavourable health situations that demand special care and attention. Loss of ability is which is mostly associated with age, undermines the significance of life course effort. The diversity in ability, capability and health in old age is not just dependent upon a random event, but the heath events that occur throughout the lifetime.

The justifications to create a robust health policy environment catered to the elderly go beyond altruism.

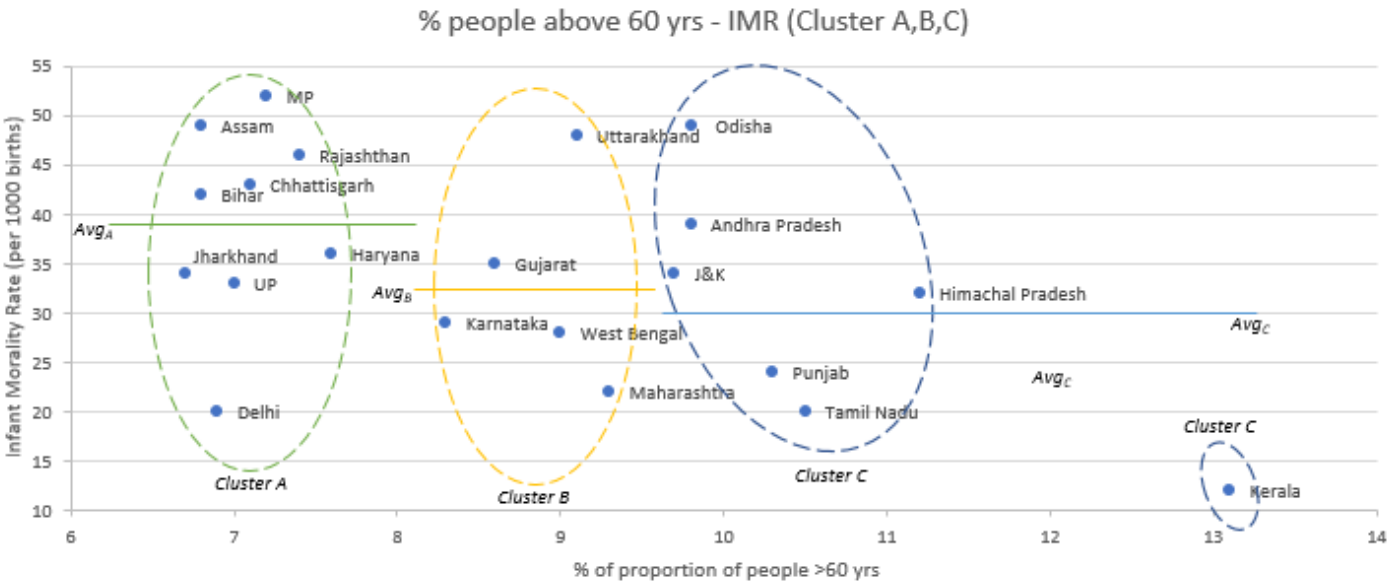
Firstly, international law dictates that older people need the highest attainable standards of living. [11]Such human rights based reasoning deals with policies revolving around ensuring healthy life by promoting determining factors such as nutrition, housing, sanitation, healthy working environment etc.

Second, to promote sustainable development.[12] The inclusion of elderly focus contributions in creating an equitable environment and enhances their contribution to the development in the form of food production and raising a future generation.

Thirdly, the economics of the economy adaptive to the transitioning demographics will minimize investment on elderly and maximize their contribution (direct, such as tax, consumption, cash and property transfers to younger generations and indirect, such as soft benefits to families and society).[13]

The elderly segment of 60+ age group cannot be considered as a homogeneous group of older persons since the gamut of problems and priority complexities are varied. For example, the middle-aged olds (60-79 years) may be more anxious about continuing their economic certainty, maintaining health and independence while the oldest olds (>80 years) are often more frail and weak, making them more susceptible to critical health issues, crime, dependency etc. Due to the diversity of needs present in this segment, policies can't be wholly central-driven. Policies should have a ground-level understanding of its demographic portfolio within its state to enable it to identify the distinct needs in its geography, focus areas and gaps in its current policy environment, and implementation deficiencies and hence, modify the policies to suit the same.

[11] WHO report on World health and ageing
[12] ibid
[13] ibid



For a basic understanding of these targeted policies, and the gaps in place, we divide the states of India into 3 clusters based on the proportion of elderly (>60 years) out of its total population – Cluster A (<8%), Cluster B (8- 9.5%) and Cluster C (>9.5%). We make two stretched assumptions here. One that the ordering of the clusters, and hence, the states, with respect to the proportion of elderly will remain constant over the years. And second, that this ordering can be extended to the proportion of 80+ in these states. Hence, we can loosely conclude that Cluster C will be expected to focus on a policy framework with a higher emphasis on enhancing the quality of life of the oldest olds while, on the other hand, Cluster A on middle aged olds.

To eventually identify the preparedness of each state to handle the demographic transition, we look into their current readiness and intent towards the elderly – again, the area of primary focus of the policies will depend on its cluster.

We begin by identifying the overall health status of each state. Infant Mortality Rate is a fair proxy indicator. We arrange the states of each cluster based on its IMR and categorize them into two – performing better than average and performing worse than the average IMR of its cluster.

Then, we develop a framework for targeted health policies and identify the major metrics heads under the same and collect state wise data. Data analysis will broadly reveal the direction the plans for elderly is directed in each state.

The major challenges for policy development occur due to the presence of diversity in old age, as explained above, the impact of inequality and outdates stereotypes prevalent about the elderly segment.

WHO defines healthy ageing as *a process of developing and maintaining the functional ability that enables well-being in older age.*[14] Functional ability is dependent on intrinsic capacity (physical and mental capabilities) and environments (extrinsic factors at macro and micro levels).

With increasing age, change in physical and psychological state of an individual, reports of diseases and problems associated with heart, breathing, bone joints, cancer, cholesterol, blood pressure, diabetes, vision, etc. increase too[15]. According to Causes of Death Statistics by Census India, cardiovascular and respiratory problems are the most common factors of death in the country.

INDIA

Rank	Cause of Death	No of Deaths (%)		
		Male %	Female %	Person %
1	Cardiovascular diseases	23.9	20.0	22.2
2	Ill-defined/ All other symptoms,signs and abnormal clinical and laboratory findings	8.6	13.3	10.6
3	Respiratory diseases	8.1	7.6	7.9
4	Perinatal conditions	6.1	6.2	6.1
5	Malignant and other Neoplasms	5.8	6.5	6.1
6	Diarrhoeal diseases	4.6	6.8	5.5
7	Digestive diseases	6.1	3.7	5.1
8	Unintentional injuries: Other Than Motor Vehicle Accidents	4.8	4.8	4.8
9	Respiratory infections	3.9	4.8	4.3
10	Tuberculosis	4.8	3.0	4.0
	All Other Remaining Causes	23.4	23.4	23.4
	Total	100.0	100.0	100.0

Figure 3 Estimates of Death in elderly due to chronic diseases
Source: Causes of Death statistics 2007-2012, Census India

Type of Disability	Rural	Urban
Mental retardness	11	7
Mental Illness	180	167
Blindness	1733	1087
Low vision	747	459
Hearing	1551	1385
Speech	190	223
Hearing and speech	132	137
Locomotor	2796	2888
Atleast one disability	6401	5511

Figure 4 Disability among 60+
Source: NSSO survey on Disability, 2002

Growing urbanization and migration for employment, have disintegrated the traditional joint family system in India, also withdrawing special status and attention from the elderly. Increasing elderly population and

[14] WHO report on World health and ageing
[15] ibid

decreasing family size have rendered the old unprotected without traditional caretakers. Abandonment coupled with poverty adds to their problem, making the external social security of foremost importance. Data below suggests the severity of the issue in rural areas for the disabled elderly.

Living arrangement of the disabled 60+		
Living arrangement	**Rural***	**Urban***
Alone	71	50
Spouse Only	114	97
Spouse plus other members	347	388
With spouse, without children	375	153
*Per 1000 of population		

Figure 5 Living arrangement of the disabled 60+
Source: NSSO survey on Disability, 2002

Major Health Metrics & State-Wise Analysis

1. Government Spend and Hospitals

Table 1 has the consolidated state-wise data on government hospitals and centres per million population, health centre density (hospitals per 10 sq. km) and government spend as a percentage of its revenue budget.
The trend of government spending across clusters is similar. While Cluster A (the youngest) has the highest hospitals and centres. Hence, there is an overall gap in the supply of government medical infrastructure in Cluster B and C despite their higher proportion of the elderly population.

In Cluster A, Bihar, Haryana and Delhi have very low government hospitals per million population. But despite Delhi scoring extremely poorly in government health centres per million population as well. (Although various hospitals have Sunday Clinics along with special counters every day, to provide medical care services to elderly easily[16]) it has the highest spend as a percentage of its revenue budget. Uttar Pradesh has very high government health centres per population which seem to be an outlier. Removing the data of UP, the average comes out to be 150. All the states with better IMR are underperforming (both government hospitals and centres) which seems counterintuitive. Madhya Pradesh has low health centre density, while Uttar Pradesh is yet scoring the highest. Overall, we can see that Bihar is underperforming and Uttar Pradesh is fairly very well. Rajasthan provides free medical services to elderly in all government hospitals.

Table 1: Government spend and infrastructure

State	Total govt hospital	Govt Hosp per million population	Govt spent (% of revenue)	Govt health centre per mn popn (2016)	Health centre density (hospitals per 10 sq km)
Jharkhand	549	16.64	3.8	135.44	0.6294
Bihar	671	6.45	3.2	112.19	1.3116
Assam	1020	32.69	4.6	185.42	0.8677

[16] Senior Citizen Guide, Help Age India

Delhi	109	6.49	8.7	1.85	0.9440
Uttar Pradesh	861	85.36	4.6	2457.89	4.7963
Chhattisgarh	2023	79.19	3.9	240.01	0.6031
Madhya Pradesh	1539	21.19	3.8	147.29	0.3969
Rajasthan	2512	36.65	5	248.86	0.5719
Haryana	154	6.07	3.6	124.65	0.7496
Average	**1048.666667**	**32.3038**	**4.5778**	**405.9541**	**1.2078**
Karnataka	765	12.52	4.1	194.63	0.6599
Gujarat	1553	25.70	4.9	172.68	0.6110
West Bengal	1566	17.16	4.5	127.38	1.4865
Uttarakhand	695	3.48	4.9	10.83	0.1186
Maharashtra	1173	10.44	3.9	113.47	0.4525
Average	**1150.4**	**13.8580**	**4.4600**	**123.7983**	**0.6657**
Jammu and Kashmir	1969		5.4	281.15	0.2473
Andhra Pradesh	460	5.72	4.3	111.05	0.5859
Odisha	1750	41.69	3.5	199.41	0.6499
Punjab	243	8.76	4.1	127.17	0.7488
Tamil Nadu	1995	27.65	4.5	145.05	0.9580
Himachal Pradesh	151	22.00	5.1	388.66	0.5063
Kerala	1255	37.57	5.2	168.35	1.7706
Average	**1117.571429**	**23.8984**	**4.5857**	**202.9771**	**0.7810**

Note 1: Green- Cluster A; Yellow- Cluster B; Blue: Cluster C; Note 2: Darker shade- better than average, Lighter – worse than average

A similar analysis for Cluster 2 shows that Uttarakhand is performing very badly with as low as 3.5 government hospitals and 11 government centres per million, and the least hospital density in its cluster. Gujarat, albeit its below average IMR, is performing among the best with high government spending and high proportions of hospitals and centres. In Cluster 3, we find Kerala, Himachal Pradesh and Tamil Nadu doing well, while Andhra Pradesh isamong the least performing.

2. Personal Health Care Spending

The ageing population has serious implications on the spending made on medical care. According to research done by NCBI, people spend around 48%[17] of their lifetime medical bills after they attain the age

Age group	2002	2004	2006	2008	2010	2012
Total						
65-84	27.4%	26.8%	26.1%	26.3%	26.1%	26.5%
85+	7.5%	7.5%	7.6%	7.9%	8.0%	8.0%
Men						
65-84	11.9%	11.8%	11.5%	11.7%	11.8%	12.0%
85+	2.0%	2.0%	2.1%	2.3%	2.4%	2.5%
Women						
65-84	15.5%	15.0%	14.6%	14.5%	14.3%	14.5%
85+	5.5%	5.4%	5.5%	5.6%	5.6%	5.5%

[17] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1361028/

of 60, reiterating the need for financial security for the aging cohort of the population. Owing to the high cost of secondary and tertiary medical care for the senior citizens, reports suggest that around 34% of the total medical expenditure in the country is undertaken by only 9% of the population. The elderly, having a little backing of medical insurance due to its low penetration in the country, become more vulnerable to high expenditure on health and deteriorating financial conditions. To worsen the problem, inefficiency of the country's public healthcare infrastructure exposes the old to the expensive private healthcare[18].

Table 2: Total personal health care spending by gender and age group
Source: Centres for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group

Insurance, which is a requisite of any secure heath care financing system, is upsettingly low. According to data in the table below, only 17% of the population have their lives covered under public and private health insurance policies. Much below the average world penetration of 6.3%, insurance penetration in India is at a meagre number of 3.9% in FY 2014[19]. IRDA also reports of several other reasons which prohibit deeper access to insurance by elderly, which include lack of transparency, denial in claim, etc. [20] As a huge section of the population greys, a safety net in form of preventive insurance is essential for all regardless of the socio-economic status of the individual.

Number of Lives Covered under Health Insurance Policies in India (2013-2013 to 2014-2015)			
			(Rs. in Crore)
Financial Years	Public Sector Insurance Companies	Private Sector Insurance Companies	Total
2012-13	12.85	7.88	20.73
2013-14	14.53	7.09	21.62
2014-15 (P)	21.14	7.66	28.80

Table: Number of Indian lives covered under public and private insurance companies
Source: India stat

II. PENSION

The advantages of the present demographic dividend that India currently enjoys will fade away, and the demography will transit from a young to an old population. Given this change, the need for having a well-developed pension system in the economy is pressing and urgent. The crisis is aggravated with crumbling traditional joint family support system and inadequacy of government sponsored mechanisms.

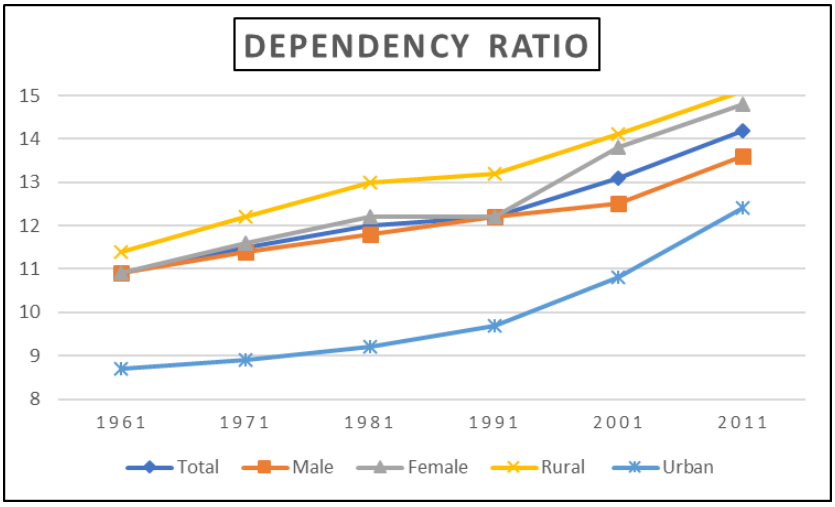
The pension is the cushion which is meant to provide economic support to the elderly as their source of income and savings exhaust with age. A centre and state matter, pension has a huge bearing on

[18] http://www.indiatimes.com/health/buzz/healthcare-what-are-the-biggest-problems-for-indian-healthcare-system-240169.html
[19] http://www.business-standard.com/article/finance/insurance-penetration-at-a-near-10-year-low-115062401243_1.html
[20] http://www.irdaonline.org/irdacontent/journals/helth_ins_report07_secitizen.pdf

government's fiscal budget. Structured savings mechanism, knowledge about pension products and contribution from the state is essential to building a robust and sustainable social security ecosystem in the country. The present formal pension system of the country, unfortunately, covers only the formally employed in private and public sector workplaces but fails to encompass the informally employed which form a huge part of the country's labour force. This section of the report aims to analyze the current status of pension and financial security system in the country and identify gaps in the country's preparedness.

Given the diversity in demographic profiles, employment sector, income levels, etc across various states in the country, it becomes vital to understand unique demands and programme designs required. In the following analysis, dependency ratio and per capita income levels of each state have been compared to know focus areas.

Dependency ratio – The dependency ratio is a ratio of those not in the working labour force to the ones in the active population. Age 0 to 14 and 65 above are generally taken to be the non-working section of the society, while population between the age of 15 and 64 are assumed to be the working section. The ratio provides an estimate of the pressure the non-productive class of the population has on the productive ones. The graph below shows the movement in the old age dependency ratio for the past few decades. While the ratio hovers around 8 to 10 percent for the urban population, 12 to 14 percent of dependency ratio in rural areas is a matter of concern. The female dependency ratio also shows an upward trend in the recent decade, indicating the need for focused social security schemes for them. A high dependency ratio would imply high burden on the country's youth to support the elderly.



Source: Office of Registrar General of India

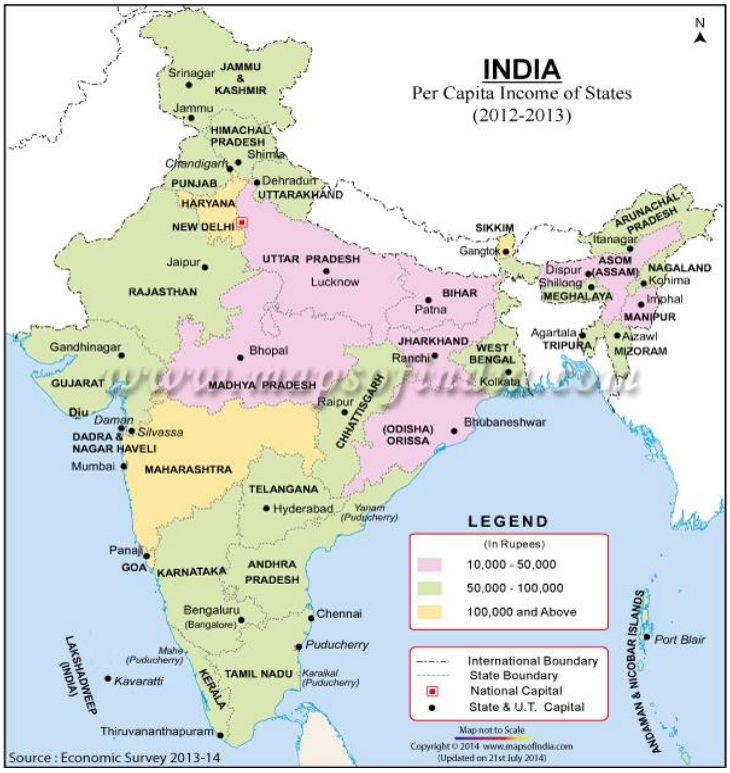
A breakdown of this ratio into state wise analysis is in the following table. Data reveals that states with the highest population of old people, like Kerala, Goa and Tamil Nadu, are also the ones with the highest old age dependency ratio in the country. This means that these states have a large set of old people, who depend on others for their livelihood and the younger population of these states, lesser in number, are burdened with the responsibility of caring and providing for the elderly. States from the north-eastern part of the country have a low absolute number of old people and also have low dependency ratio.

State	Dependency Ratio	State	Dependency Ratio
Kerela	196	Dadra & Nagar Haveli	63
Goa	168	Daman & Diu	64
Himachal Pradesh	161	Arunachal Pradesh	77
Punjab	161	Meghalaya	84
Tamil Nadu	158	Nagaland	86

Table: Old age dependency ratio in India, statewide (2011 -2012)
Source: Census of India 2011

Mapping to the per capita income levels of each state, this section of the report extends the state wise analysis of older population proportion to understand general affordability, financial status and standard of living. States with low per capita income, high old age population and dependency ratio can be inferred to be in an awful situation than the states with better income levels or dependency ratios.

States of Punjab, Haryana, Kerala, Tamil Nadu and Andhra Pradesh, which are characterized by a dense population of older people, are the states with high dependency ratio and average per capita income. Orissa, which also has a high old population, is at a disadvantageous position with its low per capita income. States of Gujarat and Maharashtra, having high industrial and commercial activities, have highest levels of income in the country, but have a lower population of elderly people. Relatively underdeveloped states of Uttar Pradesh, Bihar, Madhya Pradesh and Jharkhand, have a lower density of older population, but also fall under the lower income group states, will face troubles managing fiscal burden when their population transit from younger to older age.



World Bank Five Pillar Framework

World Bank has been actively involved in studying the need and weakness of formal stream of pension income and hence suggests amendment in pension policies. Although the complex topic of pension system cannot be fitted into a model, nor an analysis can be applied in all situations, the World Bank has developed a framework as a guiding tool. The principles proposed by World Bank can be adopted for better address the financial needs the old.

Existing pension mechanisms, environmental factors, demographics, regulation, affordability, family support, etc. are various factors set out forming a part of the initial conditions that have a bearing on the reforms in pension infrastructure proposed.

A non-contributory "Zero Pillar" – This pillar focuses on the minimal level of financial assistance for all elderly, financed by state or central government in form of social pension. This arrangement enables the government to address the issue of poverty alleviation, however would be limited by fiscal and budget constraints.

In India, National Social Assistance Programme (NSAP) of the Ministry of Rural Development is a form of Zero Pillar. The Programme encompasses schemes like Indira Gandhi National Old Age Pension Scheme (IGNOAPS), Indira Gandhi National Widow Pension Scheme (IGNWPS). Under IGNOAPS, center provides Rs.200 per month per BPL beneficiary of age 60 and above and Rs.500 per month for BPL citizens aged 80 and above and IGNWPS provides BPL widows aged 40-59 with a monthly pension of Rs.200. By the end of 2015, IGNOAPS was able to cover two crores of the Indian BPL population, with a meagre amount of 200 per month, which does not seem sufficient.

A mandatory "First Pillar" – Given the constraints of low or unstable income, lack of financial planning, risks of financial markets, the uncertainty of life, etc., individuals tend to be unaware or neglect future financial security. This pillar addresses the problem by focusing on replacing some portion of individual's lifetime pre-retirement income. This model is paid as you go and is tax funded.

This pillar which guaranteed defined benefits to citizens and was entirely state funded was done away with by the Indian Government in 2004 because of huge fiscal burden, volatility in financial markets, difficulty in prediction of costs, etc. The scheme has now been replaced with the DC model under the regulation of PFRDA.

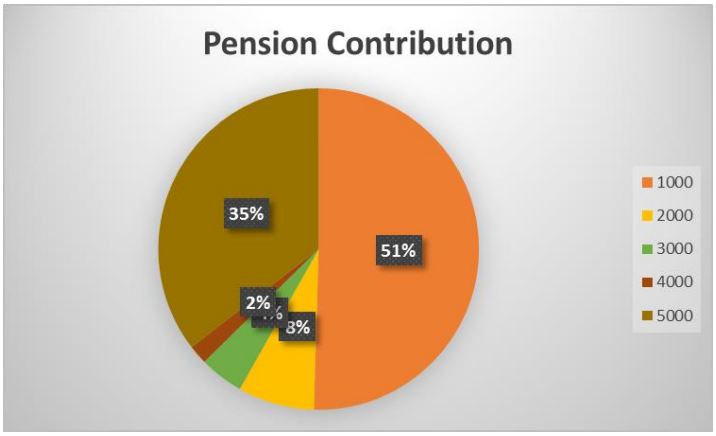
A mandatory "Second Pillar" – This pillar aims at social security for the organized sector of an economy in form of Defined Contribution pension from the subscriber of the scheme. It provides individual savings accounts with options including active or passive investment management, choice of investment managers, etc.

This pillar, as reported by the CRISIL PFRDA report, in India suffers from the problem of better asset allocation. India introduced the EPF where employee and employer contributed equal amounts towards employee benefit. However, these financial assets are being majorly invested in debt unlike the other countries, where the assets are invested in long term assets like equities. Despite the large demography of

young people who should have long term investment view, these assets are being invested in short term debt and not in wealth creation. Equity investments have been known to provide stable positive returns over an extended period. This high return can help them in the retirement years.

A voluntary "Third Pillar" – Discretionary and flexible in nature, the third pillar provides for voluntary forms of pension like individual savings, employer contribution, etc. This form of pension, however, is subjected to risks of private asset management, high transaction cost, etc.

This kind of pension is available in India in form of National Pension Scheme, Mutual funds and insurance companies' plans, and Public Provident Fund. Penetration of such form of pension is a challenge in India given the vast size of the unorganized labour market in India, which stood at 82.2[21] percent of the total labour force in 2011-12. The Atal Pension Yojna aims to target the unorganized labour masses giving them pension ranging from Rs. 1000 to Rs. 5000 per month depending upon their contribution. It is due to lack of awareness and affordability of contribution that the scheme has been unable to penetrate into the country. The scheme has been able to cover only 2%[22] of the population between the age of 18 and 40 and has a huge potential for the untapped segment.



Source: PFRDA Huge Untapped Potential for APY

A non-financial "Fourth Pillar" – Access to social or informal security like family and friend groups, social programmes of health and housing, holding of financial or non-financial assets like land, house, etc fall under this category of old age security. This pillar however seems to weaken owing to the disintegration of family system and urbanization.

Family structure has always been firm in India, one of the reasons for low penetration of formal support system. However, this collapsing institution is a matter of worry now. Report by UNFPA suggests that around 70% of the elderly work out of economic reasons and not out of choice and majority of them stated health issues to be the reason for them not working. The report also reveals that more than 40 percent of the elderly receive no income. The demographic transition is also characterized by changes in the social and economic structure, where the position of many old people has become vulnerable.

[21] http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro new_delhi/documents/publication/wcms_496510.pdf
[22] http://www.pfrda.org.in/WriteReadData/Links/Press%20Release3420175173d6af-34fe-4326-9b27-d2500c87d1b8.pdf

III. URBAN DEVELOPMENT & HOUSING

In India, the culture of joint family and living together is still highly prevalent, albeit on the background of the slow changing trend. Hence, a shelter for the family still means a shelter for the old. But at dire times, helpless elderly are left to take respite underneath old-age homes. The growing trend towards urbanization, and move towards a nuclear-family structure, emphasizes the need to strengthen both housing sector along with old care care homes. According to Jones Lang LaSalle India, 2011, Indian markets cater to a mere 2% demand for retirement homes. It has only 4000-5000 units in a market that with a demand for 300,000 units.[23] Apart from the issue of quantum, the effectiveness of retirement homes and other models of care need to be examined. The concept is primarily driven by the key stakeholder, real-estate developers, whose skills in the integration of living and age-specific care needs is debatable.[24]

Key Challenges in Housing for Elderly[25]

1. Social Stigma

Social stigma towards the concept of old-age community care acts as the biggest barrier. Growing projects under this umbrella are helping in introducing the concept to a wider audience, but a lot more needs to be done. The focus shift from real estate to service delivery and the entry of credible professionals to take the lead in lifestyle housing development projects will help cater to the prevalent social stigma.

2. Affordability

Diminishing finances post-retirement has made affordability as a major challenge in the lifestyle housing for elderly. In the study by Jones LaSalle, operating expenses at a senior living facility range around INR 15000-25000/month for a standard lifestyle and INR 35000-45000/month for luxury benefits such as food, security, engagement activities, common transport etc.

3. Manpower

Skilled human resources in areas of geriatric sciences, paramedical staff, care takers etc. The lack of such resources, housing solution providers resort to the hospitality sector, but there is a need to improve the supply of geriatric-care oriented skilled manpower.

4. Legal Framework

The country hasn't seen and progressive or innovative measures taken up under this topic. The wheel has been sped up to generate innovation financial solutions to motivate real estate developers and tend to the supply-demand gap.

[23] http://www.downtoearth.org.in/coverage/elderly-lonely-44173
[24] Ibid
[25] Senior Living Sector in India, Jones Lang LaSalle, 2011

Age-specific Senior Care Facilities[26]

50-70 years	Independent Housing	Active adult, no serious health issues, can take care of themselves	Independent lifestyle, common facilities such as recreational, eateries, travel, business etc., necessities such as housekeeping, security etc.
65-75 years	Assisted Housing Systems	Active Adult, but in need of some support	Continuous availability of staff for day-to-day support, home-like environment
>70 years	Nursing Care	need continuous medical care in a home-like environment	24-hour health care facility, short-stay oriented, more like home than hospital
>50 years	Continuous Care Housing solutions	Assistance and care throughout the ageing process	"age in place" concept, designed to addressed all the changing needs as you age

Supply of Senior Housing

India is witnessing growing senior housing facilities, especially in the suburban regions of metros and traditionally renowned retirement-zones of India such as Dehradun, Coimbatore and Goa. There major players in this sector are private entities, charitable organizations, and certain governmental institutions. Majority of these projects are in the form of residential complexes with 50-100 units, typically of 500sq – 2500sq area. Most of these are affordable – within the INR 33, 00, 000. Figure 7 visually shows the major projects existing and proposed across India. There seems to be a higher prevalence in the southern regions of the country and scattered distribution.

IV. EDUCATION

The degeneration associated with old age cannot just be attributed to worsening health, but also declining socioeconomic status. Education being a critical element in determining the socioeconomic status of an individual, directly and indirectly impacts the physical, social and psychological state of a human. A basic human right, education has linkages with multiple other factors which determine the quality of life a person lives.

With the transforming shape of the demography the country is going to face in a few decades, it is highly important to understand what role education has to/can play in improving the living conditions for the vulnerable elderly section of the society. Education provides a shelter for life by empowering individual by increasing access to paid employment, better health, stable relationships and stronger psychological sense. From impacting our choice of partner to a position in a formal organization, education is a key driving force.

Education can be seen to have a close relation with health. The huge disparities in health can be attributed to the heterogeneity in education levels. It is hence important for us to look at how the level of education

[26] Ibid

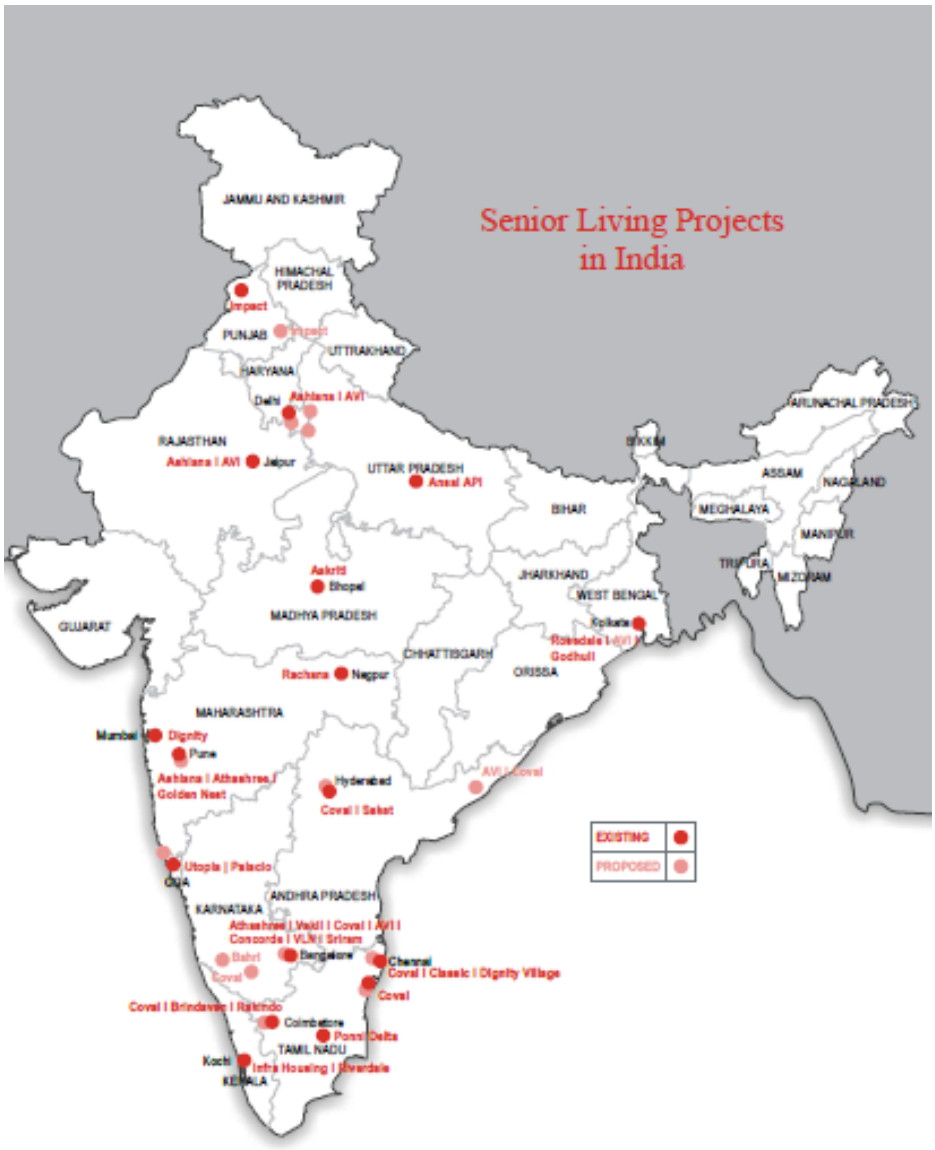


Figure 6: Senior Living Projects in India
Source: Senior Living Sector in India, Jones Lang LaSalle, 2011

can impact lives of the greying population and through this section, we intend to explore the education based disparity on the elderly.

Education does not have an impact on health in isolation, but in interaction with other determinants such as income. According to OECD research, years of schooling has a bearing on the health of a person. By encouraging better lifestyle, positive choices, fostering relationships, it reduces the cost of dependence in old age and hence human suffering. Research[27] also supports that better-educated people are less likely to suffer from mental illness or adopt unhealthy practices such as indiscriminate alcohol consumption and

[27] https://www.publichealth.ie/files/file/Health%20Impacts%20of%20Education.pdf

smoking. Education also impacts the heath knowledge of individuals which lets them have a better health conscience and better health management and prevention.

High educational levels can be positively associated with better employment opportunities. Better employment transforms into stable and higher financial income which provides financial safety and security in old age. Given high cost of geriatrics, lack of financial resources at disposal can be extremely perilous for the old. Educated individuals not only have sturdy earnings and higher savings, but are also able to better plan their finances by rational savings and investments. This lot is also better aware of the social security policies, schemes, etc. which help them take advantage of the available resources, compare, evaluate and make the best choice.

Psychological benefit – Loneliness, isolation and depression are common risks associated with old age in recent times. Losing connections[28], family and friends is an indispensable part of ageing and is a cause for concern as it impacts the capacity to live happy and satisfied. Education not only has a role to play in the development of our cognitive and academic proficiency to understand science and numbers, but also helps in the development of character, abilities, critical thinking, comprehension, etc. Personal traits or soft skills are a product of education. By reinforcing habits, values and skills that facilitate socializing, community participation, understanding of opportunities and respecting diversity, education plays a crucial role.

Educational Institutions 2014-15	
Type	Number
Schools (Primary and secondary)	1516865
Colleges and Universities	38498
Standalone Institutions	12276
*Source: Ministry of Human Resource Development - Educational Statistics at a glance	

To understand the state of education and learning infrastructure in India, an in-depth study of state wise public spending on education and capability building, number of higher education institutes per lakh population, unemployment and dropout rate at secondary education. The chosen metric is used as a proxy to evaluate the lifelong learning that an individual is able to get throughout his life along with the support from government authorities. Public spending on creation of educational infrastructure reveals government's commitment to improving accessibility, promotion and equity in education for all, to develop a better literate state which is more self-reliable. Data on a number of higher educational institutes per lakh of population disclose accessibility of secondary and tertiary education facilities by the masses, which is often required for better learning and formal employment. Low unemployment rates exhibit financial independence which can be attributed to better education. Dropout rate from school unveils the gap between primary and secondary education, which should be minimized to ensure high average levels of learning and therefore better health, economic and psychological status of any being.

Using data for each state on each of the above four metric from available public sources, we have tried to map each of them to understand their relative standing on each of these parameters against each other.

[28] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3016701/

States which have repeatedly performed well in different metrics are concluded to be better prepared than the states who have repeatedly performed badly in these metrics. Theoretically, higher public spends on the building of educational infrastructure should lead to higher number of institutes per lakh population, which in turn should lead to low unemployment and dropout rates in a particular state. Similarly, low public spend in development of education should be characterized by a lesser number of educational institutes for population.

Figure 6 is a visual map which shows the position of each state with respect the important metrics in education and employment – government spend on education and training, institutions available per lakh population, unemployment rate and drop-out rate at the secondary level.

In each quadrant, the farther diagonally away a state is from the origin, the more ideal and favourable its situation is. The closer it is, the worse is its performance relative to other states.

In the map, the states which are constantly present are the better performing segment are marked green while the red ones have frequently been identified at the worse-performing segments.

We can see that states such as Karnataka, Himachal Pradesh, Maharashtra, Haryana and Tamil Nadu have consistently fared well in these selected education metrics while Manipur, Jammu Kashmir, Sikkim, Meghalaya and Arunachal Pradesh was performed worse in all those.

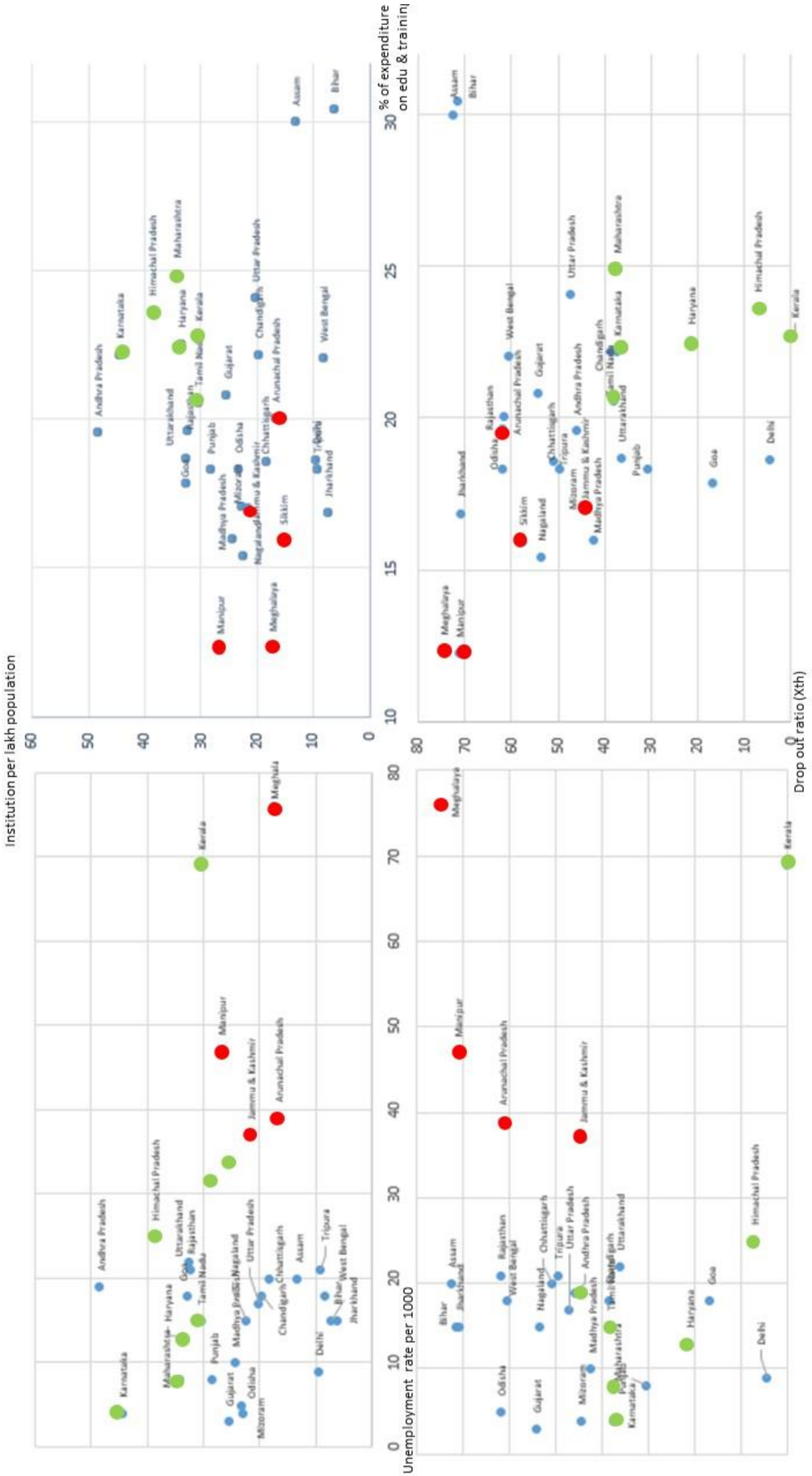


Figure 7 Mapping of states on educational and employment metrics

POLICY ANALYSIS

We begin by laying out the policies in place under the framework of 4 key elements – Health, Income Security, Capability and Health Systems.

The following table sub categories the key elements, briefly explains the area of operations of the initiatives under it and its umbrella policy or ministry in-charge.

Enabling Environment:

Sub Category	Field of Initiative	Policy/ Ministry In-charge
Care Systems	Old age homes (in each district to accommodate a minimum of 150 elderly), respite care homes, continuous care homes, day care centers	IPOP
Representativeness in policy making	Represent the collective opinion of the older people and suggest steps for a productive living and improving quality of intergenerational relationships	
Training centres	creation of 8 Regional Resource and Training Centres to provide dedicated tertiary medical services	
Telecommunications	Priority in availing services	Ministry of Telecommunications
Railways	Concessions in ticket fare, separate counters at billing centres, wheelchair facilities, ramp and specialized toilets,	Ministry of Railways
Support	Helplines, counselling centres,	
Claim towards property	Right to claim their property back from their children if the condition of maintenance is unsatisfactory	Maintenance Act 2007
Sensitivity	Sensitization of police and judiciary	Maintenance Act 2007
Education Access	Establishes every child's right to elementary education of satisfactory quality 25% reservation for EWS in private unaided schools	Sarva Siksha Abhiyaan (RTE, 2009)
	Free online courses for all by IIT, IIM professors	SWAYAM
	Improving nutritional status of children, reducing absenteeism and increased enrollment in school	Mid day meal
	Promotion of girl child's education by incentivizing schools on female enrollment	Beti Bachao, Beti Padhao
	Increase access to and quality of secondary education within a reasonable distance of residence	Rashtriya Madhyamik Sikhsha Abhiyan
Equity in Education	Scholarship for DA, girl child, North east students	SAKSHAM, PRAGATI, Ishan Vikas
	Assistance to deserving girl student prepare for engineering entrance exams	UDAAN
	Education and training to adults	Saakshar Bharat
	Increasing employability of educated youth by allowing mobility within vocational education system	SAMVAY

Income Security:

Sub Category	Field of Initiative	Policy/ Ministry In-charge
Pension Schemes	Refer to Section II	

Financial support (excluding pension schemes)	Health insurance (Rashtriya Swasthya Bima Yojana) Tax benefits Welfare fund Lump sum assistance of Rs.20,000 in the event of the death of household breadwinner	Ministry of Finance, National Family Benefit Scheme

Capability:

Sub Category	Field of Initiative	Policy/ Ministry In-charge
Maintenance	Right to demand maintenance from their children for food, residence, medical expenses etc upto Rs.10,000/month	Maintenance Act 2007
Food Security	10 Kg free rice to elderly who do not have access to old age pension scheme	Annapurna Yojana
Public Distribution	Priority during schemes for BPL family	
Overall Security	Protection of life and property, from crime, neglect, abuse etc, sensitivity programmes for children, strengthening family	Ministry of Home Affairs

Health Services Systems:

Sub Category	Field of Initiative	Policy/ Ministry In-charge
Health Care System	multi-service centres, mobile medicare, physiotherapy clinics	IPOP
Monetary Benefits to Healthcare systems	subsidized, judicious mix of services, insurance, assistance etc.	
Primary, secondary and tertiary	focus on preventive, curative, restorative and rehabilitative services at primary levels while geriatric care services at secondary and tertiary levels	
Recognizing gender differences	identify the higher tendency to neglect health issues among older women, and focus specialized programmes	

PENSION POLICIES AROUND THE GLOBE

The increasing proportion of the aged population is a global phenomenon, a challenge which has hit the shores of both developed and under developed nations. Population ageing and growth puts immense pressure on the health systems of the economies, demanding the governments to address the shifts in the demographic pattern by proactively implanting policies that are meant to address the population issues.

As per United Nations report on World Population Aging[29], the shift in demographic structure started its wave in Europe and Norther America, where fertility fell, which contributes to their aged population in current times. Asia and Latin America saw the wave hitting later, and hence have a relatively younger population as compared to Europe and North America. Africa is still in the early phase of transition, and

[29] http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Highlights.pdf

hence is projected to have an aged population at a much later state as compared to the other parts of the world.

This section of the report looks at policies put in place by different countries government for a better position of the ageing population and reduce the impact on the economic and social structure of the country. Insights from this can be further used to device similar plans for India to deal with its problem at hand.

Policies in New Zealand

The KiwiSaver policy of New Zealand is a pension policy to which members of the organized workforce get automatically subscribed, but can voluntarily walk out of. People from unorganized and self-employment sectors can choose to join the scheme on a similar voluntary basis. The policy has elements of pillar 1, 2 and 3 of the pension plan. As per pillar 1, the scheme is funded by the government. In the formal sector, both employer and employee contribute to the fund, similar to the idea of pillar 2 and employees contributing to the scheme as per pillar 3. With the introduction of KiwiSaver, the participation of citizens in pension programme has been to three-fourth of the total workforce. The scheme mandates the employer, if the employee has not opted out, to contribute 3% to the scheme. The service is provided by many private investment companies, which the subscribers can choose30. Because the default is self-enrollment, under 'soft compulsion', not many people withdraw and employees and employers have seen to smoothen out their expenses in order to save for the pension contribution. Investments in this scheme has been known to generate modest returns of 7.9% per annum31 (net of fee and taxes). This pension system has positively encouraged savings in the economy and increased workforce participation of older people.

Policies in Germany[32]

The Reister Pension, a highly subsidized private pension scheme in Germany covers anybody who is covered under social insurance system and is subject to full tax liability. The scheme does not let the subscribers take the benefits before the age of 60 and works on the principal of Pay as you go. The providers of this pension plan, guarantee a minimum contribution to the scheme, while the subscriber's contribution is based upon the contract entered into with the pension providers which depends on the number of children and income levels.

While the government provided 154 euros and 300 euros additional for each child, the scheme is structured such that it benefits the low earing group of the older generation of our country.

The Rurup Pension is a German pension scheme that circles around solving the retirement needs of self-employed, freelancers, and high-income earners. To reduce the tax burden of the high-income earners, this plan allows anybody to participate in, and the revenue received from this plan is hence excluded from the flat tax rate. The scheme guarantees a lifelong pension which can be used as a financial instrument to be sold or borrowed against.

Pension Policies in Chile

Chile's pension system saw a reform in 1981 with the privatization of pension savings. The failing public scheme of Pay as you go was replaced by a fully funded pension system where employees had to set aside

[30] http://www.kiwisaver.govt.nz/new/about/summary/

[31] https://nzier.org.nz/static/media/filer_public/e0/a6/e0a66c09-7fe1-4959-88d5-5245eae9600c/kiwisaver__the_wealth_of_nzers-nzier_report_to_fsc_aug15.pdf

[32] http://www.howtogermany.com/pages/private-pension-plans.html

10% of their income for deposit in pension savings, boosting the habit of savings in the economy. The system currently covers millions of people and has assets worth $160 billion[33]. The system has worked wonders in the country because the government has proactively managed the problem with the Chilean system that now desires a reform is lack of financial literacy. As reported, most men and women in Chile have no idea about how much are they contributing to their pension. The new system is based on capital accounts which are privately managed by Administradoras de Fondos de Pensiones (AFPs). Subscribers to the pension system can choose the AFP they want to affiliate with, which has a government backing. The Chilean system not only provides a pension for old age, but also for disability and survivor. The pension system guarantees a minimum $142 for all and allows a withdrawal in a phased manner, fixed monthly and on a temporary basis. The system, however, fails to cover unemployed segment, especially unemployed women. The pension system also has way to a robust and competitive insurance system in the country as AFPs buy insurance to cover the risk of disability and death. In the Chilean economy, pension funds have emerged as the biggest investor in capital markets. Resource optimization by pension funds to get better returns, have also led to transparency of financial markets.

Pension Policies in Australia

The Australian policy placed increased focus on the development of pension system by early intervention. The rapid adoption of pension system has not proved cost effective for the Australian government, but is also in line with the increasing demand of ageing population. The support services in Australia are provided by government programmes, community and voluntary sector programmes and the private sector programmes[34]. The government programme (Commonwealth) provides benefits to the aged community by providing rent and disability payments, residential services, medical and pharmaceuticals benefits, public housing, hospital and home care. Along with this, the state government in Australia also assists the aged population by giving them information services, transport assistance, and respite care. Communities and charitable trusts in Australia also provide a range of aged care facilities. The private sector also looks after the needs of the elderly by providing services which include health, nutrition, nursing, security, regular doctor visits, etc. Making up the second pillar of the Australian pension system is the mandatory Superannuation programme where the employers have to contribute 9 percent of the earnings to the scheme. The voluntary savings pillar of the system is characterized by individual adding a contribution to the superannuation fund through ‘salary sacrifice', of which only 20% of the Australians have taken benefit of.

No pension system is perfect, and there is a lot that each country can learn from the others' success and failure. However, it is important to ensure that a policy action is taken by the government right in time, targeted at the right segment, and designed in such a way that it reduces the fiscal burden of the government and boosts savings and economic activity in the economy.

CONCLUSION & FUTURE SCOPE

The project was an attempt to understand the country’s readiness towards demographic transition. This was done broadly by studying the current status with respect to health, pension, housing and education – what we believe are to be the most relevant metrics. Since policies need to customize according to the

[33] https://www.forbes.com/sites/pensionresearchcouncil/2015/09/29/chiles-fabled-retirement-system-why-fix-it/#47ec7bed1117

[34] http://www.nird.org.in/nird_docs/PolicyfortheAged.pdf

local demographic situation, each state needs to gauge its future progression and prioritize the needs accordingly. State-wise analysis on current situation does not throw a single recipe for each state. Every state is faring well in some and poor in others. Hence, every state should be developing a holistic focus around policies.

Also, this study has been limited to a broad overview of the landscape. A lot many other variables need to be incorporated to better understand the current readiness of the country. The implementation of the same has be seen, without which this study has just been a study of the intent. Future research needs to be devoted to the same.

POLICY GAP ANALYSIS & RECOMMENDATIONS

The publically available information regarding old-care policy is centrally driven without much transparency in its status of implementation or results. Hence, the evaluation of India's readiness towards the impending demographic transition is limited to the policies in place, which nevertheless, provide a sense of intent, if not reality.

Aging is a new phenomenon facing India, and there is no one-size-fits-all strategy that India can imitate from others. It is a transition with its unique challenges where India will find solutions on the go. But surely, there were lessons that one can learn to lessen the impact of these difficulties. Based on the current status of states on the major determinant for old-age care and learning gathered from international case studies, we propose the following key recommendations to smoothen India's demographic transition.

There seems to be a comprehensive focus on all the four elements of providing holistic old-age care. With a workably comprehensive framework in place, India needs to put extensive focus on the implementation. Independent bodies need to be established to drive the implementation, state-wise, and make the reports public to improve the accountability of governmental institutions and to better track the status of India's elderly.

Under enabling environment, states need to develop an understanding of how needs differ through the aging process and create suitable systems accordingly to their state-specific demographics. Although the implementation of the same might be difficult in phase-1, a thought in that direction needs to be born. Academia should be incentives to focus on the same, to come up with effective solutions. Also, there hasn't been any focus to make the public areas and local transportation elderly-friendly.

Under income security, the policies are the best example of 'high in rhetoric, low in design'. The procedure to avail the benefits are often cumbersome; hence, discourages the effort. Since it involves elderly, there should be sincere focus to implement the same in the quickest way possible. Also, across-state implementation needs to be mandated.

Under capability, implementation is the crux of its success, since the policies under this are highly short term with quick results. It will be prudent to establish local units for continuous monitoring and evaluation, and putting procedures in place to make respective authorities-in-charge accountable.

Under health, focus on long-term care and specialty institutions catering to diseases highly susceptible to elderly is of foremost priority. Early detection and quick treatment go a long way in the betterment of their overall health. Along the same line, all states need to extend their geriatric care and insurance scheme like

Rajiv Arogyasri Scheme. While few have adopted, only Andhra Pradesh has implemented it.[35] With the lack of implementation of this and several other schemes, only few players operate in this sector driving the premium rates up.

[35] http://www.downtoearth.org.in/coverage/elderly-lonely-44173

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