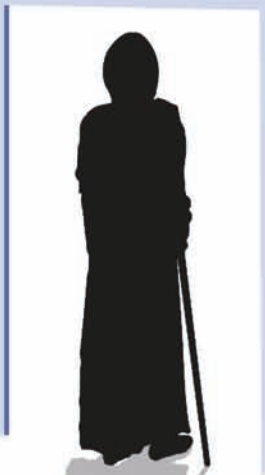
Building knowledge base on
Population Ageing in India
Working paper: 4



# Elderly Workforce Participation, Wage Differentials and Contribution to Household Income


Sakthivel Selvaraj

Anup Karan

S. Madheswaran


UNFPA

## Editor's Note

Dear readers,

In most countries of the world, including India, population ageing is likely to become a serious policy and programmatic issue in the coming decades. UNFPA in collaboration with the Institute of Social and Economic Change, Bangalore and the Institute of Economic Growth, Delhi has launched a major research project to build a knowledge base on population ageing in India (BKPAI). The study focuses on social, economic, health and psychological aspects of elderly. This peer reviewed publication is one in the series of working papers. We are sure that the findings of this publication will help in generating a healthy debate and policy response amongst a wider cross-section of scholars, professionals, policy makers and civil society.

Editorial Team




## Citation Advice:

Sakthivel Selvaraj, Anup Karan and S. Madheswaran. 2011. "Elderly Workforce Participation, Wage Differentials and Contribution to Household Income", BKPAI Working Paper No. 4, United Nations Population Fund (UNFPA), New Delhi.


## Disclaimer


The study has been supported by the United Nations Population Fund - UNFPA and reviewed by a wider group of demographers and researchers prior to its finalization. The contents, analysis, opinions and recommendations are solely of the author/s, and do not necessarily reflect the views of UNFPA.

# Elderly Workforce Participation, Wage Differentials and Contribution to Household Income

Sakthivel Selvaraj
Anup Karan
S. Madheswaran

Institute for Social and Economic Change, Bangalore
United Nations Population Fund, New Delhi
Institute of Economic Growth, Delhi

December 2011

# Elderly Workforce Participation, Wage Differentials and Contribution to Household Income


## Abstract

*This paper examines the size and structure of the elderly workforce in 2004-05 along with trends over two decades (1983-2005) and the nature and sectors of elderly employment. The elderly workforce constituted about 7 per cent of the total workforce in India in 2004-05; and among the elderly population 38 per cent were working. Over 70 per cent of the elderly workforce were males; and are largely in rural areas (84 per cent). About half of the elderly workforce were in the 60-64 age group and about 20 per cent were 70 years and above. About 2 per cent (675,000) were as old as 80 years and above in 2004-05. Among the rural male elderly workforce, 77 per cent were self-employed and this percentage increases with age. Three out of four self employed elderly are in agriculture and allied activities. The paper also points out that the educational level of the elderly workforce is very low. About 70 per cent of all elderly workers were Illiterate or had just primary level of education. Among women elderly workers this was about 93 per cent.*

*Trend analysis shows that elderly workforce participation by age cohorts remained stable while inability to work due to disability has increased. Regarding wages and earnings of the elderly, the paper points out that the elderly receive lower wages compared to younger workers even for work of a similar nature. Female workers are also paid less than their male counterparts. The elderly share of total employment is about 7 per cent and their contribution to household income is about 4.2 per cent on average. This contribution is significantly higher in rural areas and in poor households. The paper provides several supporting data tables and has a final section that pulls together the overall findings.*

# 1. Introduction

The Report to People on Employment (Government of India, 2010) recognises the shift in India's age structure due to increasing longevity and declining fertility and the resultant doubling of the share of older persons in the population between 2001 and 2026. However, the report stops short of providing a clear strategy to enhance the income security of the elderly and create more favorable working conditions. In addition, the report does not highlight the problem of accessing social security, particularly in the informal sector. Considering the fact that providing employment and social security is crucial for the poor and other vulnerable sections of the population including the elderly workforce, there is a need for strong policy initiatives to overcome this lacuna. Much of the elderly workforce in informal sectors is left to fend for itself. Moreover, low wages and increasing wage differentials across different segments of the labour market have led to the concentration of benefits of recent economic growth in the hands of more secured job holders. One recent study (Bloom et. al, 2010) finds low levels of earning during prime working age and consequently low levels of saving as one of the important reasons for participation of the elderly in the labour market in India. This is happening at a stage in the life of the elderly when the demand for health and medical care is likely to go up, and in turn increasing the old age dependency and therefore the economic burden of the ageing generation.

This paper examines the size and structure of the elderly workforce in 2004-05, along with the trends in the same over two decades (1983-2005); the nature and sectors of elderly employment, their wage and earning levels and finally, their contribution to household income. It is arranged in seven sections. After presenting the introduction and methodology in sections 1 and 2 respectively, section 3 presents the broad socio-economic and demographic profile of elderly workers. Sections 4 and 5 are focused on the labour market participation of the elderly from the 1980s onward. The levels of elderly wages and earnings are presented in section 6, and section 7 contains an assessment of the economic contribution of the elderly to the household. Finally, section 8 sums up the major issues that require attention.

# 2. Methodology and Data Sources

The empirical estimates are based on quinquennial rounds of the Employment and Unemployment Survey (EUS) of the National Sample Survey Organisation (NSSO) conducted under the aegis of the Ministry of Statistics and Programme Implementation, Government of India. The elderly workforce participation rate (WPR) is defined as the proportion of elderly population (60 years and above) in the labour force. Unless mentioned otherwise, all WPR is assessed in terms of usual principal and subsidiary status (UPSS) of workers taken together[1]. The industrial distribution of the workforce follows the National Industrial Classification (NIC) 1998 at the one-digit level. The elderly contribution to the family has been estimated on two counts: a) contribution to total employment days of the family, and b) contribution to the total income of the family.

[1] The NSSO collects data on workers using different periods of recall. The annual recall method divides the population into workers and non-workers on the basis of work done during the reference year. If an individual is identified as a worker for the major part of the year, she/he is categorised as a worker on the basis of the 'usual principal status (UPS).' If an individual is identified as a worker only for a minor part of the year she/he is categorised as a worker on the basis of 'subsidiary status (SS).' These two groups together make up the UPSS which is considered a liberal indicator of the working status of an individual.

### 2.1 Contribution to Total Employment

In addition to estimating the contribution of the elderly to the overall workforce in the country, their contribution to overall employment of an average household has been assessed by estimating the total person days of employment separately for children, adult and elderly persons. For this, the total working population was divided into three broad age groups *viz*. children (age 5-14 years), adults (age 15 to 59 years) and elderly (age 60 years and above). The person days of employment in a reference week has been calculated for all those who reported at least half a day of employment in the reference week[2]. Further, the person days of employment has been calculated separately for those who are self-employed, regularly employed and casual workers. Total person days of employment across all types of employment, namely, self-employed, regular and casual, were summed up at the national level separately for the three population groups as identified above. Finally, percentage distribution of total weekly employment days was calculated across the three age groups separately for self-employed, regular wage labour and casual wage labour.

### 2.2 Contribution to Household Income

Contribution to total household income largely followed a similar methodology. However, on account of non-availability of income data for all self-employed[3], the estimates on income of self-employed was imputed on the basis of ratio of person-days of employment of self-employed to total person-days of employment one the one hand and average wage earnings of casual and regular workers on the other. Applying the technique of 'matching'[4], the estimation of earnings for self-employed was done at the individual level. Combining all three types of income provided the total income accruing from working in the labour market for a particular household. The estimation of the contribution to household income was arrived at by classifying the workers according to the three age groups mentioned earlier. It was also possible to calculate the income levels of all the three population groups by status of employment *viz*. self-employed, regular and casual. Finally, the proportionate distribution of total household income was arrived at across the three population groups. The present paper, however, does not consider the income received in the form of pension or other transfer payments to the elderly and hence presents the lowest estimate of their contribution to household income.

## 3. Demographic and Socio-Economic Profile of the Elderly Workforce

The changing age structure has several implications for the labour market. First, given that 58 to 60 years is the retirement age in most parts of India, the overall WPR in the country is likely to decline in the coming years. However, the extent of decline will depend on the size of the informal sector where retirement age is not strictly followed. Second, since the largest proportion of elderly is concentrated

[2] This is based on current daily status (CDS) of employment data collected by the NSSO.

[3] The NSSO database does not provide information on the earnings of all self-employed persons. Weekly earnings of persons employed as regular workers and casual workers during the reference week are, however, reported on a weekly basis.

[4] Matching was done on the basis of large number of socio-economic characteristics and sectors of employment. For details on this see Mahal, Karan and Engelgau (2010), Economic Impact of Non-Communicable Diseases in India, Health, Nutrition and Population (HNP), The World Bank, DC.

in the age group 60-64 years followed by the age group 65-70 years, the decline in the overall WPR may not be very significant because in the immediate post-retirement years, the elderly may be only marginally less economically active than the workforce during the pre-retirement years. Third, the WPR of the elderly population will depend crucially on their overall health and age related disability. Globalisation and liberalisation may result in further marginalisation of the elderly workforce when they get substituted by younger workers with a more appropriate set of skills.

## 3.1 Demographic Profile of Elderly Workforce

The total number of elderly workers in India was estimated to be 31 million in 2004-05, which was approximately 7 per cent of the total workforce. More than 22 million of them were male and approximately 26 million of all elderly workers lived in rural areas. In urban areas, the total number of female elderly workers was estimated to be 1.1 million in the year 2004-05. The concentration of elderly workers in rural areas is to some extent a result of increasing migration of adult workers to urban areas (Visaria, 1999; Deshingkar and Akter, 2009). The data show that as much as half of the elderly workers in 2004-05 were in the age group 60-64 years and the proportion was even higher in case of female workers (Appendix Table A). Some other important facts which emerge from the age distribution of elderly workers are:

a) A significant proportion of the elderly population is economically active even at the age of 70 years or so. Approximately one fifth of the all elderly workers are in the age group 70 years or above;

b) Even at the age of 80 years and above, as much as 2.2 per cent (approximately 675 thousand) elderly persons were still working;

c) With increasing age, the number of female elderly workers declines faster than the number of male elderly workers;

d) In urban areas, the percentage of female elderly workers is as high as that of male elderly workers till the age of 75 years; and

e) In rural areas, female elderly worker participation in labour markets declines sharply after the age of 70 years.

The profile of the elderly workforce has been further elaborated in the following section.

## 3.2 Socio-Economic Profile of Elderly Workers

### *3.2.1 Educational Levels*

Over 70 per cent of elderly workers are illiterate or have not completed even primary level of education (Appendix Table B). Among women elderly workers, this is about 93 per cent. More than 13 per cent of male elderly workers have completed secondary education with 3 per cent reported as graduates and above. Among the women elderly workers, the education level is very low and indicative of their low

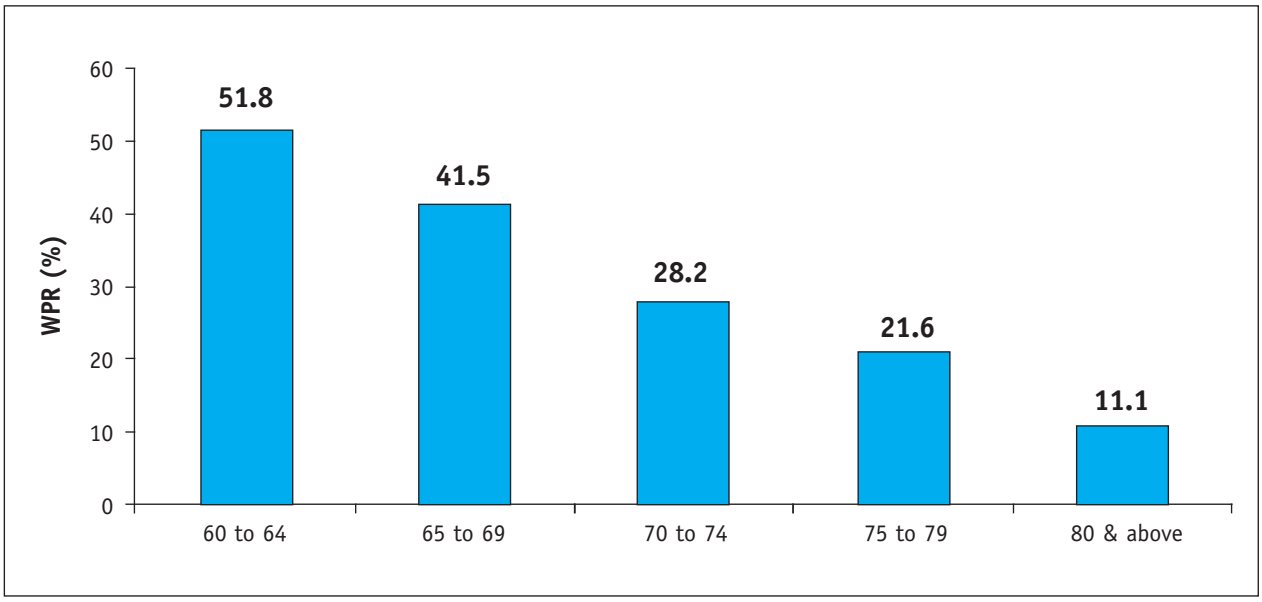
work profile during their prime working age. In this regard, Bloom et al. (2010) note that "women (elderly workers) are less well-placed than Indian men (elderly workers) to rely on earnings during their working years to provide for old-age income security."

There is a considerable difference in the educational achievements of elderly workers in rural and urban areas. While approximately 62 per cent elderly workers in rural areas are illiterate the corresponding percentage in urban areas is only 33 per cent. Again, the percentage of elderly workers in urban areas with educational achievements of higher secondary and above is 18 per cent (20 per cent in case of male elderly workers while in rural areas it is only 2.5 per cent. Clearly the elderly workers in rural areas are less well-placed in the labour market because of their low education.

*3.2.2 Extent of Workforce Participation Rates*

Overall, in the year 2004-05 approximately 38 per cent of the total elderly population was active in the labour market to earn their livelihood and probably to support household income as well. Participation of elderly women is typically low at approximately 20 per cent and the WPR declines very fast with increase in age of elderly. As against a WPR of approximately 52 per cent in the age group of 60-64 years, the WPR declines to just above 11 per cent in the age group 80 and above (Figure 1)

**Figure 1. Workforce participation rates (per cent) among the elderly, 2004-05**




Source: NSSO 2004-05

The disaggregation of the elderly population by sex and location of residence suggests that in addition to low WPR, the decline in the workforce participation of women with increasing age takes place more rapidly than for their male counterparts. Usually the elderly WPR is two-and-a half to three times higher in rural areas than in urban areas. In fact, for the immediate post-retirement age group of 60-64 years the WPR is not significantly lower among rural elderly males. Table 1 below provides further disaggregation of elderly workers by age, sex and rural/urban status.

**Table 1. Workforce participation rates (per cent) among elderly across age groups, sex and location of residence, 2004-05**

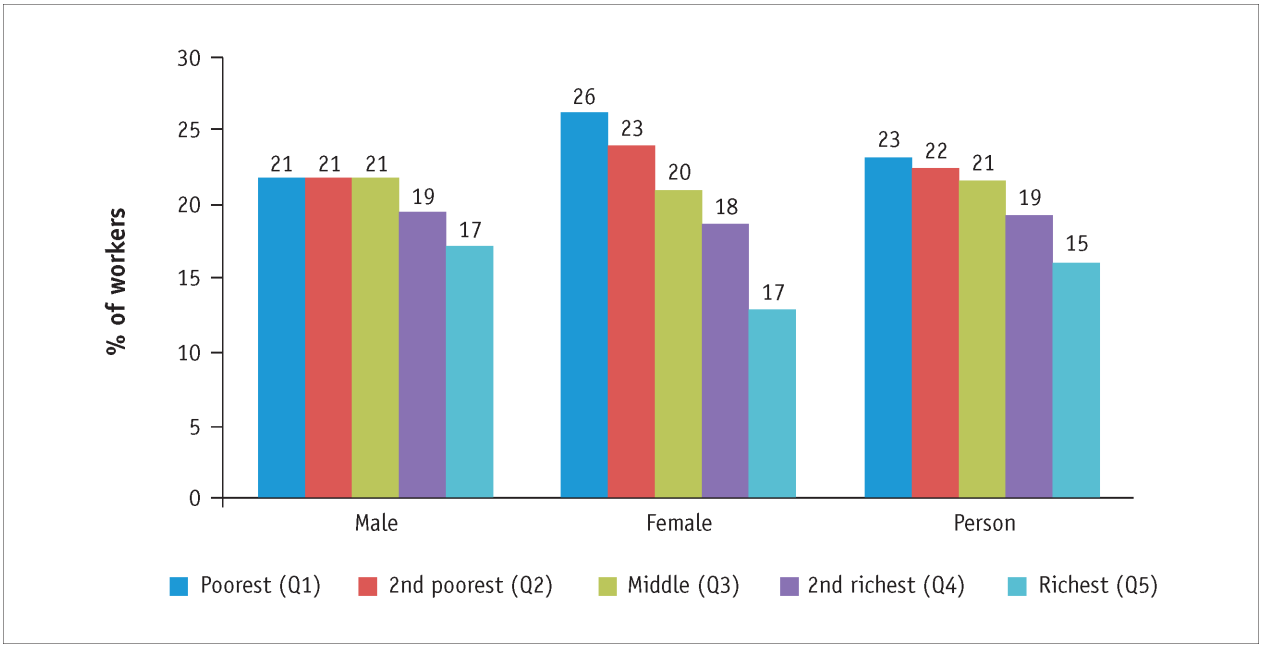
| Age group in years | Males | Females | Persons |
|---|---|---|---|
| **Rural** | | | |
| 60 to 64 | 82.1 | 38.0 | 59.2 |
| 65 to 69 | 69.7 | 26.7 | 47.9 |
| 70 to 74 | 50.8 | 12.4 | 32.5 |
| 75 to 79 | 40.5 | 7.9 | 24.7 |
| 80 + | 22.0 | 3.6 | 12.8 |
| **Urban** | | | |
| 60 to 64 | 47.3 | 14.6 | 30.8 |
| 65 to 69 | 37.5 | 10.6 | 23.4 |
| 70 to 74 | 28.0 | 7.3 | 17.1 |
| 75 to 79 | 24.9 | 3.7 | 14.2 |
| 80 & above | 12.6 | 1.5 | 6.4 |
| **Rural + Urban** | | | |
| 60 to 64 | 73.5 | 32.4 | 52.3 |
| 65 to 69 | 62.2 | 22.7 | 42.0 |
| 70 to 74 | 45.4 | 11.0 | 28.6 |
| 75 to 79 | 36.3 | 6.7 | 21.8 |
| 80 + | 20.0 | 3.1 | 11.2 |

Source: Authors calculations from unit level data of NSS.

*3.2.3 Economic Levels of Living*

A relatively higher share of elderly workers belongs to the poorer consumption quintiles than workers in the total population. A quintile division of total population on the basis of monthly per capita consumption expenditure of households indicates that the proportion of elderly workers in the richest quintile group is 15 per cent which is much lower than the proportion in the lowest and the poorest three quintile population groups. In fact, the concentration of elderly workers systematically declines with increase in consumption class. This essentially indicates that the labour market participation rate is higher among poor elderly than among their richer counterparts. This difference is sharper and more acute in the case of female elderly workers. Approximately half the total number of elderly women workers is concentrated in the poorest two quintile groups (Figure 2).

**Figure 2. Percentage distributions of male, female and all elderly workers by consumption quintile groups, 2004-05**




Source: NSSO 2004-05

Table 2 below indicates that the difference in the work participation rates among men and women increases further when comparing rural and urban areas. In urban areas, concentration of women workers in the poorer two quintiles is high at approximately 60 per cent while only 17 per cent women elderly workers belong to the top two quintiles.

**Table 2. Percentage distribution of male, female and all elderly workers by consumption quintile groups in rural and urban areas separately, 2004-05**

| Quintile groups of households | Rural | | | Quintile groups of households | Urban | | | Quintile groups of households | Rural + Urban | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Males | Females | Persons | | Males | Females | Persons | | Males | Females | Persons |
| Q1 | 22 | 25 | 23 | Q1 | 17 | 31 | 20 | Q1 | 21 | 26 | 23 |
| Q2 | 21 | 23 | 22 | Q2 | 22 | 28 | 23 | Q2 | 21 | 23 | 22 |
| Q3 | 21 | 20 | 21 | Q3 | 22 | 24 | 23 | Q3 | 21 | 20 | 21 |
| Q4 | 19 | 20 | 19 | Q4 | 20 | 8 | 17 | Q4 | 19 | 18 | 19 |
| Q5 | 16 | 13 | 15 | Q5 | 19 | 9 | 17 | Q5 | 17 | 12 | 15 |
| All | 100 | 100 | 100 | All | 100 | 100 | 100 | All | 100 | 100 | 100 |

Note: Q1 to Q5 are quintile groups in ascending order
Source: Authors' calculations from unit level data of NSS.

*3.2.4 Employment Status of Workers*

Appendix Table C shows that approximately 75 per cent of all elderly workers are self-employed. The proportion of self employed in the younger age cohort of 15-59 years is 15 to 20 per cent less than that among the elderly. Nearly 78 per cent of all elderly workers are self-employed; however, 18 per cent are engaged as daily casual workers. Further, the proportion of self-employed to overall elderly

workforce increases with increase in age. This is a reflective of a situation that at higher ages, physical mobility of the elderly declines but the imperative to work and earn compels the elderly to take up petty business, work in self-cultivation and other self-employed options even at a very low level of earnings.

Among the female elderly workers, casual labour is the most frequently reported. More than 35 per cent of female elderly workers below the age of 70 years participate in the casual labour markets. Since the typical workforce estimation does not consider most household work as part of the labour market activities, most elderly women (in general most of the female workforce) in the labor market are considered as casual labour. Even beyond the age of 70 years, the proportion of female elderly working as casual labour is significantly higher than their male counterparts. In urban areas, however, a higher share of regular employment among female elderly than among male elderly is noteworthy. In fact, most of these women are engaged in the urban informal sector in employment such as maids, baby sitters, crèche workers and sanitation workers. In principle, they are hired on regular payment basis but rarely enjoy even basic social and employment security provisions. The working conditions in the urban informal sector in India have been widely discussed in the literature (see for e.g., Unni, 2002).

The disaggregation of elderly workers as presented in Appendix Table C highlights some of the important dimensions of the elderly workforce and their life:

a) The proportion of casual labour among rural women elderly is significantly higher in the younger two age groups, viz. 60-64 and 65-69 years

b) The proportion of paid wage labour is significantly higher among urban female elderly workers as compared to their male counterparts

c) The proportion of self-employed elderly increases with increase in age, and

d) In urban areas, a significant proportion of female elderly workers are engaged as regular paid wage labour.

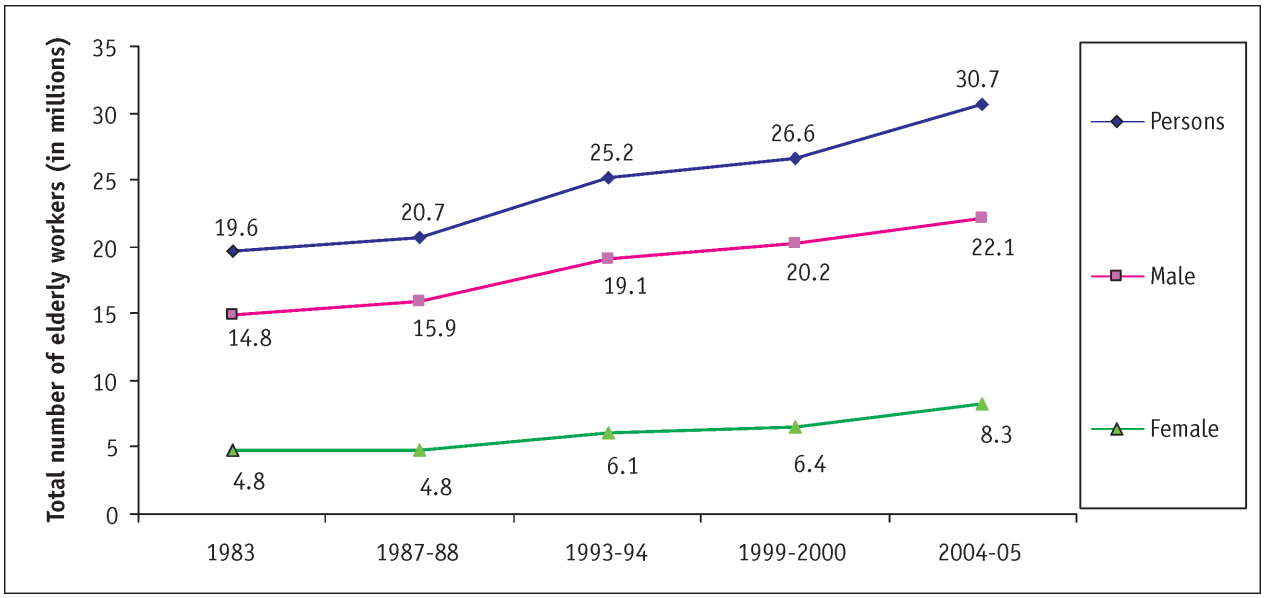
## 4. Trends in Elderly Workforce Participation Rates

The analysis presented from this section onwards will be based on data covering two decades, from 1983 to 2005.

### 4.1 Elderly Workforce Participation

The number of elderly workforce in India has grown from about 20 million in 1983 to about 30 million in 2004-05, over 80 per cent of them being from rural areas (Appendix Table D). Seen from the overall employment perspective, this indicates that nearly three-fourths of all employment is generated in the rural areas. The number of elderly workers has significantly increased over the years. The increase is sharper during late 1990s and early 2000s (Figure 3).

**Figure 3. Number of male, female and all elderly workers (in millions) over the years**




Source: NSSO, various rounds and Census of India

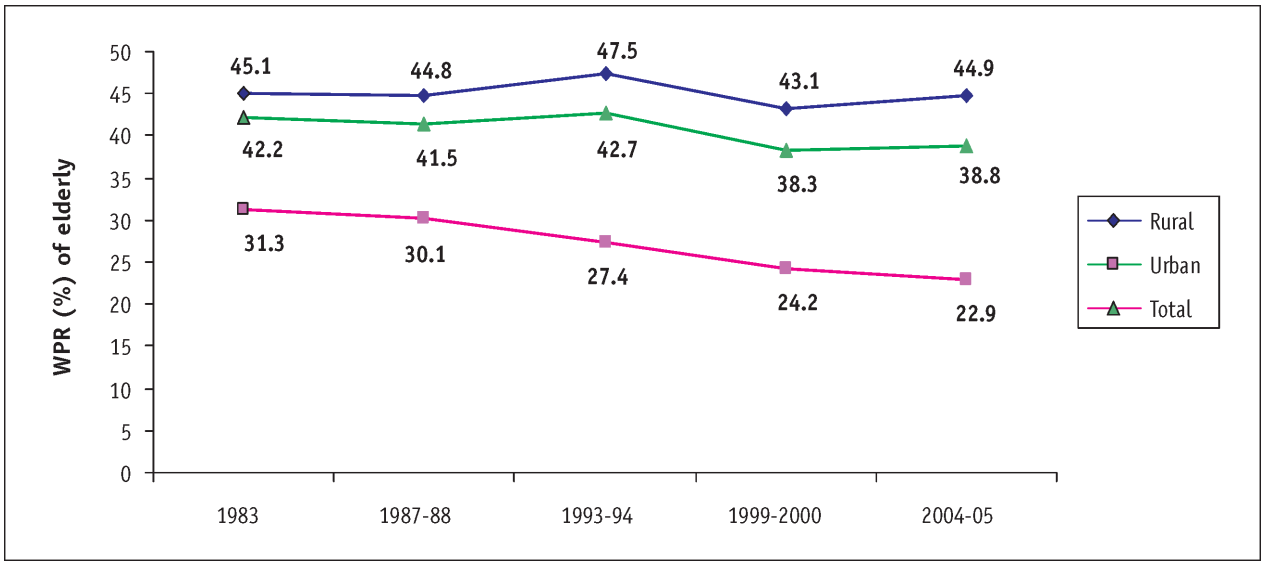
## 4.2 Elderly Workforce Participation Rates

Over the last two decades, there has been a gradual decline in the elderly workforce.

The elderly workforce constituted about 6.6 per cent of the total workforce in the country during 2004-05 which is very similar to the levels in 1983. Interestingly, the elderly employment was higher in the pre-reform years (1983 to 94) at 2.41 per cent as against 1.89 per cent during the post-reform period (1994 to 2005) (Appendix Table E). One of the reasons for this decline is the growing numbers of elderly population in higher age groups (the phenomenon of ageing of the older population) who have lower participation rates in labour markets. In fact, overall female work participation rate has increased in the post liberalisation period, particularly since 1999-2000. The 'Report to People on Employment' (GOI, 2010) notes that female WPR dips in the immediate post-marital and post-maternity age groups but picks up afterwards (GOI, 2010).

Workforce participation rates among the elderly decreased from around 42 per cent in 1983 to about 39 per cent in 2004-05. This is a reflection of a declining trend in elderly workforce in urban India. In fact, the elderly workforce participation rates in urban areas have sharply decelerated from around 31 per cent in 1983 to 23 per cent in 2004-05, a decline of eight percentage point in 20 years. However, the elderly employment composition in rural India has not shown any clear pattern of change, barring a fluctuating but insignificant trend (Figure 4).

**Figure 4. Workforce participation rates (per cent) among elderly, 1983 to 2004-05**




*Source* :*Source*: Various rounds NSSO

More detailed information on trends in elderly WPR broken down by sex and location of residence is presented in Appendix Table F. An interesting development over the two decades is a decline in the percentage of male workers among elderly population from 64 per cent in 1983 to about 57 per cent in 2004-05 as against a stagnating trend among female elderly employment composition at 20 per cent. Does this indicate a trend of early withdrawal of male elderly from employment in favour of a peaceful retired life? Or it is a reflection of the substitution effect *i.e.* substituting elderly workforce with younger workers? Considering that a significant share of this change is occurring among male urban workforce; one can conjecture that a possibility of retiring at a higher age exists. However, it could also be argued that this trend is due to the informalisation of the workforce as at this age they begin to officially retire, (especially the regular category of workers) and get absorbed in informal economic activities. Nearly three out of five male elderly people appear to be engaged in some form of economic activity, as against one out five of the female elderly population. This trend therefore needs deeper investigation.

## 4.2 Elderly Workforce by Broad Age Groups

Appendix Table G shows that in the year 2004-05, nearly 45 per cent of all elderly workers belonged to the age group 60-69 years while a little over half of the same cohort was out of the labour force (Table H). Involvement of elderly belonging to 70-79 and 80 plus age groups in economic activity declines rapidly to 25 per cent and 10 per cent respectively. As a consequence, the percentages of elderly out of the labour force increased sharply with age, partly due to increasing disability among ageing older persons that prevents them from working. Evidence also points to the fact in the last one decade or so, trends of elderly workforce participation by age cohort have remained stable while inability to work due to disability has increased, as shown in Table 3.

**Table 3. Trends in elderly economic and non-economic activities, 1993-94 to 2004-05**

(In Per cent)

| | Rural | | | Urban | | | Combined | | |
|---|---|---|---|---|---|---|---|---|---|
| | out of labour force | | | out of labour force | | | out of labour force | | |
| | Part of labour force | Not able to work due to disability | Others | Part of labour force | Not able to work due to disability | Others | Part of labour force | Not able to work due to disability | Others |
| **1993-94** | | | | | | | | | |
| Male | 68.3 | 4.5 | 27.2 | 43.1 | 4.0 | 52.9 | 62.9 | 4.4 | 32.7 |
| Female | 17.3 | 4.2 | 78.6 | 9.2 | 3.3 | 87.5 | 15.4 | 4.0 | 80.7 |
| Persons | 43.3 | 4.3 | 52.4 | 25.6 | 3.7 | 70.7 | 39.3 | 4.2 | 56.5 |
| **1999-2000** | | | | | | | | | |
| Male | 62.4 | 5.6 | 32.0 | 38.6 | 5.2 | 56.2 | 57.1 | 5.5 | 37.4 |
| Female | 17.4 | 5.1 | 77.5 | 8.2 | 5.7 | 86.1 | 15.1 | 5.3 | 79.6 |
| Persons | 40.0 | 5.4 | 54.6 | 22.7 | 5.5 | 71.8 | 36.0 | 5.4 | 58.6 |
| **2004-05** | | | | | | | | | |
| Male | 63.1 | 6.5 | 30.4 | 35.6 | 5.2 | 59.2 | 56.5 | 6.2 | 37.3 |
| Female | 19.9 | 5.5 | 74.6 | 8.6 | 4.6 | 86.8 | 17.0 | 5.3 | 77.7 |
| Persons | 41.3 | 6.0 | 52.7 | 21.6 | 4.9 | 73.5 | 36.5 | 5.7 | 57.8 |

Source: Authors' calculation from unit level data of NSSO

Note: Figures shown in this table and Appendix Table G are not the same as the general disability among elderly[5]. One may conclude that 6-7 per cent of elderly are not able to work because of disability, for example with eye sight or joint pains, when they actually are willing to work.

### 4.3 Elderly Workforce by Industry

Appendix Table H shows that almost three-fourths of all elderly employment is in agriculture and allied activities, followed by service sectors like wholesale, retail, hotels and restaurants, and then manufacturing. Community, social and personal categories of work account for only five per cent of the entire elderly employment. However, it is to be observed that while 84 per cent of elderly workforce in rural areas is engaged in agriculture and allied activities, the same in urban areas is only 22 per cent. Wholesale, retail, hotels and restaurants engage over one-fourths of the all elderly workforce in urban areas followed by manufacturing, with a share of nearly one-fifth. It is also observed that there is almost no change in pattern over the two decades covered in this paper.

## 5. Trends in Wages and Earnings of Elderly

### 5.1 Nominal Wages

The level of earnings and wages of the workforce are considered a robust indicator of the livelihood status of people. In the last two decades, gradual growth and significant variations in wage levels are

[5] In general, the reporting of 'not able to work because of disability' has been higher than the disability rates indicated in other NSSO surveys.

the most compelling features of the wage patterns among the elderly workforce (Appendix Table I). The current wage levels for regular and casual elderly workers during 2004-05 were Rs. 89 and Rs. 45 respectively. The average wage levels among the regular elderly workers were almost double the current wage levels of casual workers. Even among regular workers, nominal male wage levels work out to more than the wage levels of female workers. This also holds true among casual workers, but the difference is not as significant as in the case of regular wage earners.

### 5.2 Real Wages

While nominal wage levels appear to have shot up considerably, wage levels in real terms actually show a much slower growth, due to overall high rate inflation (Appendix Table J). For instance, in the case of the regular workforce, nominal wages are found to have increased from Rs. 13 in 1983 to Rs. 89 in 2004-05, while real wages have shown only a gradual rise from Rs. 46 to Rs. 74 during the same period, an increase of less than double. Similarly, nominal casual wages have risen from just Rs. 7 during 1983 to Rs. 45 during 2004-05, while real wage rates show a marginal increase from Rs. 25 to Rs. 40 during the same period[6]. The change in real wages from 1983 to 2005 as in Table K shows that wages for both regular and casual workers increased by 60 per cent (from Rs. 46 to 74 and from Rs. 25 to 40). Wages for rural female regular workers doubled but remained stagnant for urban female regular workers.

### 5.3. Differentials in Wage Rates

Even for similar nature of work, elderly receive lower wages than their younger counterparts (Appendix Table K). This may be because the reservation wages of elderly are lower. There may be several reasons for this: (i) desperate need to work; (ii) less work opportunity; (iii) need to work at a nearby place *i.e.* cannot commute or migrate; (iv) working just to keep oneself engaged, *i.e.* to avoid loneliness; (v) lower aspirations due to immobility and disability. In any case, there is enough evidence to show that the wages of the elderly are significantly lower than those earned by their younger counterparts.

It has been observed that the annual growth of real wages is slower for female elderly workers both in rural and urban areas during the post liberalisation period[7] (Appendix Table L). This may be because of fast increasing WPR (*i.e.* increased labour supply) among women workers during the post liberalisation period, as discussed in the above section.

## 6. Contribution of Elderly to Household Income

Despite relatively lower work participation rates and lower wage earnings among the elderly as compared to the average adult workforce, their contribution to the total household income is estimated to be

[6] The real wages in 1983 and 1987-88 will be higher than the nominal wages for the respective years because of converting these at 1993-94 prices.

[7] See also Karan and Sakthivel, 2009.

approximately 4 to 5 per cent on average. Since a large proportion of elderly workers are self-employed, their contribution also comes largely from self-employment. In this section, the contribution of the elderly to total family income is estimated in general and across different income groups.

As mentioned earlier, the elderly constitute about 7.5 per cent of the total population while the elderly workforce constitutes about 6.8 per cent of the total workforce in the country. Even in terms of intensity of employment measured by person days, their contribution is a healthy 6.2 per cent (Appendix Table M). This essentially indicates that the intensity of employment (*i.e.* per working person days of employment) among the elderly is more or less equal to that of their younger counterparts (*i.e.* workers in the prime working age group of 15-59 years).

Since about 78 per cent of the elderly workforce is engaged in labour markets as self-employed, their contribution both in terms of number of workers and intensity of employment (*i.e.* person days of employment) is more than 9 per cent to total household employment. In contrast, their contributions to regular and casual person days of employment are slightly less than 2 per cent and 4 per cent respectively. On an average, the elderly contribution to total person days of employment of a household is more or less equal to their share in the total workforce, for all the three categories of status of employment *i.e.* self-employed, regular and casual.

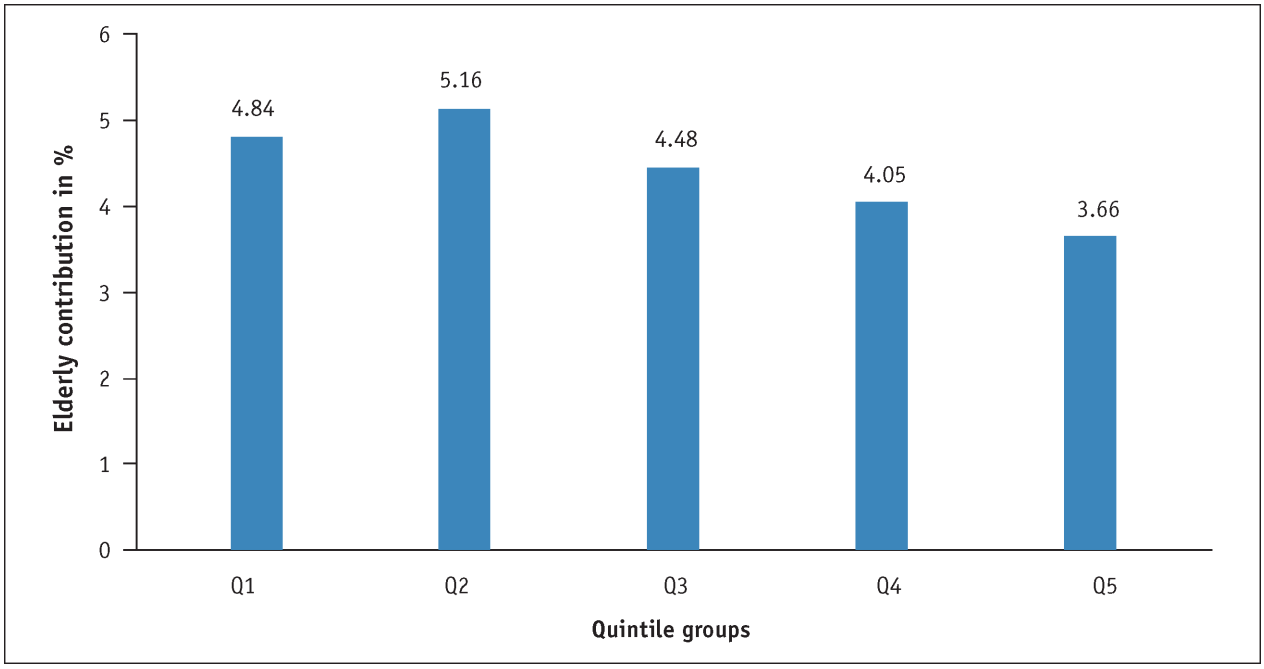
As far as the total household income is concerned, the elderly contribute up to 4.2 per cent of the total weekly household income. The contribution of the elderly to the total household income is lower as compared to their contribution to the total employment of households. This arises mainly because the 'per person' average wage/earning of the elderly is lower as compared to their younger counterparts. Nonetheless, the contribution of elderly labour income is more than 4 per cent to the total labour income of households. The elderly contribute approximately 6 per cent to the total household income from self-employment, while their contribution to the total wage earnings from casual employment is approximately 3.5 per cent on an average.

As pointed out earlier, WPR among rural elderly is approximately twice that among urban elderly. As a result, the contribution by elderly to household income is also higher in rural areas to that in urban areas. However, since the higher WPR of elderly in rural areas is a result of their overwhelming participation in self-employed work, the difference in the contribution to household income across rural and urban settings is also reflected mainly in the self-employed category. In rural areas, elderly contribution to total self-employment income is as high as 6.8 per cent of the total household income from self employment. In urban areas this proportion is less than 4 per cent. Proportionate contribution of total earnings from casual employment of elderly is also more than 50 per cent higher in rural areas (3.7 per cent) than in urban areas (2.4 per cent) (Appendix Table N). In general, elderly contribution to total household income comes from self-employment and casual wage work, both being significantly higher in rural areas than in urban areas. On the whole, the elderly contribute up to 5.5 per cent of the total rural household income as compared to up to 2.5 per cent of the total urban household income.

Overall, the average income of households being significantly lower in rural areas than in urban areas, the contribution of elderly income to rural households is significant. However, the rural-urban pattern

of elderly participation in labour markets and their contribution to household income does not necessarily reflect a poverty-led elderly participation in the labour markets. Elderly contribution to household income is also significant among rich households. A quintile division of households on the basis of living status indicates that although elderly contribution to total household income is the lowest in the top quintile households, the same still constitute up to 3.7 per cent of the total household income. A significant proportion of elderly income across almost all the quintiles also emphasises the fact that elderly labour income is significantly concentrated in richer households. As compared to the lowest quintile households, the elderly income in the top group is more than four times higher (Figures 5 and 6). In general, as we see from Figure 1 and Figure 2 although the proportion of elderly income to total household income is higher among the poorer households, the total magnitude of elderly income among the rich households is quite significant.

**Figure 5. Percentage elderly contribution to total household income across different quintile groups of households, 2004-05**



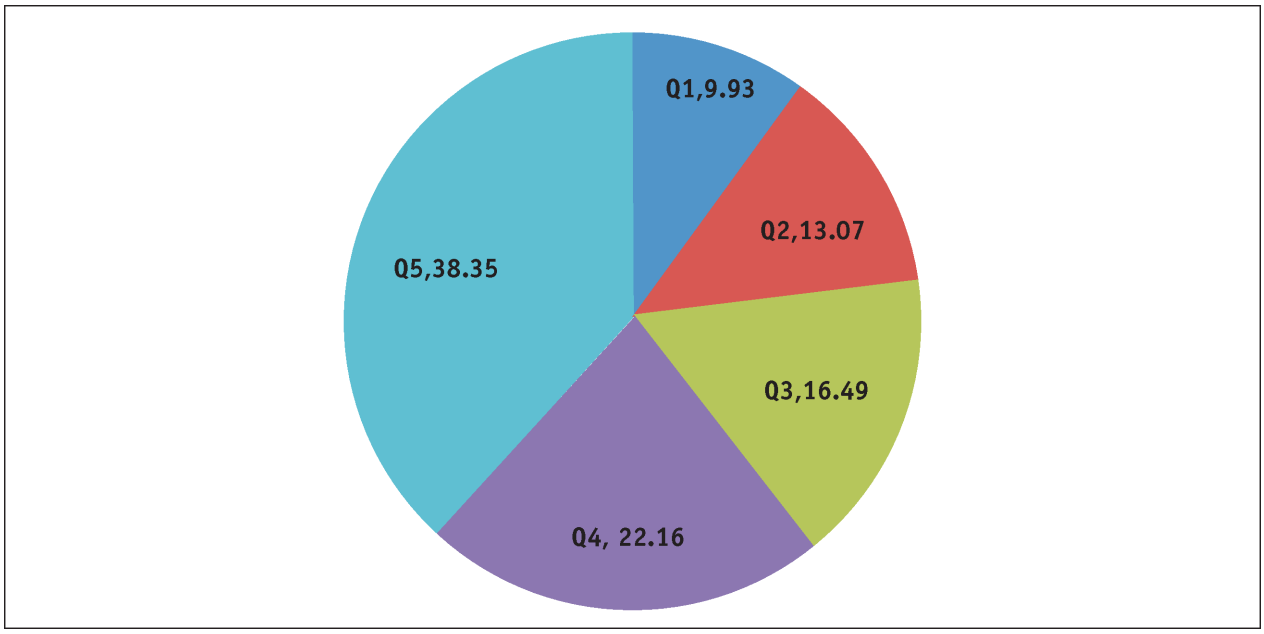

Notes: i. Quintile groups have been created on the basis of household per capita consumption expenditure

ii. Rural and urban quintile groups have been generated separately and then clubbed together

iii. Q1 stands for the lowest quintile and Q5 stands for the highest quintile

*Source:* Authors' estimate based on NSSO, 2004-05.

**Figure 6. Percentage distribution of total elderly income by different quintile groups of households, 2004-05**




Notes and Source: Same as Figure 5

A further disaggregation of the contribution of elderly income to household income by types of employment suggests that the percentage share of elderly casual wage earnings (i.e. income from casual employment) to total household casual wage earnings is as high as approximately 5 per cent in the top quintile group. The same share is less than 3 per cent in the lowest three quintile groups (Appendix Table 0).

In fact, the elderly contribution of wage labour income reflects a systematic pattern of increase with corresponding increase in the living status (quintile groups) of households. This probably reflects higher educational levels of elderly from richer households resulting in higher earnings due to better access to wage labour markets. It is quite possible that elderly from richer households utilise their pre-retirement contacts and other social capital to get casual/part-time employment in their post-retirement working life. Despite the proportion of income from regular employment of elderly in the middle and higher quintile groups being small (and smaller than that in the lower quintiles) the total magnitude of income is significantly higher (3 to four times higher than the total income from regular employment among the bottom two quintile groups). By contrast, the lower quintile groups largely contribute to household income through self-employment activities.

To sum up, the elderly population contributes to livelihood of households approximately in the same proportion as their share in the population. This indicates that the elderly population is approximately as productive as their younger counterparts. Although the contribution of elderly income to total household income, in general, is higher in rural areas and among the poorer households, there is significant contribution by elderly in the rich households as well. This pattern of elderly income does not reflect poverty-and distress-led workforce participation by the elderly but indicates the fact that

most of the elderly population continue to earn in the labour markets as a continuation of their prime working age situation. Further, elderly from poor households contribute to household income largely from self-employed activities while elderly from rich households have better access to wage labour markets and contribute significantly to total wage earnings of households.

## 7. Overall Findings

The analysis of WPR of the elderly carried out in this paper can be summarised as follows:

i. The total elderly population and the elderly workforce population are on rise and are likely to increase at even faster rates than realised till now because of the ongoing demographic changes.
ii. The WPR among the elderly declines with increase in age; however, even in the 80+ age group more than 11 per cent of the elderly participate in labour markets.
iii. A significant proportion (approx. 6 to 7 per cent) of elderly population are not able to participate in the labour markets only because of disability
iv. Although the WPR of elderly is declining steadily, the number of elderly workforce is on the rise;
v. Growth of women elderly workforce has been faster as compared to their male counterparts
vi. Concentration of elderly workforce is prominently higher in younger age group (60-65 years), low educated and poor households
vii. An overwhelming proportion of elderly workforce is self-employed and is concentrated in agriculture
viii. A significant proportion of elderly are also engaged in wage labour in agriculture and non-agriculture sectors such as manufacturing and trade
ix. Average wages and earnings of elderly workforce is significantly lower than that of average adult workers
x. Discrimination in wage payments is also witnessed across gender and rural-urban settings
xi. Growth in real wages has been slower in the post-liberalisation period both for male and female elderly workers
xii. Elderly share of total employment is approximately 7 per cent and their contribution to household income is approximately 4.2 per cent on an average; and
xiii. The elderly contribution to total household income is significantly higher in rural areas (5.5 per cent) and poor households. Hence, the elderly population contributes to livelihood of households approximately in the same proportion as their share in the population. This reflects that the elderly population is approximately as productive as their younger counterparts.

The elderly from poor households contribute to household income largely from self-employed activities while elderly from better off households have better access to wage labour markets and contribute significantly to total wage earnings of households. It is quite evident that elderly from rich households work in the labour markets for augmenting household income and personal income security while those from poor households participate in labour market mainly as a coping mechanism to supplement household income.

In response to the above trends, a long term social security system for the elderly is necessary as their numbers will only increase in coming years. Although elderly from all types of households require

social and state support in order to ensure respectable levels of living in their old age, the elderly from poor households are in urgent need of income security and other economic support. In view of the higher longevity of women in general, elderly women from poor households need special care as their dependence on other family members increases significantly with age.

**References**

Bloom, David E., Mahal A., Rosenberg L., and Sevilla J, 2010. *Economic Security Arrangements and Population Ageing in India*. The WDA-HSG Discussion Paper Series, No. 2010/8, WDA, University of St. Gallen.

Deshingkar, P., and Akter S., 2009. *Migration and Human Development in India*. Overseas Development Institute (ODI), London.

Government of India., 2010. *Report to People on Employment*. Ministry of Labour and Employment, Government of India, New Delhi.

Karan, Anup and Sakthivel, S., 2008. *Trends in Wages and Earnings in India: Increasing Wage Differentials in a Segmented Labour Market*. ILO Asia-Pacific Working Paper Series, International Labour Organisation (ILO), Sub regional Office for South Asia, New Delhi.

Mahal, A. Karan A. K. and Engelgau M., 2010. *Economic Impact of Non-Communicable Disease in India*. Health, Nutrition and Population (HNP), The World Bank, 2009.

NSSO, 2004-05. *Employment and Unemployment Situation in India*. Quinquennial Round, 61st Round, National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Government of India, New Delhi.

RGCCI, 2006. *Population Projections for India and States, 2001-2026, Report of the Technical Group on Population Projections Constituted by the National Commission on Population*. Registrar General and Commissioner of Census, Government of India.

Sastry, N.S., 2007. *Estimating Informal Employment and Poverty in India* (*Discussion Paper no. 7)*. United Nations Development Programme-Human Development Resource Centre, New Delhi.

Unni, J., 2002. Size, *Contribution and Characteristics of Informal Employment in India (Draft)*. Gujarat Institute of Development Research, Ahmedabad.

Visaria, P., 1999. *Demographics of Ageing in India: An Abstract*. Institute of Economic Growth, University of Delhi, New Delhi.

World Bank, 2009. *World Development Indicators (WDI)*. 2009. Washington DC.

## Appendix

**Table A. Percentage distribution of all elderly workers by age, sex and location of residence, 2004-05**

| Location of residence and sex | Total number of elderly workers (in millions) | Percentage distribution by age groups (in years) | | | | |
|---|---|---|---|---|---|---|
| | | 60 to 64 | 65 to 69 | 70 to 74 | 75 to 79 | 80 + |
| **Rural** | | | | | | |
| Male | 18.5 | 46.8 | 29.9 | 15.5 | 5.2 | 2.7 |
| Female | 7.2 | 58.4 | 29.4 | 8.7 | 2.4 | 1.1 |
| Person | 25.7 | 50.0 | 29.8 | 13.5 | 4.4 | 2.2 |
| **Urban** | | | | | | |
| Male | 3.9 | 49.2 | 27.3 | 14.7 | 6.4 | 2.4 |
| Female | 1.1 | 52.3 | 28.6 | 14.5 | 3.3 | 1.3 |
| Person | 5.0 | 49.9 | 27.6 | 14.6 | 5.7 | 2.2 |
| **Rural+Urban** | | | | | | |
| Male | 22.4 | 47.2 | 29.4 | 15.3 | 5.4 | 2.6 |
| Female | 8.3 | 57.5 | 29.3 | 9.5 | 2.5 | 1.1 |
| Person | 30.7 | 50.0 | 29.4 | 13.7 | 4.6 | 2.2 |

Source: NSSO 2004-05

**Table B. Percentage distribution of all elderly workers by educational achievements, 2004-05**

| Education levels | Rural | | | Urban | | | Combined | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Person | Male | Female | Person | Male | Female | Person |
| Illiterate | 52.0 | 89.1 | 61.7 | 24.5 | 67.0 | 32.9 | 48.0 | 86.8 | 58.0 |
| below Primary | 16.4 | 5.4 | 13.5 | 12.7 | 12.5 | 12.7 | 15.9 | 6.1 | 13.4 |
| Primary | 13.3 | 3.7 | 10.8 | 14.8 | 7.0 | 13.2 | 13.5 | 4.0 | 11.1 |
| Middle | 8.8 | 1.0 | 6.8 | 13.0 | 5.4 | 11.5 | 9.4 | 1.5 | 7.4 |
| Secondary | 5.7 | 0.4 | 4.3 | 14.3 | 1.7 | 11.8 | 6.9 | 0.5 | 5.3 |
| Higher secondary | 1.7 | 0.2 | 1.3 | 6.0 | 0.9 | 5.0 | 2.3 | 0.3 | 1.8 |
| Diploma/certificate course | 0.5 | 0.1 | 0.4 | 2.3 | 1.2 | 2.1 | 0.8 | 0.2 | 0.7 |
| Graduate | 1.1 | 0.0 | 0.8 | 7.6 | 1.3 | 6.4 | 2.0 | 0.1 | 1.5 |
| Post graduate & above | 0.4 | 0.0 | 0.3 | 4.7 | 3.1 | 4.4 | 1.1 | 0.4 | 0.9 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Source: NSSO 2004-05

**Table C. Percentage distribution of elderly workforce by status of employment by location of residence, age and sex, 2004-05**

| | | Percentage distribution by employment status within different age groups (in years) | | | | |
|---|---|---|---|---|---|---|
| | Employment status | 60 to 64 | 65 to 69 | 70 to 74 | 75 to 79 | 80 + |
| **Rural male** | Self-employed | 77.1 | 81.2 | 86.2 | 89.6 | 93.5 |
| | Regular | 2.4 | 1.4 | 1.7 | 1.9 | 1.2 |
| | Casual | 20.4 | 17.4 | 12.1 | 8.5 | 5.2 |
| **Rural female** | self-employed | 71.2 | 71.7 | 84.2 | 86.3 | 94.0 |
| | Regular | 1.3 | 1.8 | 3.3 | 1.8 | 6.0 |
| | Casual | 27.4 | 26.5 | 12.5 | 12.0 | 0.0 |
| **Urban male** | Self-employed | 71.9 | 76.1 | 80.4 | 86.3 | 94.3 |
| | Regular | 16.9 | 14.8 | 15.5 | 8.0 | 5.7 |
| | Casual | 11.2 | 9.0 | 4.1 | 5.6 | 0.0 |
| **Urban female** | Self-employed | 56.3 | 64.1 | 76.5 | 73.6 | 80.9 |
| | Regular | 24.6 | 16.1 | 10.8 | 5.0 | 6.5 |
| | Casual | 19.1 | 19.8 | 12.7 | 21.4 | 12.7 |

Source: NSSO 2004-05

**Table D. Trends in the number of elderly workforce in India, 1983 to 2004-05**

(In Thousands)

| Region | Male | Female | Person |
|---|---|---|---|
| | | **1983** | |
| **Rural** | 12481 | 4090 | 16571 |
| **Urban** | 2358 | 704 | 3062 |
| **Total** | 14839 | 4794 | 19632 |
| | | **1987-88** | |
| **Rural** | 13203 | 4136 | 17338 |
| **Urban** | 2676 | 691 | 3368 |
| **Total** | 15879 | 4827 | 20706 |
| | | **1993-94** | |
| **Rural** | 16062 | 5312 | 21374 |
| **Urban** | 3017 | 810 | 3827 |
| **Total** | 19079 | 6122 | 25201 |
| | | **1999-00** | |
| **Rural** | 16809 | 5571 | 22380 |
| **Urban** | 3404 | 865 | 4269 |
| **Total** | 20213 | 6436 | 26649 |
| | | **2004-05** | |
| **Rural** | 18259 | 7163 | 25423 |
| **Urban** | 3861 | 1118 | 4979 |
| **Total** | **22121** | **8281** | **30402** |

Source: Authors calculation from unit level data of NSS

**Table E. Compound annual growth rates (per cent) of elderly workers, 1983-2005**

(In Thousands)

| | 1983 to 1993-94 | 1993-94 to 1999-2000 | 1999-2000 to 2004-05 |
|---|---|---|---|
| **Persons** | | | |
| Rural | 2.45 | 1.75 | 2.58 |
| Urban | 2.15 | 2.67 | 3.12 |
| Total | 2.41 | 1.89 | 2.67 |
| **Male** | | | |
| Rural | 2.43 | 1.29 | 1.67 |
| Urban | 2.37 | 2.50 | 2.55 |
| Total | 2.42 | 1.49 | 1.82 |
| **Female** | | | |
| Rural | 2.52 | 3.03 | 5.16 |
| Urban | 1.34 | 3.28 | 5.27 |
| Total | 2.36 | 3.07 | 5.17 |

Source: NSSO 1983, 1993-94, 1999-2000, 2004-05

**Table F. Workforce participation rates of elderly, 1983 to 2004-05**

(In Thousands)

| Year and location of residence | Male | Female | Person |
|---|---|---|---|
| **1983** | | | |
| Rural | 66.8 | 22.6 | 45.1 |
| Urban | 50.2 | 13.8 | 31.3 |
| Combined | 63.5 | 20.7 | 42.2 |
| **1987-99** | | | |
| Rural | 66.9 | 21.8 | 44.8 |
| Urban | 48.1 | 12.3 | 30.1 |
| Combined | 62.8 | 19.6 | 41.5 |
| **1993-94** | | | |
| Rural | 70 | 24.1 | 47.5 |
| Urban | 44.3 | 11.3 | 27.4 |
| Combined | 64.1 | 21 | 42.7 |
| **1999-2000** | | | |
| Rural | 63.9 | 21.8 | 43.1 |
| Urban | 40.2 | 9.4 | 24.2 |
| Combined | 58.1 | 18.5 | 38.3 |
| **2004-05** | | | |
| Rural | 64.4 | 25.3 | 44.9 |
| Urban | 36.6 | 10 | 22.9 |
| Combined | 56.9 | 21 | 38.8 |

Source: NSSO 1983, 1993-94, 1999-2000, 2004-05

**Table G. Percentage distribution of elderly in labour force and out-of-labour force by age group, 2004-05**

| | 60-69 | | | 70-79 | | | 80+ | | |
|---|---|---|---|---|---|---|---|---|---|
| | Part of labour force | Not able to work due to disability | Others | Part of labour force | Not able to work due to disability | Others | Part of labour force | Not able to work due to disability | Others |
| **Rural** | | | | | | | | | |
| Male | 75.52 | 4.89 | 19.59 | 46.40 | 8.62 | 44.98 | 20.61 | 12.47 | 66.91 |
| Female | 26.30 | 3.94 | 69.76 | 8.29 | 7.17 | 84.55 | 2.77 | 13.66 | 83.57 |
| Persons | 50.27 | 4.40 | 45.33 | 28.09 | 7.92 | 63.98 | 11.62 | 13.07 | 75.30 |
| **Urban** | | | | | | | | | |
| Male | 42.67 | 3.81 | 53.52 | 25.53 | 7.32 | 67.14 | 12.37 | 9.80 | 77.82 |
| Female | 11.16 | 3.30 | 85.54 | 5.47 | 6.07 | 88.46 | .49 | 9.65 | 89.86 |
| Persons | 26.50 | 3.55 | 69.96 | 15.07 | 6.67 | 78.26 | 5.69 | 9.72 | 84.60 |
| **Combined** | | | | | | | | | |
| Male | 67.60 | 4.63 | 27.77 | 41.28 | 8.30 | 50.42 | 18.79 | 11.88 | 69.33 |
| Female | 22.65 | 3.78 | 73.57 | 7.51 | 6.86 | 85.63 | 2.16 | 12.60 | 85.24 |
| Persons | 44.54 | 4.20 | 51.27 | 24.70 | 7.60 | 67.71 | 10.18 | 12.25 | 77.57 |

Source: Authors' calculation from unit level data of NSSO

**Table H. Percentage distribution of elderly workforce by industry, 1983 to 2004-05**

(In Per cent)

| Region | Agriculture and Allied | Mining and Quarrying | Manu-facturing | Electricity, Gas and Water | Construc-tion | Wholesale and Retail Trade | Transpor-tation and Storage | Finance, Insurance, Real Estate | Community, Social and Personal Services | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Rural | 83.74 | 0.19 | 6.42 | 0.02 | 0.90 | 4.28 | 0.40 | 0.10 | 3.97 | 100 |
| Urban | 24.90 | 0.51 | 21.34 | 0.10 | 3.17 | 26.53 | 3.53 | 1.82 | 18.09 | 100 |
| Total | 74.56 | 0.24 | 8.74 | 0.03 | 1.25 | 7.75 | 0.88 | 0.37 | 6.17 | 100 |
| | | | | | **1987-88** | | | | | |
| Rural | 84.48 | 0.18 | 5.72 | 0.03 | 1.20 | 4.22 | 0.42 | 0.10 | 3.65 | 100 |
| Urban | 21.93 | 0.41 | 22.41 | 0.15 | 4.27 | 28.31 | 3.79 | 2.30 | 16.44 | 100 |
| Total | 74.31 | 0.22 | 8.44 | 0.04 | 1.70 | 8.14 | 0.97 | 0.46 | 5.73 | 100 |
| | | | | | **1993-94** | | | | | |
| Rural | 85.77 | 0.11 | 5.37 | 0.03 | 0.88 | 4.61 | 0.26 | 0.10 | 2.86 | 100 |
| Urban | 26.51 | 0.42 | 19.11 | 0.16 | 4.62 | 28.99 | 4.00 | 2.80 | 13.39 | 100 |
| Total | 76.77 | 0.15 | 7.46 | 0.05 | 1.45 | 8.32 | 0.82 | 0.51 | 4.46 | 100 |
| | | | | | **1999-00** | | | | | |
| Rural | 84.74 | 0.14 | 5.75 | 0.03 | 1.05 | 4.26 | 0.49 | 0.06 | 3.49 | 100 |
| Urban | 18.63 | 0.24 | 19.92 | 0.11 | 5.58 | 35.52 | 3.85 | 3.53 | 12.63 | 100 |
| Total | 74.15 | 0.16 | 8.02 | 0.04 | 1.77 | 9.27 | 1.03 | 0.61 | 4.95 | 100 |
| | | | | | **2004-05** | | | | | |
| Rural | 84.08 | 0.11 | 4.95 | 0.03 | 1.94 | 4.98 | 0.59 | 0.17 | 3.16 | 100 |
| Urban | 22.10 | 0.26 | 19.23 | 0.03 | 6.42 | 28.65 | 4.25 | 4.71 | 14.35 | 100 |
| Total | 73.93 | 0.13 | 7.29 | 0.03 | 2.67 | 8.86 | 1.19 | 0.91 | 4.99 | 100 |

Source: Authors' calculation from unit level data of NSSO

**Table I. Trends in nominal wages of elderly workforce, 1983 to 2004-05**

(In Rupees)

| Region | Regular | | | Casual | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| | | | **1983** | | | |
| **Rural** | 10 | 5 | 9 | 8 | 5 | 7 |
| **Urban** | 18 | 8 | 16 | 11 | 6 | 9 |
| **Total** | 14 | 7 | 13 | 8 | 5 | 7 |
| | | | **1987-88** | | | |
| **Rural** | 13 | 9 | 11 | 12 | 7 | 8 |
| **Urban** | 28 | 17 | 26 | 17 | 7 | 14 |
| **Total** | 26 | 14 | 23 | 15 | 7 | 10 |
| | | | **1993-94** | | | |
| **Rural** | 32 | 17 | 29 | 21 | 14 | 19 |
| **Urban** | 52 | 22 | 46 | 31 | 17 | 26 |
| **Total** | 43 | 20 | 39 | 22 | 15 | 20 |
| | | | **1999-00** | | | |
| **Rural** | 64 | 28 | 56 | 42 | 26 | 37 |
| **Urban** | 113 | 64 | 103 | 59 | 33 | 52 |
| **Total** | 95 | 51 | 86 | 43 | 27 | 38 |
| | | | **2004-05** | | | |
| **Rural** | 82 | 40 | 71 | 52 | 31 | 44 |
| **Urban** | 124 | 44 | 102 | 70 | 39 | 59 |
| **Total** | 106 | 42 | 89 | 53 | 32 | 45 |

Source: Authors' calculation from unit level data of NSSO

**Table J. Trends in real wage rates of elderly workforce, 1983 to 2004-05**

(In Rupees)

| Region | Regular | | | Casual | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| | | | **1983** | | | |
| **Rural** | 36 | 17 | 34 | 27 | 17 | 24 |
| **Urban** | 71 | 32 | 62 | 42 | 21 | 34 |
| **Total** | 52 | 23 | 46 | 29 | 17 | 25 |
| | | | **1987-88** | | | |
| **Rural** | 39 | 26 | 33 | 34 | 19 | 23 |
| **Urban** | 78 | 49 | 72 | 46 | 20 | 39 |
| **Total** | 59 | 34 | 51 | 36 | 19 | 25 |
| | | | **1993-94** | | | |
| **Rural** | 51 | 27 | 48 | 35 | 23 | 31 |
| **Urban** | 85 | 36 | 74 | 50 | 28 | 43 |
| **Total** | 70 | 30 | 60 | 36 | 24 | 32 |
| | | | **1999-00** | | | |
| **Rural** | 64 | 28 | 56 | 42 | 26 | 37 |
| **Urban** | 113 | 64 | 103 | 59 | 33 | 52 |
| **Total** | 94 | 45 | 83 | 43 | 27 | 38 |
| | | | **2004-05** | | | |
| **Rural** | 74 | 35 | 64 | 46 | 28 | 40 |
| **Urban** | 100 | 35 | 83 | 57 | 32 | 48 |
| **Total** | 90 | 35 | 74 | 47 | 28 | 40 |

Note: Converted at constant 1993-94 prices
Source: Authors' calculation from unit level data of NSSO.

**Table K. Average daily wage rates (Rs.) of elderly and other workers, 2004-05**

| Status of employment | Regular | | Casual | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| **Elderly** | | | | |
| Regular workers | 82.23 | 39.60 | 127.44 | 43.88 |
| Casual workers in public works | 60.01 | 34.07 | 57.14 | NA |
| Casual workers in other works | 51.83 | 31.36 | 70.34 | 39.12 |
| **Workers in 15-59 age groups** | | | | |
| Regular workers | 145.05 | 85.01 | 203.02 | 152.78 |
| Casual workers in public works | 83.76 | 49.10 | 89.61 | 84.12 |
| Casual workers in other works | 55.68 | 35.29 | 76.00 | 44.39 |

Source: NSSO 2004-05

**Table L. Compound Annual Growth Rates (per cent) of Elderly Real Wages**

| Sector | Regular | | Casual | |
|---|---|---|---|---|
| | Female | Male | Female | Male |
| | | **1983 to 1993-94** | | |
| Rural | 3.37 | 4.50 | 2.50 | 2.92 |
| Urban | 1.73 | 1.13 | 1.67 | 2.78 |
| | | **1993-94 to 2004-05** | | |
| Rural | 3.79 | 2.63 | 2.77 | 1.99 |
| Urban | 1.64 | -0.28 | 1.32 | 1.34 |

Source: Authors' calculation from unit level data of NSSO

**Table M. Percentage contribution of children, adults and elderly to total employment and household income, 2004-05**

| Parameters of elderly Share | Population groups | | | |
|---|---|---|---|---|
| | Children | Adults | Elderly | All |
| 1. **Population** | 32.1 | 60.39 | 7.51 | 100 |
| 2. **Workforce** | 1.84 | 91.40 | 6.76 | 100 |
| 2a. Self-employed | 2.09 | 88.67 | 9.24 | 100 |
| 2b. Regular | 0.92 | 97.23 | 1.86 | 100 |
| 2c.Casual | 1.82 | 93.90 | 4.29 | 100 |
| 3. **Person days of employment** | 1.62 | 92.20 | 6.18 | 100 |
| 3a. Self employed | 1.75 | 89.04 | 9.21 | 100 |
| 3b. Regular | 0.90 | 97.18 | 1.92 | 100 |
| 3c. Casual | 1.81 | 94.24 | 3.95 | 100 |
| 4. **Household income** | 0.58 | 95.18 | 4.24 | 100 |
| 4a. Self employed | 0.66 | 93.60 | 5.74 | 100 |
| 4b. Regular | 0.18 | 98.81 | 1.01 | 100 |
| 4c. Casual | 1.13 | 95.43 | 3.43 | 100 |

Source: Authors' estimate based on NSSO, 2004-05.

**Table N. Percentage distribution of household income by contribution from the three broadage groups in rural and urban areas, 2004-05**

| Location of residence and status of employment | Population groups | | | |
|---|---|---|---|---|
| | (below 15 years) | Children (15 to 59 years) | Adult (60 years & above) | Elderly All |
| Rural | | | | |
| Self employed | 0.87 | 92.34 | 6.79 | 100 |
| Regular | 0.21 | 98.65 | 1.14 | 100 |
| Casual | 1.17 | 95.18 | 3.65 | 100 |
| All employment | 0.83 | 93.67 | 5.50 | 100 |
| Urban | | | | |
| Self employed | 0.27 | 95.92 | 3.81 | 100 |
| Regular | 0.16 | 98.88 | 0.96 | 100 |
| Casual | 0.93 | 96.71 | 2.36 | 100 |
| All employment | 0.25 | 97.24 | 2.51 | 100 |

Source: Authors' estimate based on NSSO, 2004-05.

**Table O. Percentage elderly contribution to total household income across different quintiles by type of employment, 2004-05**

| Quintile groups | Type of employment | | | |
|---|---|---|---|---|
| | Self-employed | Regular | Casual | All |
| Lowest 20% | 7.03 | 1.80 | 2.81 | 4.84 |
| Second lowest | 7.40 | 1.80 | 2.81 | 5.16 |
| Middle | 6.24 | 0.97 | 3.55 | 4.48 |
| Second highest | 5.53 | 0.93 | 4.48 | 4.05 |
| Top 20% | 5.29 | 0.84 | 5.08 | 3.66 |
| Total | 5.91 | 1.01 | 3.43 | 4.20 |

Source: same as Figure 1.

## About the Project

The United Nations Population Fund - UNFPA supported project BUILDING KNOWLEDGE BASE ON POPULATION AGEING IN INDIA (IND7P41G) aims at contributing and further expanding the existing knowledge base on the emerging population dynamics in India which are resulting in significant shifts in the age structure towards higher proportions of older persons aged 60 years and above. The project supports the preparation of a series of thematic studies using existing secondary data sources as well as the collection and analysis of new primary data. Dissemination of the findings to various stakeholders is a key objective of the project to help enhance the overall understanding of the situation of elderly in the country for further research and policy analysis on the growing numbers of India's senior citizens. The project is a partnership between the Institute for Social and Economic Change (ISEC), Bangalore, the Institute of Economic Growth (IEG), New Delhi and UNFPA, Delhi.

More information on the project can be obtained from http://www.isec.ac.in/prc.html or www.iegindia.org or www.indiaunfpa.org

The first phase of the project includes several commissioned papers prepared by experts using existing secondary data sources such as the National Sample Survey Organisation and the National Family Health Surveys. The second phase of the project involves an updated situation analysis through the collection of primary data from seven states in India which have relatively higher proportions of elderly. These are Himachal Pradesh, Kerala, Maharashtra, Orissa, Punjab, Tamil Nadu and West Bengal. The survey data includes socio-economic characteristics, family dynamics, living arrangements, health and awareness of social security programmes of the elderly.

The papers prepared by experts in India under the project are listed on the back cover of the series of working papers. The project invites the readers to provide feedback and help finalise the papers for publication.

## About the Author

Sakthivel Selvaraj is a Health Economist and a faculty at the Public Health Foundation of India. He is currently engaged in teaching and research in health care financing and pharmaceutical economics. He was a Takemi Fellow (Post-Doctoral Fellow at Harvard School of Public Health, USA) during 2006-07.

Anup K Karan is a Research Scholar at the Public Health Foundation of India. Currently he is pursuing his D. Phil. at the University of Oxford under the 'Future Faculty Programme'. He has been engaged in teaching and research in 'equity in health care financing'. He was a Takemi Fellow at the Harvard School of Public Health, Harvard University, USA, during 2006-07.

S. Madheswaran is a Professor in the Centre for Economic Studies and Policy at the Institute for social and Economic Change, Bangalore. At present, he is on deputation as an adviser to the Government of Karnataka. His areas of research include applied econometrics and the economics of labour, education, and environment. He has published several articles in national and international journals.

## BKPAI Working Paper Series

1. Demographics of Population Ageing in India
   Lekha Subaiya and Dhananjay W Bansod
2. Studies on Ageing in India: A Review
   S Siva Raju
3. Elderly Health in India: Dimension, Differentials and Determinants
   Moneer Alam and Anup Karan
4. Elderly Workforce Participation, Wage Differentials and Contribution to Household Income
   Sakthivel Selvaraj, Anup Karan and S Madheswaran
5. The National Policy for Older Persons: Critical Issues in Implementation
   S Irudaya Rajan and U S Mishra
6. Policy Initiatives on Population Ageing in Select Asian Countries and Their Relevance to the Indian Context
   Mala Kapur Shankardass