Old Age Social Protection Options for Bangladesh

Volume -I

Bureau of Economic Research
Dhaka University

HelpAge International
age helps

This report summarises detailed analysis of the 2010 Bangladesh Household Income and Expenditure Survey. The detailed analysis and annexes to this study are published in a separate report that can be accessed online. The study was conducted by the Bureau of Economic Research of the University of Dhaka and HelpAge International between December 2012 and June 2013.The results of the study were presented to the General Economics Division of the Planning Commission, Government of Bangladesh in July 2013. Essential funding for the research was provided by the German Federal Ministry of Economic Cooperation and Development through a project grant to HelpAge International entitled *Inclusive poverty reduction and social protection: supporting access to income and health for older people in developing countries*. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the German Government.

Authors: Bazlul Haque Khondker (University of Dhaka), Charles Knox-Vydmanov and Andrea Vilela (HelpAge International)

August 2013

Foreword

Bangladesh has wide range of public "social protection" programmes. The Ministry of Finance estimates this expenditure at US$ 2.9 billion for FY2012/13amounting to 2.2% of GDP. The current social protection portfolio includes around 95 schemes, which are fragmented across various sectors, geographical areas and ministers, as well as having overlapping objectives and beneficiaries. Among the 95 schemes, an important social protection programmes is the Old Age Allowance (OAA) which was introduced in 1998 for the wellbeing of the poor old people.

The OAA scheme has expanded at a remarkable speed over the last decade and a half. Introduced in 1998, the OAA initially allocated benefits for around 400,000 older people, a figure which has increased by six times as of 2012. The transfer level has also increased from an initial value of 100BDT to 300BDT today. The OAA is the most significant scheme, in terms of coverage, providing social protection in old age. Despite its expansion, like all other social protection schemes in Bangladesh, OAA suffers from various problems such as poor targeting, leakage and shoddy programme management.

There is growing realization that in future, Bangladesh needs to ensure that its SP (Social Protection) Schemes are able to protect poor and vulnerable families and individuals from various vulnerabilities and risks, and respond to the changing demography and fiscal constraint. Accordingly, Government of Bangladesh is now committed to developing a Comprehensive Social Protection Strategy ensuring that. Transfer reach the intended beneficiaries without lose/leakage through strengthened administration, improved management information systems and enhanced coordination.

Old age is fundamental human concern for all people in all countries, and old age pensions usually form a core component of comprehensive social protection system. As the Government of Bangladesh looks to take forward its commitment to expanding social protection- including through the development of a National Social protection Strategy (NSPS)- evidence on social protection and old age concern will be critical. This report, through application of micro-simulation analysis and macro-economic modelling provide credible estimates that a universal OAA is feasible in Bangladesh and it's comfortably within the government aim to expand social protection spending to 3 percent of GDP by 2015. Publication of this report is very timely and put on records deep insights and recommendations relevant to formulation of doable actions.

Prof. Shamsul Alam, Ph.D
Member
General Economic Division, Planning Commission
Ministry of planning

Table of Contents

List of Tables

List of Figures

Acronyms and Abbreviations

BBS	Bangladesh Bureau of Statistics
BDT	Bangladesh Taka
BIDS	Bangladesh Institute of Development Studies
CBN	Cost of Basic Needs
CNG	Compressed Natural Gas
GDP	Gross Domestic Product
GED	General Economics Division
HDRC	Human Development Research Centre
HIES	Household Income and Expenditure Survey
ILO	International Labour Organisation
NSPS	National Social Protection Strategy
OAA	Old Age Allowance
PMT	Proxy Means Testing

Executive Summary

Old age is a fundamental human concern for all people in all countries, and old age pensions usually form a core component of a comprehensive social protection system. Historically, investment in pension systems has been a starting point in the development of wider social protection systems that cover a variety of life cycle risks. As the Government of Bangladesh looks to take forward its commitment to expanding social protection – including through the development of a National Social Protection Strategy (NSPS) – evidence on social protection and old age will be critical. This report aims to contribute to the existing evidence base by using nationally-representative data from the 2010 Household Income and Expenditure Survey (HIES) to assess social protection for old age in Bangladesh, including reform options.

While older people only make up a small proportion of the population in Bangladesh, old age is an issue which has a wide impact. Around a third of the population live in households with someone aged 60 or over. Social protection, including cash transfers to older people, plays a critical role in supporting families and communities to cope with ageing.

It appears that older people may have benefitted less from development gains in recent years, which raises concerns for sustaining achievements in development in the context of an ageing population. Comparison of the 2005 and 2010 HIES finds that poverty fell far less over this period amongst households headed by an older person, here defined as those aged 60 and over, than those headed by people of younger ages. While the national poverty rate in Bangladesh fell by 8.5 percentage points between 2005 and 2010, the population living with older people benefited significantly less. For people living in older headed households, extreme poverty has fallen by less than a third of the overall fall in extreme poverty (2.7 percentage points, compared to 7.5 for the total population). Meanwhile the general fall in poverty for the population living in older headed households has been around half that of the population in younger headed households (5.0 percentage points, compared to 10.7 percentage points). This trend deserves further investigation, but points to the possibility that the current policy mix in Bangladesh is less supportive of households where an older person is present. If this is the case, it is likely to undermine overall development gains in the future, particularly as Bangladesh's population is ageing rapidly. Population projections suggest that, between 2000 and 2040, Bangladesh will see a fourfold increase in the absolute number of the population aged 60 and over and a tripling of this age group as a proportion of the population. This will inevitably result in an increasing proportion of the population living and coping with old age.

The Old Age Allowance (OAA) has uneven coverage and low benefit levels but provides a good source of learning and a starting point for a more effective programme. As one of the longest running and largest scale social protection programmes in Bangladesh, the existing OAA programme demonstrates a public commitment to support an ageing society. However, it suffers from a number of widely reported limitations; under-coverage, inadequate benefit levels and administrative capacity constraints. The overarching constraint of the programme stems from limited budgetary allocation at 0.13 per cent of GDP. Meanwhile, analysis of the 2010 HIES confirms findings from previous studies by highlighting significant targeting errors within the scheme. Despite sufficient budget to provide benefits to all poor older people, the majority of poor older people miss out. This is due to targeting errors which see over 50 per cent of benefits going to non-poor older people and almost a third of benefits going to those below the age of eligibility.

Current social protection policy discussion should consider comprehensive old age social protection as a priority policy option for Bangladesh. There is a commitment within the Sixth Five Year Plan (2011) to increase spending on social protection to 3.0 per cent of GDP by 2015 and the Government of Bangladesh is committed to develop the NSPS by February 2014. These policy processes provide a timely moment to reflect on existing policy and particularly on the role that an expanded OAA could play within the NSPS.

Proposed approaches to improve targeting by using proxy means testing would still result in large targeting errors, and would not be significantly more efficient at reducing poverty than a simple universal OAA. The study implements an efficiency test by first developing a Proxy Means Test (PMT) based on the methodology used by the World Bank for the 2005 HIES. The study constructs the PMT score and then performs analysis to test how well this score correlates with the actual poverty situation of a household in the HIES. The study finds the correlation to be relatively weak, meaning an OAA using PMT to target poor older people would still exclude 35 per cent of households below the poverty line. This would be an improvement to the current targeting performance of the OAA, but still mean a large portion of poor older people would be systematically excluded. When the efficiency of this approach is compared to a universal OAA, PMT has only a marginally higher cost-benefit ratio. A poverty targeted OAA of 300BDT to people aged 60 and over would score 0.08, while a universal scheme of the same parameters would score 0.10. Critically, this analysis does not take account targeting errors that occur at the level of implementation, which are likely to be sizable for a programme of this nature in Bangladesh but have shown to be significantly reduced with universal pensions.

The analysis presents impacts and costs for a broad range of universal schemes, considering both over all poverty rates as well poverty rates for the population living with older people at national and division level. Universal OAA impact simulations confirm that higher benefit levels and lower ages of eligibility correlate with increased impact. A benefit of 1,600BDT (around the upper poverty line in Bangladesh) to people aged 60 and over would cost 1.7percent of GDP (9.5percent of government expenditure) and would lift almost 6 million people out of poverty, reducing the national poverty rate by almost 4 percentage points. Meanwhile, expanding the current OAA universally would lift 1.2 million people out of poverty and lower poverty by less than 1 percentage point (0.78 percentage points).

A universal OAA is feasible in Bangladesh and fits comfortably within the government aim to expand social protection spending to 3 percent of GDP by 2015. Specifically, a benefit level of 600BDT to people aged 60 and over would cost 68billion BDT, which is equivalent to an additional 0.5 per cent of GDP over and above the cost of the existing programme. Such a programme would lift 2.5 million people out of poverty and reduce the poverty rate of the population living with older people (32 percent of the population) by 6 percentage points. This would be equivalent to a fall in poverty greater than that achieved between 2005 and 2010 for the population living in older headed households. A programme of this size could have a macro-economic impact, increasing GDP by over 0.7 per cent. With this in mind, the programme would not present an additional cost to the Bangladesh economy.

A universal OAA would have comparable impact on economic growth as similar investments in infrastructure. Utilising macro-economic modelling through the Social Accounting Matrix (SAM) multiplier module, analysis finds that investment in an OAA of this scale would have an impact on macro-economic output. The research presents the change in domestic output by major activities (manufacturing, agriculture, services, construction and transport) and finds comparable increases in output for all activities, except construction. Investment at the household level has comparatively greater impact on the increase in GDP, contributed through agriculture, transport and services. This is

attributable to the fact that these activities are relatively more sensitive to increases in household level consumption. At a household level, analysis finds that investment in OAA outstrips investment in infrastructure. This is attributable to the fact that these activities are relatively more sensitive to increases in household level consumption.

The analysis reported here is a summarised presentation of extensive analysis available for consideration by the Government of Bangladesh in the development of the NSPS. It aims to complement various other existing, and anticipated, research that explores more the issues of old age poverty and vulnerability and the implementation and impact of the existing OAA.

Introduction

"It shall be a fundamental responsibility of the State to [secure] to its citizens the right to social security, that is to say to public assistance in cases of undeserved want arising from unemployment, illness or disablement, or suffered by widows or orphans or in old age, or in other such cases."[1]

Article 15, The Constitution of the People's Republic of Bangladesh

Social protection – and, in particular, social security – is guaranteed as a right in the Constitution of Bangladesh. In keeping with this sentiment, the financial commitment made to social protection in Bangladesh is relatively high compared to other low-income countries, with expenditure at around 2 per cent of GDP per annum.[2] In spite of this investment, there is recognition from government that the current system falls far short of the constitutional commitment due to low coverage of the population, the large array of disparate programmes and a lack of coordination across government. In order to tackle these issues, and as part of a transition towards middle-income status, the government is taking a number of concrete steps. First, in order to address the limited reach of the social protection system, there is a commitment within the Sixth Five Year Plan (2011) to increase spending on social protection to 3 per cent of GDP by 2015. Second, the government has resolved to develop a National Social Protection Strategy (NSPS) by February 2014 to guide reforms and growth in the social protection sector. The General Economics Division (GED) or the Bangladesh Planning Commission will prepare the strategy on behalf of the Government of Bangladesh. These policy processes provide a timely moment to reflect on existing policy.

Old age is a fundamental concern of any social protection system, a point that is echoed by the articulation of social security within Bangladesh's constitution. The Old Age Allowance (OAA), implemented by the Ministry of Social Welfare, is the most substantial scheme in place to tackle poverty in old age in terms of coverage and expenditure. It is also one of the largest and longest running programmes of the social protection system as a whole. Furthermore, the role played by the OAA in recipient households mean that its impacts are felt beyond older people themselves as the transfer is used to support consumption needs of the wider household and family network.[3] Nevertheless, as with other programmes, it faces challenges in terms of low coverage, small benefit levels and inaccurate targeting. Therefore, a key consideration for the NSPS will be the future of the OAA in terms of both scale and design.

National data sets can be instrumental in informing social protection reform both in terms of understanding the performance of existing schemes as well as exploring reform options. Household budget surveys, such as Bangladesh's Household Income and Expenditure Survey (HIES), can provide evidence on the targeting accuracy and the poverty impacts of social protection reform scenarios. This evidence can help policy makers consider key design choices, such as eligibility criteria and benefit levels. For example, it can be used to simulate the static (or "day after") impact of reform options to the

[1]Article 15. D from the Provision of Basic Necessities http://bdlaws.minlaw.gov.bd/pdf_part.php?id=367 (1 May 2013)

[2]Pradha M, Mohd S and Sulaiman J, "An investigation of social safety net programmes as a means of poverty alleviation in Bangladesh", *Asian Social Science Vol 9, No. 2*, 2013

[3]Begum S and Wesumperuma D, "Overview of the Old Age Allowance Programme in Bangladesh" in S WeningHandayani and B Babajanian (eds)*Social protection for older persons: social pensions in Asia*, Manila, Asian Development Bank, 2012

OAA in terms of reducing poverty. The HIES can also help us to understand the existing situation of households, including those with older people, such as whether they receive social protection benefits.

Until now, there has been limited use of national-level data to assess the performance of the OAA, and to explore the trade-offs of different reform options. While there have been numerous micro-studies on the performance of the OAA that explain how the transfer is used within households and shed light on the administrative challenges of the programme, these have mostly been limited to certain geographical areas. Similarly, no studies have, as yet, looked in depth at the macro-level cost and impact of making changes to the OAA.

The prime objective of this research is therefore to use HIES data to analyse the existing OAA, as well as to simulate the cost and impact of various reform scenarios using different targeting criteria (namely age of eligibility and statistical poverty targeting) and different benefit levels. It is hoped that the detailed analysis presented here will contribute to evidence-based policy making regarding the role of the OAA in the NSPS and future road-maps for its implementation. In particular, it aims to complement the Ministry of Social Welfare's forthcoming evaluation of the OAA by Bangladesh Institute of Development Studies (BIDS).

In order to put this analysis in context, this study also uses the opportunity of analysing the HIES to expand the existing evidence on the socio-economic situation of older people at the national level. Whilst there is a good deal of evidence regarding the situation of older people in Bangladesh, nationally-representative assessment of old age poverty has, to date, been limited. Previous studies have recognised this gap. BIDS have noted that "although poor elderly are [the] target population, we have no information about the incidence of poverty among older people… we therefore assume that among older people aged 65+ those living below the poverty line may represent about 60 per cent...".[4]The Human Development Research Centre (HDRC), in a 2003 report, described the lack of national-level age desegregated data on older people's poverty, with most focus being on micro-level surveys. The report notes, "micro-level studies give indication about the poverty of older persons; but almost all these studies suffer from a common drawback to draw national level conclusions about the nature and extent of poverty among older people".[5]

The report is structured as follows:

Section 1 aims to contextualise later analysis of old age social protection by exploring the socio-economic situation of older people in Bangladesh. Following an overview of the demographic profile of older people and the households that they live in, there is an exploration of the question of old age poverty. Analysis includes the use of different assumptions around differing needs of household members (through changing equivalence scales) to test the impact on the relative poverty of older people.

Section 2 summarises the simulations and econometric analysis of HIES data, which is presented in detail within a separate annex to this report. It begins by assessing existing social protection for older people in Bangladesh, with a focus on the OAA, and then turns to the question of options for reform.

[4] BIDS, *An evaluation of the Old Age Allowance Programme of the Government of Bangladesh: technical proposal prepared for the Directorate of Social Services*, Dhaka, BIDS, 2009

[5]Barkat A et al, *Chronic poverty among older people in Bangladesh*, Dhaka, HDRC, 2003

This includes a comparison of outcomes of poverty targeting (using proxy means testing) versus a universal scheme to all people over a set age. Scenarios for a universal OAA are then explored in more detail. The section concludes with a consideration of financing options for social protection that could help fund an expanded OAA. Through these of a Social Accountability Matrix (SAM) based Multiplier Model this section also assesses the trade-off of increased expenditure on the OAA versus other potential investments.

The intention is that this analysis can be triangulated with primary survey analysis, with the hope that it will be valuable for informing policy making in relation to ageing and social protection, and particularly the NSPS.

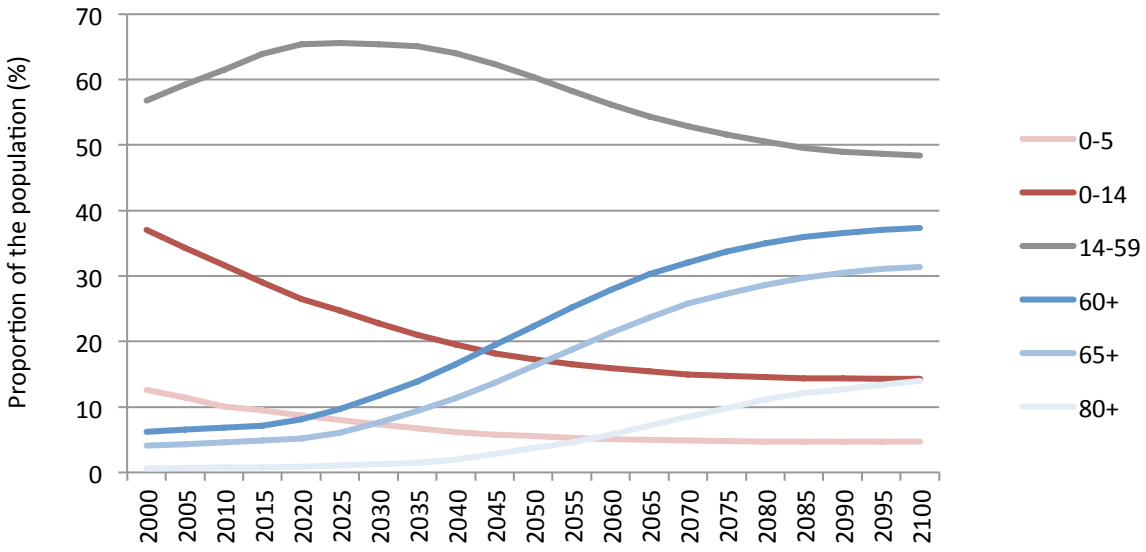
1. Socio-economic status of the older population

1.1 Demographic characteristics of the older population

A**nalysis of HIES data confirms that demographic ageing in Bangladesh is already underway.** Currently, 7.5 percent of the Bangladeshi population are aged 60 or over. HIES data also indicates that the demographic profile of rural areas is notably older than urban areas, with those aged 60 or over making up 8 per cent of the population in rural areas, compared to 6.7 per cent in urban areas.

Bangladesh will witness a rapid change in its population structure due to successes of social policy interventions which have driven down child mortality and high fertility rates and extended life expectancy. Largely driven by social policy in the 1970s, which focused on the areas of family planning and reproductive health, there has been a rapid decline in the numbers of children per woman, from an average between 1970 and 1975 of 6.9 children per woman to 2.2 children per woman today. Health and water and sanitation interventions have had historic success in the reduction of child mortality from over 25 per cent in 1970 (258 deaths per 1000 live births) to 4.2 per cent today (42 deaths per 1000 live births). Life expectancy at birth has improved dramatically in the same period, from 46.0 years to 70.5, and will be an estimated 80 years of age for the population born by 2050.[6]These drivers will see the older population (those aged 60 and over) outnumber children (0-5) in less than a decade (Figure 1).

Figure 1: Changing population structure in Bangladesh (2000 - 2100)

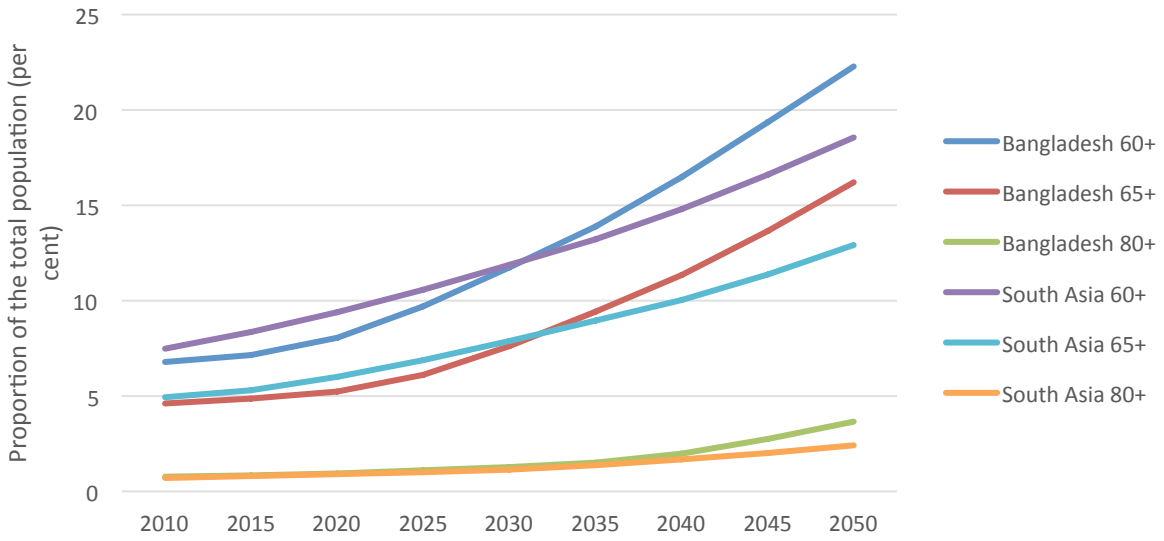


Source: UN-DESA, World Population Prospects: The 2012 Revision

[6] UN-DESA, *World Population Prospects: The 2012 Revision*, http://esa.un.org/unpd/wpp/index.htm (1 May 2013)

Bangladesh has one of the fastest ageing populations globally, with an above average ageing trend for the South Asia region. Currently the proportion of people aged 60 and over is below average for the region, though the difference reduces when considering the population aged 65 and over and 80 and over (Figure 2). By 2030 this is set to change dramatically, with the proportion of older people increasing rapidly at an above average rate for the region.

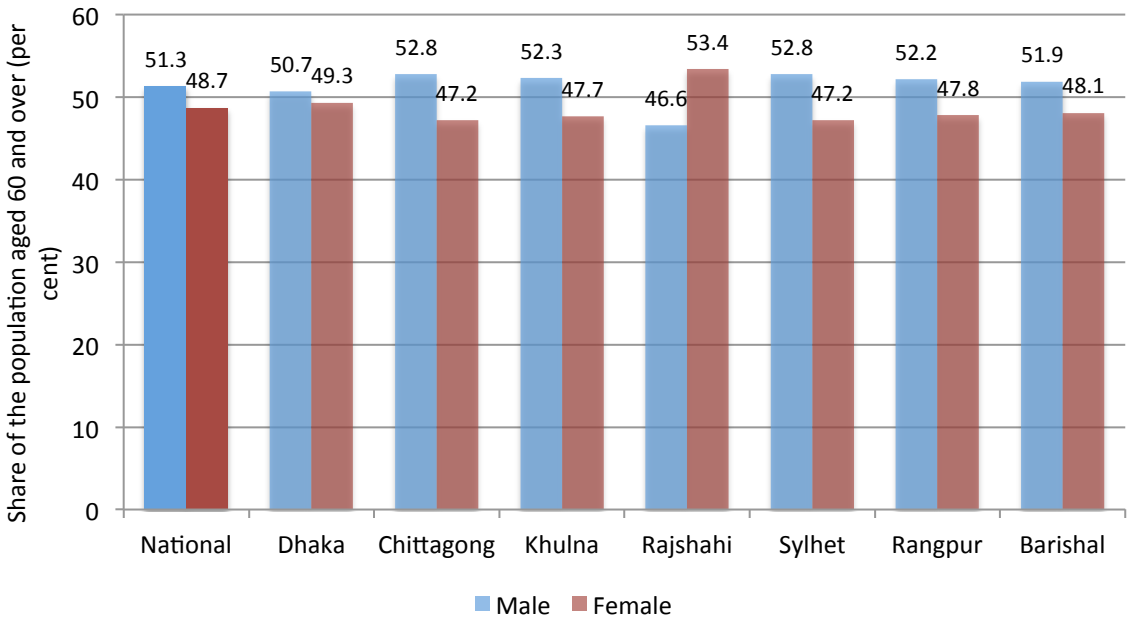
Figure 2: Bangladesh is ageing faster than average for the region



Source: UN-DESA, World Population Prospects: The 2012 Revision

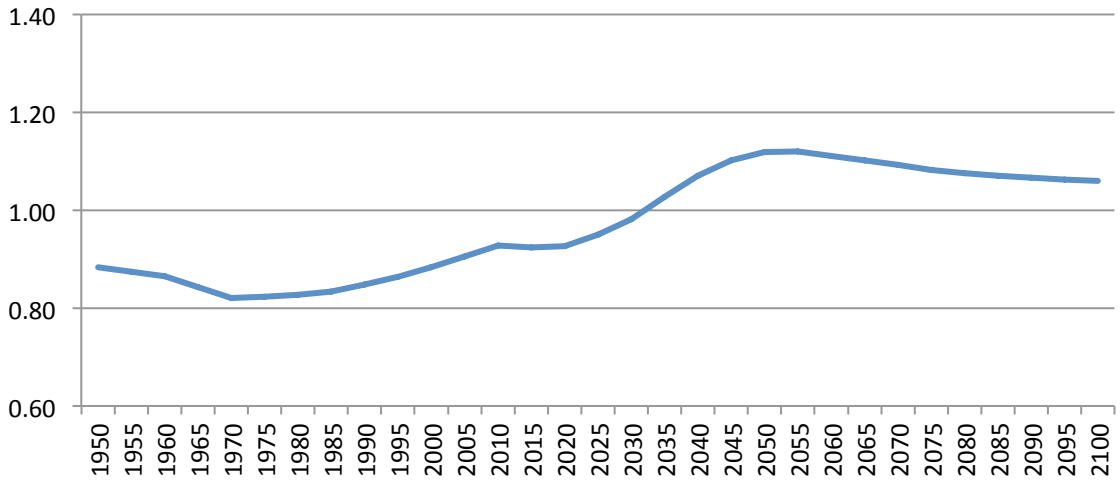
There are still more older men than women in Bangladesh, but this trend is set to change in the coming years. While women make up a greater proportion of the population as a whole, this trend is reversed in the older population, with 51 per cent of older people being men, and 49 per cent women (Figure 3). This trend is consistent across all divisions, with the exception of Rajshahi where 53 per cent of those aged 60 and over are women. The lower proportion of women in the older population is due to the fact that life expectancy of women in Bangladesh has been historically lower than that of men. This is a balance which is set to change in the future as the more recent increases in life expectancy of women in recent years filter up the population pyramid. Figure 4 uses United Nations data on the historic and projected population of Bangladesh to show the ratio of women to men in the 60 and over age bracket. Up to 2030 there will be more older men than older women in Bangladesh, when this trend is set to reverse, peaking around 2050.

Figure 3: Population aged 60 and over, by sex and division (2010)



Source: 2010 HIES, Author's calculations

Figure 4: Ratio of women to men in the population aged 60 and over (2050-2100)



Source: UN-DESA, World Population Prospects: The 2012 Revision, Author's calculations

While less than one in ten Bangladeshis are aged 60 or over, almost a third of people live in a household with an older person. Using 2010 HIES data it is possible to analyse distribution of the population both by households that responded as being headed by an older person as well as households which have an older household member, but who are not considered the household head. The distribution of the population according to the two classifications is presented in

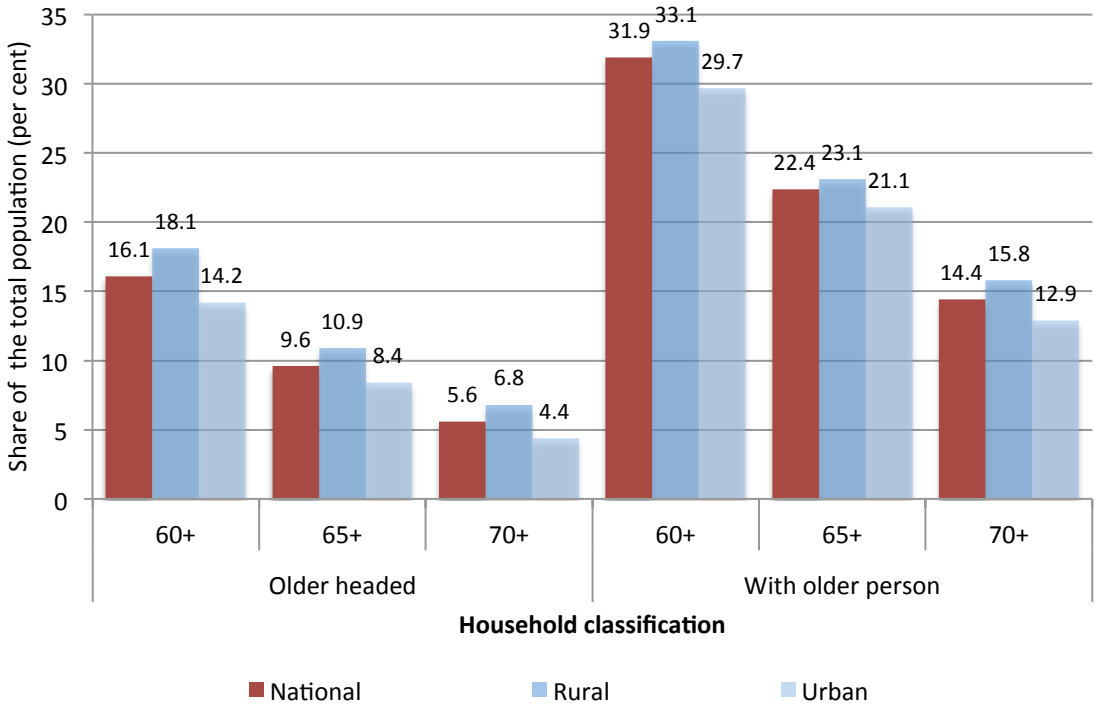
Figure 5 revealing that 31.9 per cent of the population live in a household with a person aged 60 and over. Considering that there is often significant pooling of resources at a household level, we can derive that the economic status of older people is likely to have an impact on a large portion of the population. A recent survey confirmed that older people can have an important role in the intergenerational transmission of poverty, and in mitigating its transmission through the ownership of assets and the contribution of income to extended family.7It should be noted that sharing of resources often extends beyond households, with wider family and support networks playing an important role. With this in mind, while over a third of the population live in a household with an older person, it is likely that a far greater portion of the population have older people and their households within their support networks. HDRC research confirms that there are complex transfer patterns between older people and extended family member resident in separate households. Several factors determine the nature of these inter-generational transfers between and within households such as gender and marital status of older people and the economic security of adult children. Nonetheless, older people are found to be key investors in families within and beyond their households. Important differences are observed between urban and rural areas. In rural areas, almost 33.1 per cent of people live in households with a person aged 60 and over, as compared to 29.7 per cent in urban areas. There is also significant variation between divisions, ranging from 26.9 per cent in Rajshahi to 38.3 per cent in Sylhet (Figure 6).

Only around half of older people are heads of their households and the likelihood of this being the case decreases with age. Figure reveals significant differences in the proportion of people living in households headed by an older person compared to ones including an older person. At the national level around half of households where an older person is present have an older person as a household head. That is, while 31.9 per cent of households include an older person, only 16.1 of households are headed by an older person. This trend is consistent across area and division. In older cohorts, however, the margin widens, so that only around third of households with a person aged 70 and over are headed by someone in that age bracket.[8]The HIES defines household heads as "a member of the household who is the decision-maker regarding the different activities of the household". Where analysis is disaggregated by age in the official HIES report, it is usually done by age of household head. There are, however, no strict criteria by which the household head is identified, and this is determined by the respondent to the survey questionnaire. The report states that the head is generally "the eldest male or female earner of the household or the main decision-maker", but we have no guarantee this is the criteria used by respondents. The subjective nature of this classification makes it hard to draw a clear lesson from the fact only half of households with older people identify older people as the household head. It does, nevertheless, suggest that most older people are not considered the main decision maker in their households, which links to a decreased ability to earn an income and lower control of household resources.

[7]Barkat A et al, *Impact of social and income security for older people at household level*, Dhaka, HDRC, forthcoming

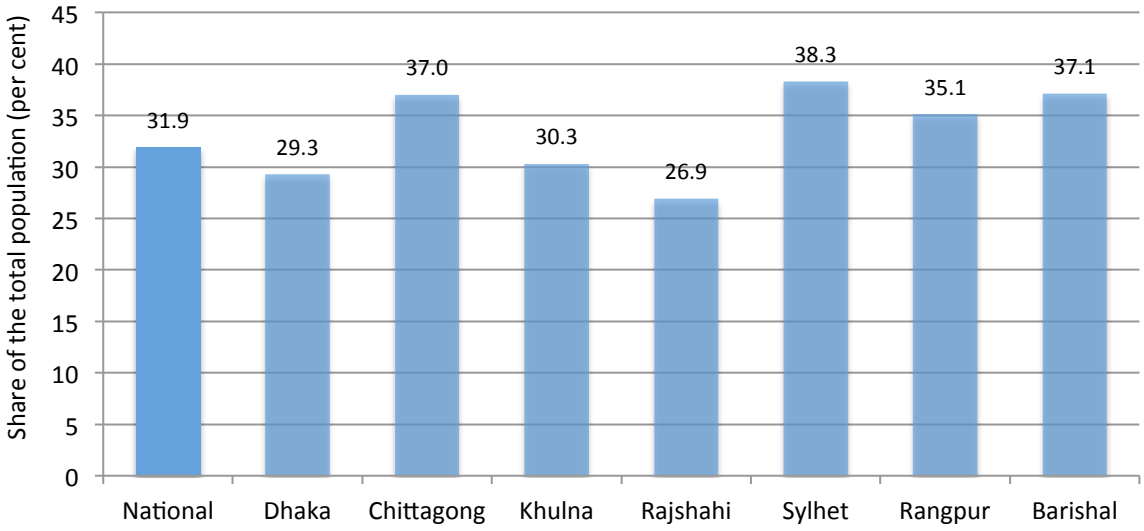
[8]5.6 percent of households are headed by someone aged 70 or over, while 14.4 per cent of households include a person aged 70 and over

Figure 5: Distribution of population by household type (older headed and with older person) (2010)



Source: 2010 HIES, Author's calculations

Figure 6: Share of population living in household with an older person aged 60 or over, by division (2010)

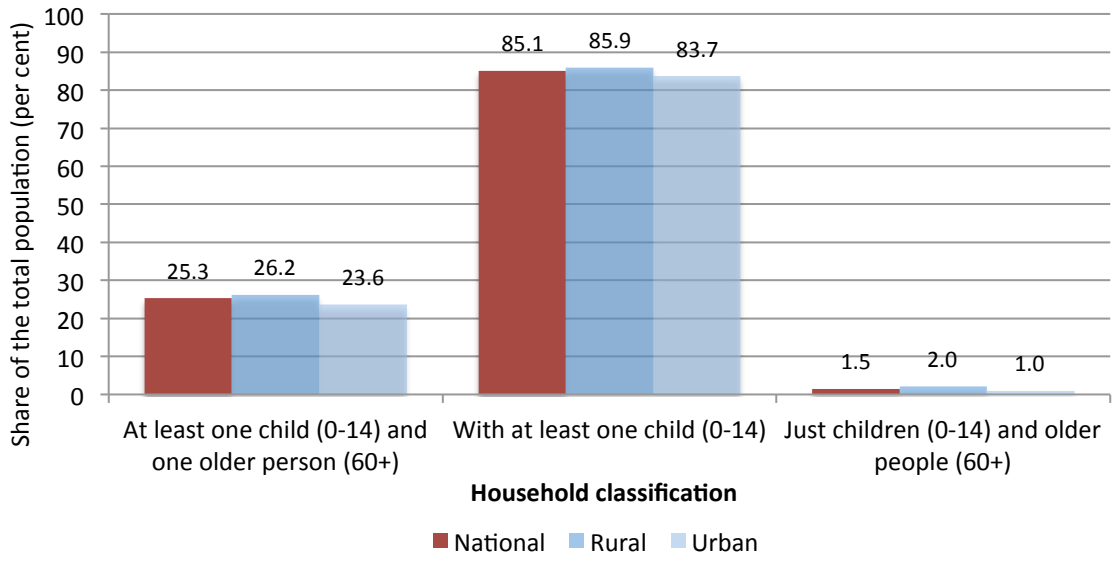


Source: 2010 HIES, Author's calculations

A large proportion of households with an older person also have at least one child, but "skipped generation", households with only older people and children, are relatively few. Figure shows the proportion of older people living in households with children. A quarter of the population live in a

household with both an older person and a child, meaning that most households with an older person also have a child. This is hardly surprising considering that 35 per cent of the population of Bangladesh is between the age of 0-14 and 85 percent of the total population live in a household with at least one child. More surprising is perhaps the fact that only a small fraction (1.5 per cent) of the population in Bangladesh lives in skipped generation households – without a "working age" member aged between 15 and 59.

Figure 7: Population by household type: older people and children (2010)



Source: 2010 HIES, Author's calculations

1.2 Poverty and old age in Bangladesh

If Bangladesh's social protection system is to effectively support people in old age, it is essential to understand the poverty and vulnerability of older people. The discussion here of old age poverty will attempt to answer two fundamental questions: first, do people face increased levels of economic vulnerability as they get older and, second, does this lead to increased levels of poverty? As part of this, the analysis will explore the impact of old age vulnerability on younger generations.

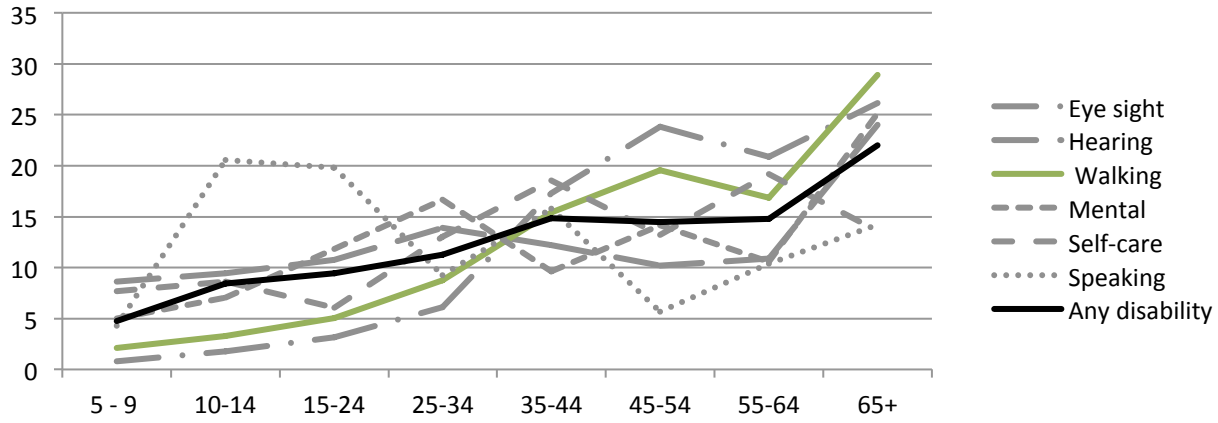
1.2.1 Do older people face increased economic vulnerability?

Unsurprisingly, growing old is strongly associated with greater incidence of disability. HIES data reported (Figure 8) shows that problems with hearing, vision, mental disability and mobility (walking) are strongly correlated with ageing. Incidence of disability increases for those aged between 55 and 64 and those aged 65 and over. This is true for all types of disability, except for difficulty in meeting self-care needs. Difficulty with speaking is the only disability that has higher rates of prevalence in younger age groups. There are some interesting differences in prevalence of disability between the sexes. ***HIES***

Figure 9 **shows that, while rates of disability are relatively consistent between the sexes, difficulties with walking and self-care are more common amongst older women.** The greatest gender difference is reported for self-care, where older women are more than four times as likely as men to experience

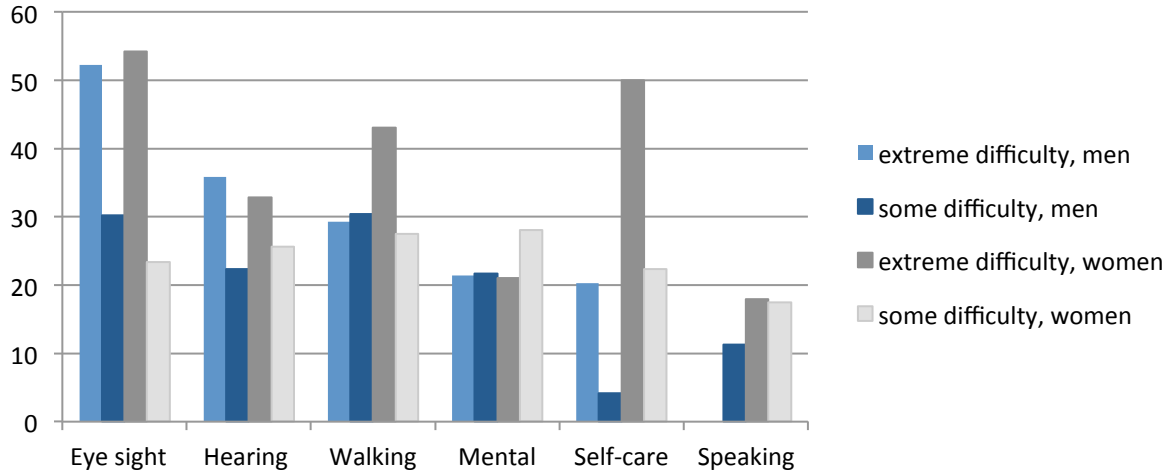
difficulty. Here, one consideration is the gendered patterns of self-reporting disability and biases that may be introduced when reporting culturally sensitive information. For example it may be less acceptable for older men to report challenges with self-care than older women. This could also affect the low level of difficulties with self-care reported in Figure 8.

Figure 8: Incidence of disability in Bangladesh by age cohort (2010)



Source: 2010 HIES

Figure 9: Percentage of people aged 65 and over who experience some form of disability by gender, disability and level of disability (2010)

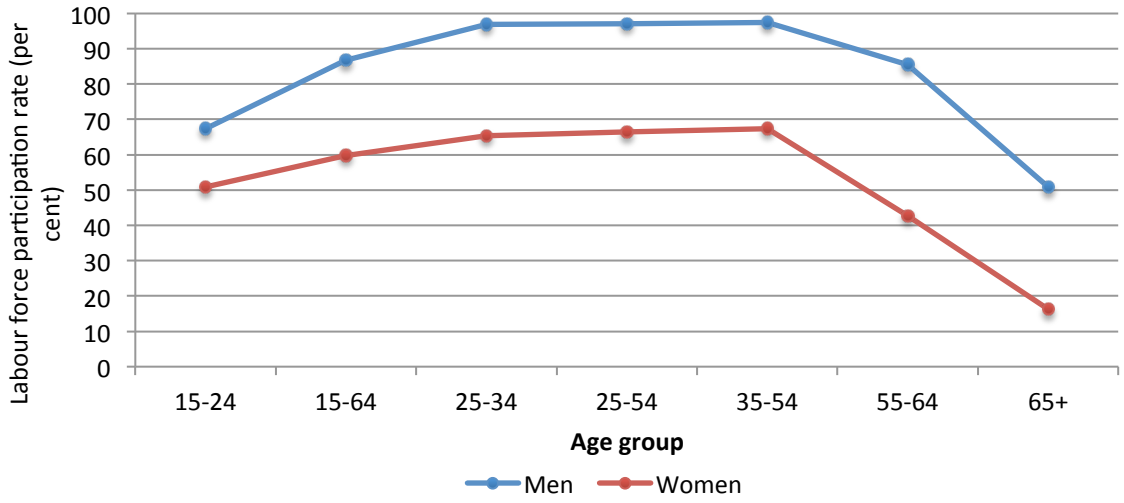


Technical note: extreme is defined as "'facing severe difficulty or fully unable"
Source: 2010 HIES

The increased incidence of disability in old age correlates strongly with lower labour force participation at older ages. Figure 10 presents International Labour Organisation (ILO) estimates for labour force participation across the life course in Bangladesh. Labour force participation is defined as the proportion of the population engaged actively in the labour market, either by working or looking for work. The data suggest that there is a sharp decline in the proportion of both men and women working after the age of 55. For men, the figure drops from 97.4 per cent between the ages of 35 and 54, to just 50.8 per cent over the age of 65. For women, who have significantly lower labour force participation

rates on average, the figure drops from 67.4 per cent between the ages of 35 and 54, to 16.2 per cent over the age of 65. This trend aligns strongly with that of disability in Figure 8, with the marked dip in labour force participation after the age of 55 correlating strongly with the increase in disability around the same age. In addition to disability, discrimination against older workers is another driver of lower labour force participation. Older people can face discrimination in the labour market, such as being denied access to micro-credit. A 2008 survey by HelpAge International found that only 19 percent of older people in Bangladesh were able to access credit, compared to 45 per cent of poor adults.[9]

Figure 10: Labour force participation rate by age in Bangladesh (2010)



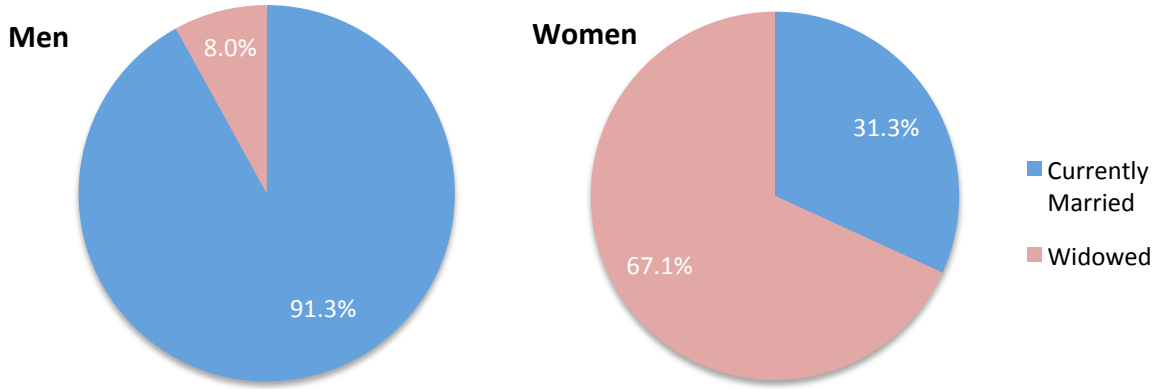
Source: ILO, Key Indicators of the Labour Market, http://kilm.ilo.org/KILMnet/ (15 July 2013)
Note: ILO estimates

Decreased ability to earn an income in old age suggests that the majority of older people have to depend on other people, personal savings or social protection to achieve income security. The combination of sources of such external support available to individuals will vary significantly. It is likely that most older people receive some form of support from their families, be they those they live with or others, including those that have migrated to other parts of Bangladesh or abroad. Some older people may also have assets they can rely on for some irregular personal income. Barkat et al, in two studies, have described how some older people sell assets such as land and animals to contribute to dowry costs or health costs.[10] It is also likely that some older people will also continue to work, at a lower level, into their old age, even if it means reduced earnings from previous years and working for lower wages than younger workers. In the survey conducted by HDRC, income from the sale or assets was a more common income source for older people than income from physical labour such as agricultural work or casual labour.[11]Older people in Bangladesh receive no regular income from social protection schemes.

[9] HelpAge International, *Making a living last longer: insights into older people's livelihood strategies*, London, HelpAge International, 2008.
[10]Barkat A et al, *Impact of social and income security for older people at household level*and Barkat A et al, *Chronic poverty among older people in Bangladesh*
[11]Barkat A et al, *Impact of social and income security for older people at household level*

Gender has an important influence on the sources of support in old age. A useful indicator of this is the marital status of older people, which is presented in Figure 11. As with most other countries across the globe, older women in Bangladesh are much more likely to be widowed than older men. This gap, however, is remarkably wide in Bangladesh, with over 90 per cent of older men still married but nearly two thirds of older women widowed. This is will be influenced by many factors, including men marrying women younger than themselves and having a higher likelihood of remarrying at older ages. It may also be influenced by higher mortality amongst older men, although this is unlikely given the figures above which indicate that there are more older men than older women in Bangladesh. The difference in marital status in old age suggests radically different experiences of old age according to gender, especially in terms of sources of non-financial support. While the majority of older men will be able to look to their spouse for support in the case of illness or frailty, most older women will need to look to extended family members or the wider community.

Figure 11: Older people aged 60 and over by sex and marital status (2010)

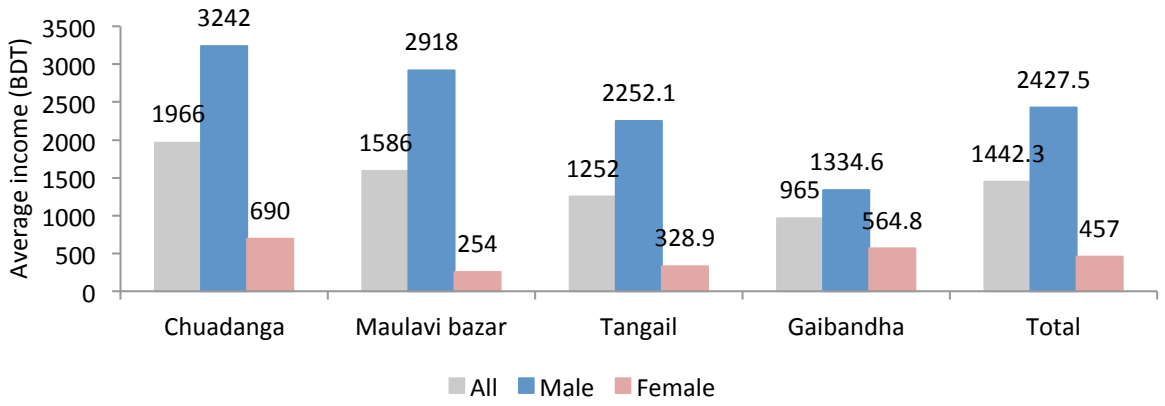


Source: 2010 HIES, Author's calculations

Note: Figures for other marital statuses, including divorced, separated or never married, were omitted here as total values were equal to less than two per cent for both men and women.

Average incomes for older women are significantly less than for older men. The recent survey by HDRC for a small sample of older people across four divisions in Bangladesh suggests that monthly incomes for older men far exceed those for older women (Figure 12). In Maulavi bazar it was found that average incomes were eleven times higher for older men than for older women. This is to a large extent explained by the gender division in labour, where continuing to work outside the home is easier for older men than for older women. Women face the double discrimination of both old age and gender barriers to income generation, which makes them correspondingly more dependent on family or social protection for their income. In rural areas, for example, social norms restrict women from going to market for the purchase and sale of goods. Instead, older women are responsible for unpaid household work including cooking, fetching fuel and water and the provision of care to grandchildren to lessen the burden of child care on younger women. These factors seem to be implicitly recognised in the lower age of eligibility within the OAA for women, and the existence of a widow's allowance which was introduced at the same time.

Figure 12: Average Income of older people aged 60 and over in the survey areas (2013)



Source: Barkat A et al, Impact of social and income security for older people at household level

Reduction of earning potential with old age is gendered as older women are less likely to have ever worked for income. The survey also reported a reduction in income for older men as they age, from an average of 3,293BDT per month for those aged between 60 and 69, to an average of 1,433BDT per month for those aged 80 and over. This could suggest a reduction in physical earning capacity, asset depletion and less capacity to garner income support from children. Older women's incomes did not appear to correlate with ageing in the same way, with average incomes of 563BDT per month for women aged between 60 and 69, 282BDT for those aged between 70 and 79 and 390BDT for those aged 80 and over. This would support the fact that older women are less likely than older men to be able to earn income from assets and are more consistently dependent on family networks due to gender discrimination.

1.2.2 Does economic vulnerability in old age lead to old age poverty?

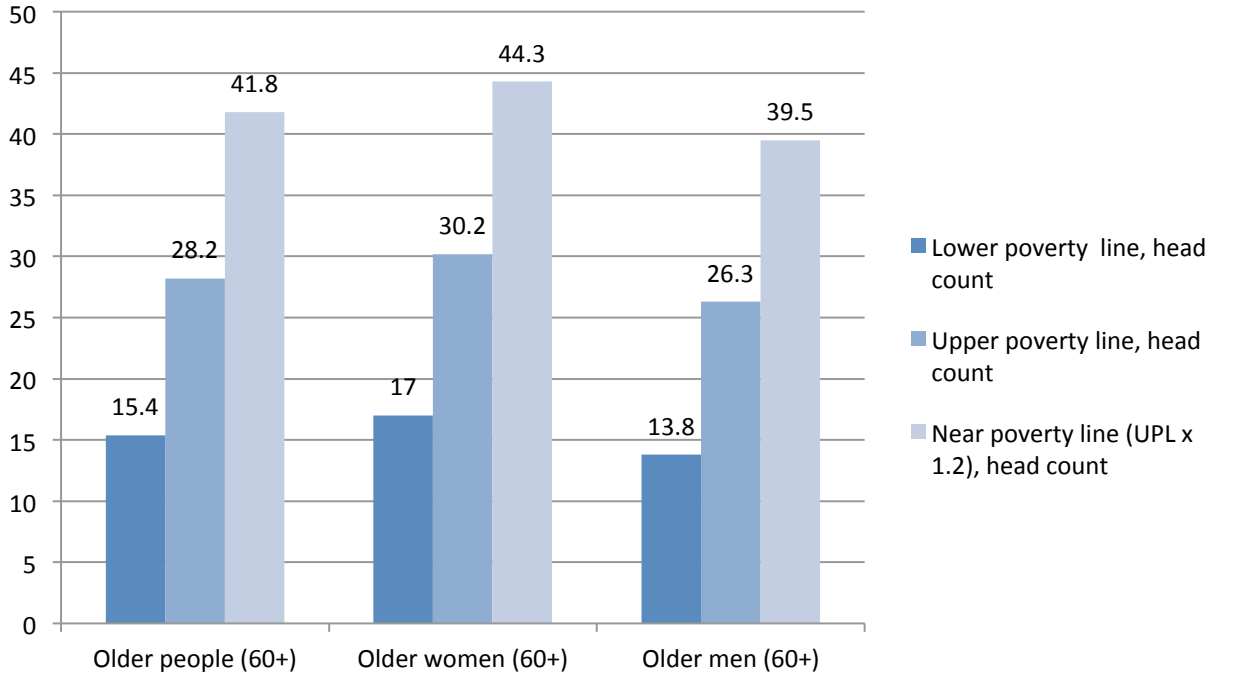
The fact that people are more financially dependent as they grow old does not necessarily mean that this results in a higher risk of poverty. In principle, a combination of family support, continued – albeit reduced - work and social protection could sustain a decent level of income security in old age. In order to test this hypothesis it is possible to assess the poverty profile of older people and the households where they live.

Aggregate poverty rates for the general population in Bangladesh fell from 48.9 per cent to 31.5per cent in the ten years between 2000 and 2010, but this may underestimate the degree of vulnerability to poverty that exists. Bangladesh uses a cost of basic needs (CBN) methodology to calculate two national poverty lines – the lower poverty line and the upper poverty line -which estimate the incidence of extreme poverty and total poverty rates, respectively.[12] Figure 13 demonstrates that, like that of the general population in Bangladesh, a disproportionate number of older people are vulnerable to poverty. 28.2 per cent of people aged 60 and over are found below the upper poverty line. However, an increase

[12] See BBS, *HIES 2010 Survey Report*, Dhaka, BBS, 2010. Upper and lower poverty lines are calculated for 16 areas (including adjustments made for urban and rural areas) to take account of regional variation in prices. Both poverty lines take both food and non-food expenditures into account. Upper poverty lines vary from 1,311BDT per month in rural Sylhet to 2,038BDT in Dhaka and between 1,192BDT in rural Khulna to 1,495BDT in urban Chittagong.

in the upper poverty line of 20 per cent (1.2 x the upper poverty line) would see an increase of 32.5 per cent in the proportion of older people considered poor, from 28.2 per cent to 41.8 per cent. This highlights that many more older people are bunched close to the poverty line and therefore are vulnerable to falling into poverty in the event of a shock.

Figure 13: A significant proportion of older population are vulnerable to poverty



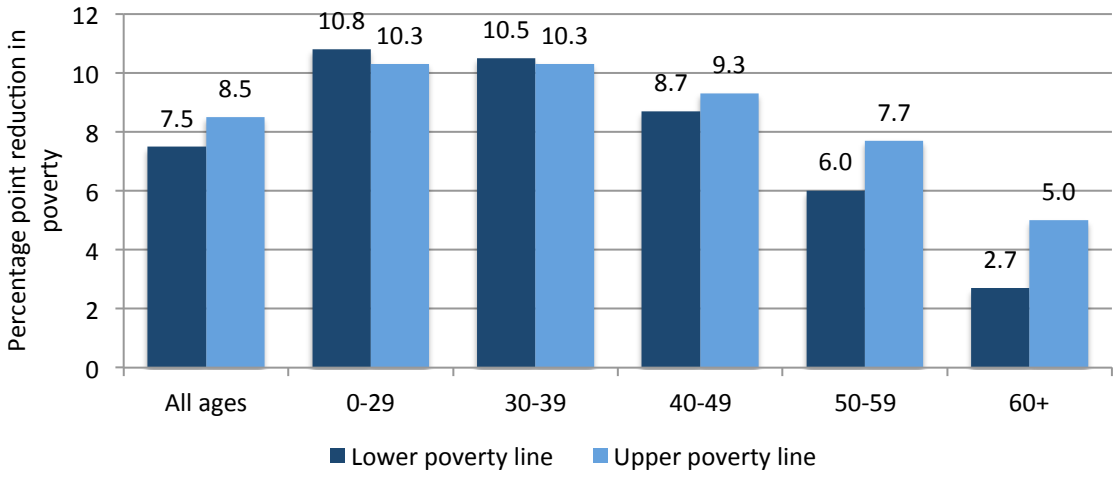
Source: 2010 HIES, Author's calculations

The official 2010 HIES report by the Bangladesh Bureau of Statistics gives a mixed picture of how poverty in old age compares to poverty amongst the rest of the population. The report contains some brief analysis of poverty by age, disaggregating poverty rates according to the age of the household head. For the population living in households where the head is aged 60 or over, 28.1 per cent are below the upper poverty line. This is actually slightly lower than the average poverty rate of 31.5 per cent for the population as a whole.[13]However, when poverty rates are looked at over time, poverty reduction seems to decrease in correlation with an increase in the age of household heads. Figure 14 shows the reduction in poverty between 2005 and 2010 according to the age of household heads. The figures suggest that falls in poverty rates have been significantly greater in households with household heads of younger ages.

Rapid ageing and related increases in the proportion of the population living with older people in Bangladesh urge for more investigation into how development policy can benefit people across the life course. Figure also shows that the reduction of extreme poverty has been lowest in older headed households, suggesting that this portion of the population were less able to take advantage of the development gains made in Bangladesh between 2005 and 2010.

[13] BBS, *HIES survey report 2010*

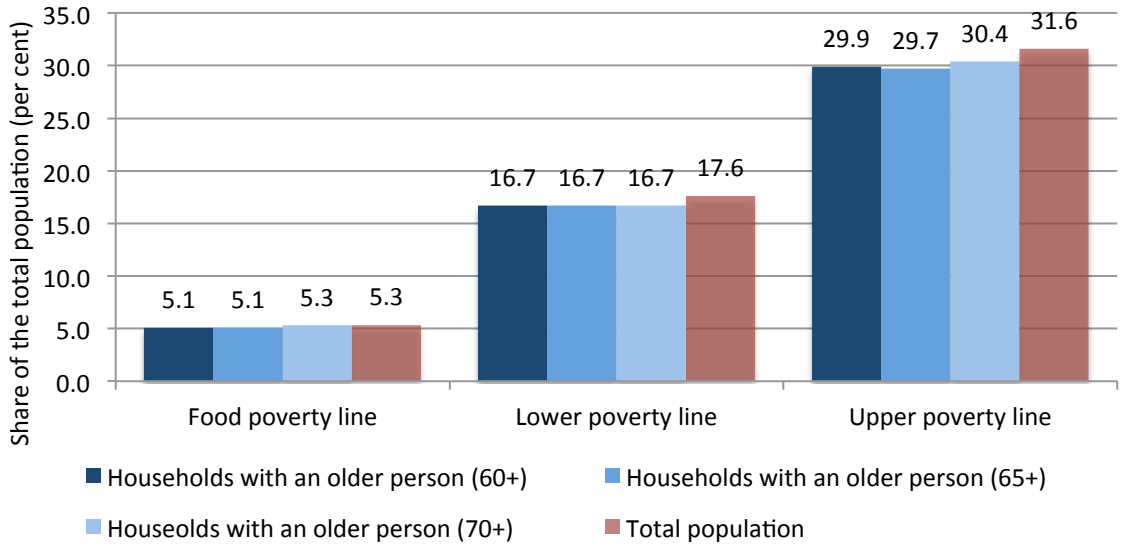
Figure 14: Reduction in poverty by age of household head (2005-2010)



Source: BBS, HIES Survey Report 2010

Considering the limitations of using age of household head as a category (seeSection1), analysis was undertaken for a broader range of household types. Figure presents the poverty rates of households with an older person aged 60 and over, 65 and over and 75 and over, using the lower, upper and food poverty lines. Again, the poverty rates of households with an older person do not vary greatly from the population as a whole, with the poverty rate of individuals in households with an older person aged 60 and over at 29.9 per cent, 1.6 percentage points lower than the national average. Poverty rates also vary little according to the age of the older person in the household.

Figure 15: Intensity of poverty in households with older people

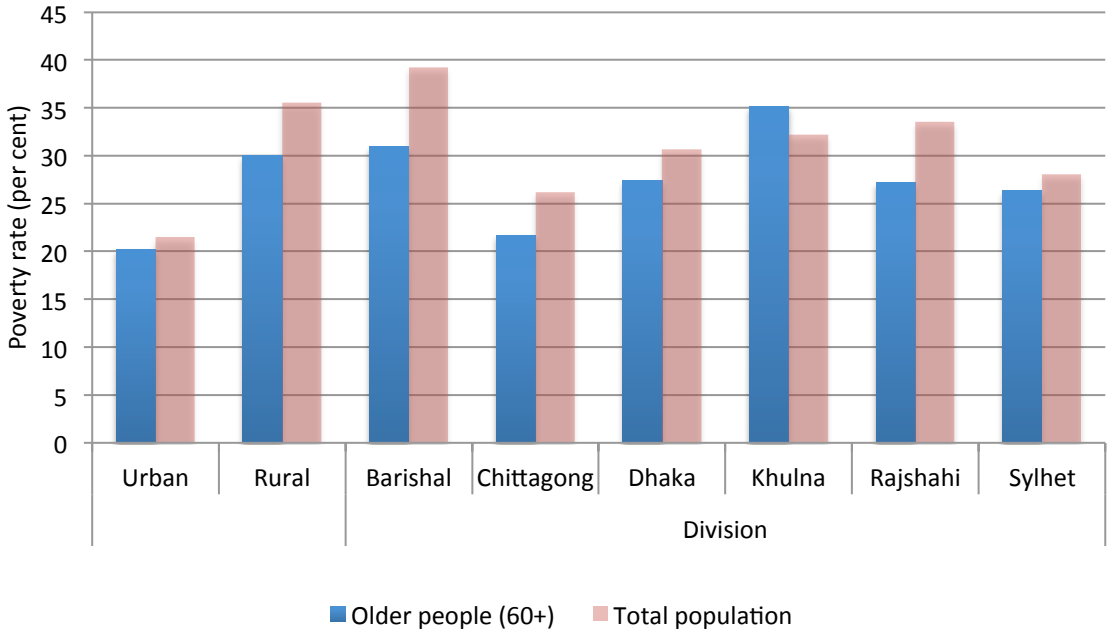


Source: 2010 HIES, Author's calculations

This trend of marginally lower poverty rates of older people is also found at rural, urban and divisional level. As with the population as a whole, poverty of older people is greater in rural areas than in urban

areas. Yet in both cases poverty levels appear to be lower for the older population than the population as a whole. Old age poverty rates also reflect general poverty rates at a divisional level, but are consistently lower for older people, with the exception of Khulna. It is difficult to ascertain from these division specific poverty profiles whether old age poverty increases in divisions where the population of older people is larger.

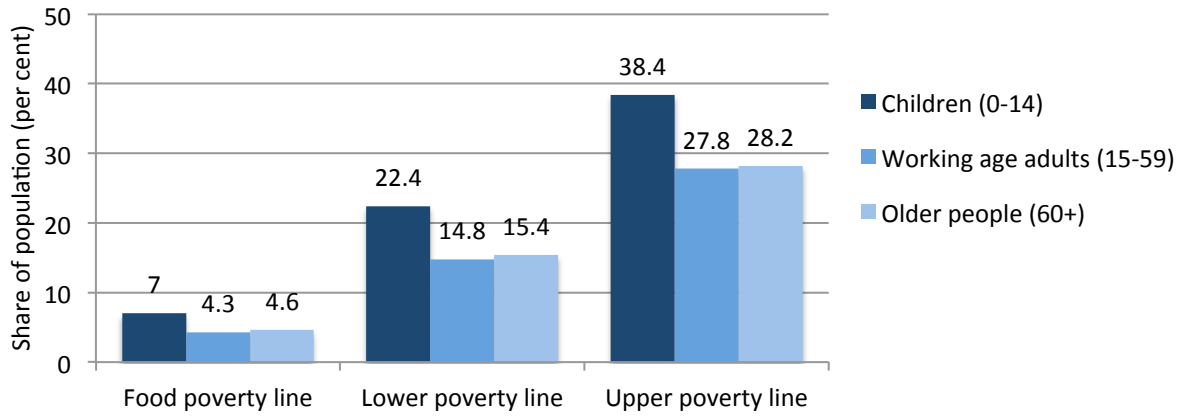
Figure 16: Poverty profile by area and division



Source: 2010 HIES, Author's calculations

While poverty rates of older people appear to be slightly higher than younger adults, they are significantly lower than figures for children. Figure 17shows poverty rates of different age groups in Bangladesh according to the three poverty lines. In all three cases, the poverty rate of older people is slightly higher than people aged between 15 and 59, although generally only by around half a percentage point. Poverty rates for children are significantly higher than both younger adults and older people. This indicates that the lower rates of poverty in old age described above are mainly influenced by high rates of poverty amongst children.

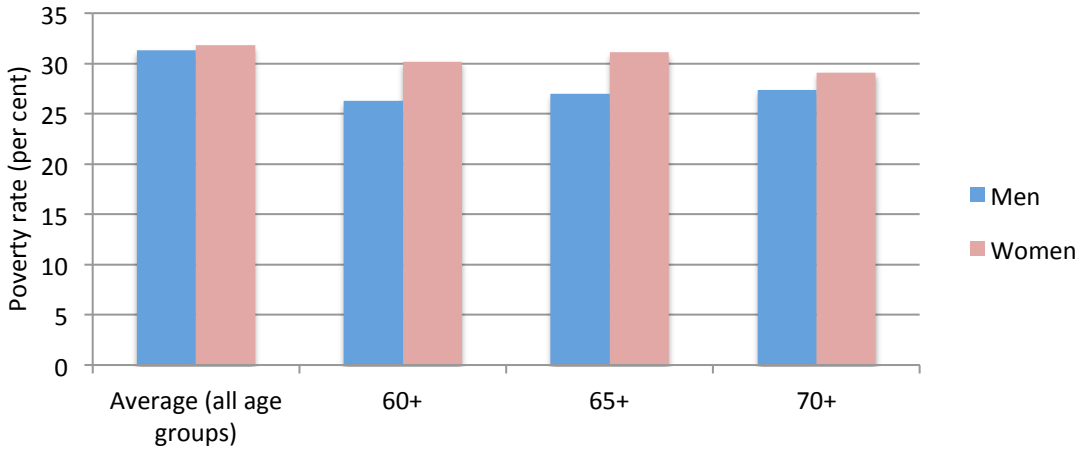
Figure 17: Poverty rates by age group in Bangladesh



Source: 2010 HIES, Author's calculations

From a gender perspective, the difference in poverty between the sexes appears to be more marked in old age. As shown in Figure, poverty rates of men and women across the whole population only vary by 0.5 percentage points, with a poverty rate of 31.1 per cent for men and 31.8 per cent for women. The difference is, nevertheless, far greater amongst the older population with the poverty rate of older women aged 60 and over nearly 4 percentage points higher than older men. This can also be seen clearly in Figure 13, above. The gap closes for older ages (those aged 65 and over and 70 and over) but still remains greater than the average for the population as a whole. The greater difference in poverty rates by gender in old age in Bangladesh may be a reflection of the increased vulnerability to poverty of older women due to their increased likelihood of being widowed, as well as the far lower labour force participation of older women.

Figure 18: Comparison of gender differences in poverty rates of older men and women against national averages



Source: 2010 HIES, Author's calculations

The marginally lower poverty rates found in households with older people could imply that older people are in less need of social protection than other age groups. However, the inherent limitations of household data suggest that this analysis deserves further scrutiny. Poverty levels in Bangladesh, as in most low-income countries, are calculated using data on expenditure which is collected at a household level. As a consequence, this data does not provide information on the expenditure of individual members of a household. This is of particular significance when trying to understand poverty of older people where one area of interest is how their expenditure differs from other members of the household.

In an attempt to overcome these challenges, official analysis of poverty in Bangladesh, as in many other countries, uses assumptions that may be inadvertently biased against older people. All poverty analysis using household data must use an "equivalence scale" that makes assumptions about the relative needs of people at different ages, and how the needs of a household are affected by the size of the household (economies of scale). The official methodology for analysing the HIES uses the most basic form of equivalence scale that – put simply – takes the total expenditure of a household, divides it on a per capita basis (ie. equally by the number of household members), and compares this figure to one of the various poverty lines to determine if a household is poor or not. This so-called "per capita" equivalence scale makes two implicit assumptions. First, it assumes that all household members have the same needs, which may not necessarily be the case. For example, a working adult is likely to need more food than a young child and, similarly, an older person may need to spend more on health expenses than a younger person. The second implicit assumption is that there are no economies of scale at a household level, so that costs do not decrease per capita as the size of a household increases. An example of this may be where a bigger household can buy food in bulk at a lower price.

One consequence of using a per capita equivalence scale is that households with many members (particularly many children) tend to have significantly higher poverty rates. This is influenced by the fact that children are assumed to have the same consumption needs as older members of a household, and economies of scale are not considered. These factors may well influence the higher poverty rates amongst children seen in Figure 17. Similarly, a per capita equivalence scale may lessen sensitivity of analysis of poverty in old age, especially where older people live in smaller households and benefit less from any economies of scale. It is as a result of these issues that many countries have developed alternative equivalence scales for the purpose of measuring poverty.

In order to test whether these assumptions influence the relatively poverty of older people, it is possible to simulate poverty using alternative equivalence scales. What constitutes an optimal equivalence scale for Bangladesh would be an intense area of debate, and it is not the intention of this study to suggest Bangladesh change the official assumptions currently in use. Such a proposal would involve a detailed understanding of how consumption needs vary for people of different ages in Bangladesh, which remains an under-researched area and beyond the scope of this study. Nevertheless, using alternative assumptions can help us to assess how confident we should be that the relative poverty status of older people represents reality. Relative poverty rates were therefore assessed using the following two alternative scales:

1. The "Oxford" equivalence scale, where the consumption needs of a second adult is scaled down by 30 percent compared to the needs of the first adult and consumption needs of children aged between 0 and 14 are assumed to be half of that of the first adult
2. An "alternative" equivalence scale, where consumption needs of children aged between 0 and 14 are assumed to be half of that of an adult.

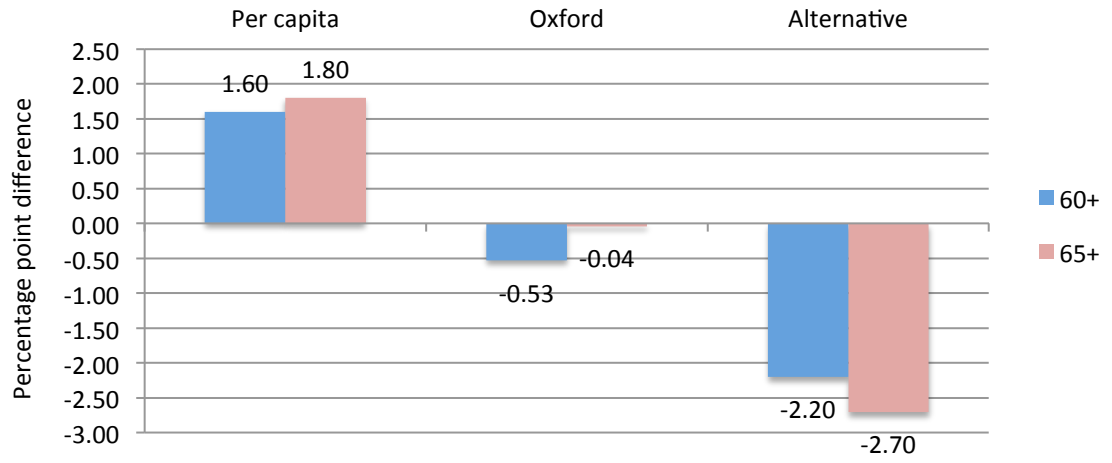
When these alternative assumptions are used, the relative poverty profile of older people changes significantly. The results of these alternative equivalence scales are presented in Table 1. An important observation to make is that poverty rates are significantly lower. This is because it has been assumed that a large part of the population (in particular children) have lower consumption needs, so many households will have moved out of poverty. A more thorough review of the poverty line would likely propose an increase in the poverty line in accordance with a revision of equivalence scales. It is, nevertheless, still possible to see how alternative assumptions impact on the relative situation of older people. Figure 19 presents the relative difference in poverty rates between individuals living in households with older people and the population as a whole. Compared to the relatively lower poverty rate in households with older people found when using a per capita equivalence scale, the Oxford scale results in relative poverty rates that are almost identical. The "alternative" scale results in even higher relative poverty rates of households with older people (2.7 percentage points higher in households with a person aged 65 or over).

Table 1: Poverty rates (per cent) under different equivalence scales, using the upper poverty line

Household type	Per capita equivalence scale	Oxford Equivalence Scale	Alternative equivalence scale
All individuals	31.5	7.75	16.02
Living with an older person (60+)	29.9	8.28	18.22
Living with an older person (65+)	29.7	7.79	18.72

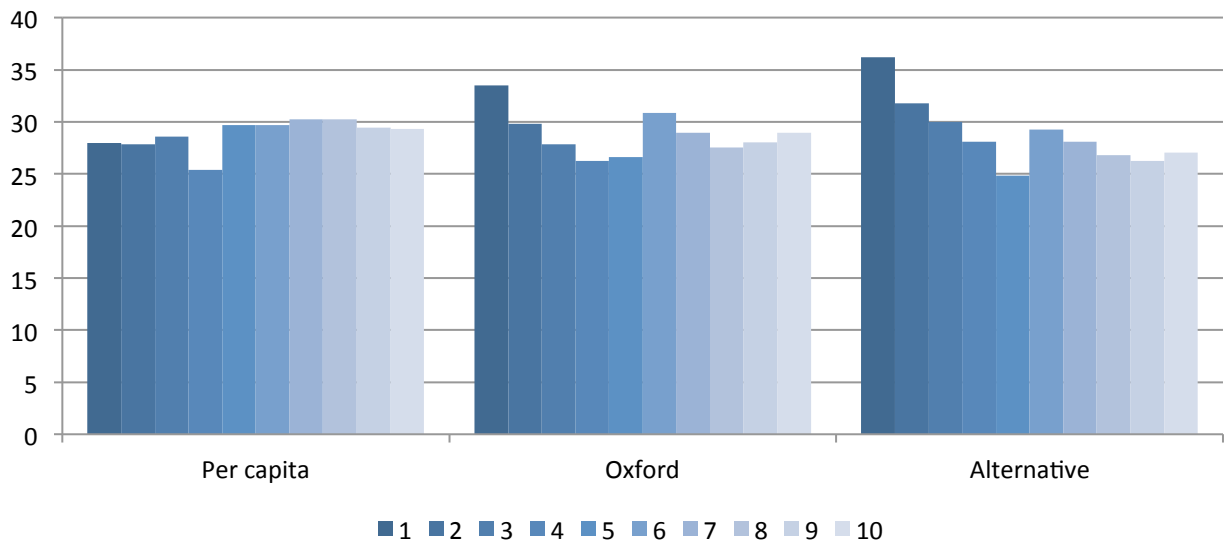
Source: 2010 HIES, Author's calculations

Figure 19: Percentage difference in poverty rates of people living with older people compared to national average



Source: 2010 HIES, Author's calculations

Figure 20: Impact of different equivalence scales on distribution of older people across expenditure deciles (population in households over 60)



Source: 2010 HIES, Author's calculations

The results point to the limitations of household data to measure old age poverty. The strong impact of adjusting assumptions within equivalence scales means it would be unwise to conclude from analysis of the HIES that older people are either more or less poor than the population as a whole. Longitudinal analysis of HIES that compares poverty reduction and extreme poverty reduction between 2005 and 2010 by age of household head further problematizes the use of descriptive statistics as a basis for understanding the relevance of ageing for public policy in Bangladesh. As seen in Figure 14 old age appears to negatively correlate with poverty reduction, suggesting the need for further investigation to better understand causality. Nevertheless, it could indicate that old age may present a barrier to benefiting from development gains and the existing socio-economic environment in Bangladesh. Given the changing age structure of the population and the increasing proportion of the population that will be living with older people this could undermine future achievements in poverty reduction.

In essence, we are unable to truly untangle those who are impacted by the vulnerability of old age from those who are not. It is for this reason that analysts, including Barkat et al, have gone as far as to argue that national poverty data derived from the HIES is inadequate to estimate incidences of poverty among the older population.[14] Comparison of poverty estimates within future HIES could explore preferred equivalence scales based on intra-household consumption patterns. It should, nevertheless, be noted that economies of scales and relative needs of household members will always vary across countries. Beyond this, socio-economic change in Bangladesh due to modernisation, globalisation and development means that there will never be a "perfect" equivalence scale. Similarly, any attempt to disentangle the situation of one age group from another will always be fraught with difficulty, and risks masking many important trends. We are unable to see the real distribution of resources within households, meaning we cannot detect where an older person may have insufficient access to resources, despite other household members being non-poor. We are similarly blind to interactions

[14]Barkat A et al, *Chronic poverty among older people in Bangladesh*

between households. When assessing relative poverty rates of households with and without older people, we are assuming that the economic vulnerability of old age only has consequences within the household. This is far from the case, with substantial evidence that older people commonly receive support from other households, including through remittances from those resident elsewhere.

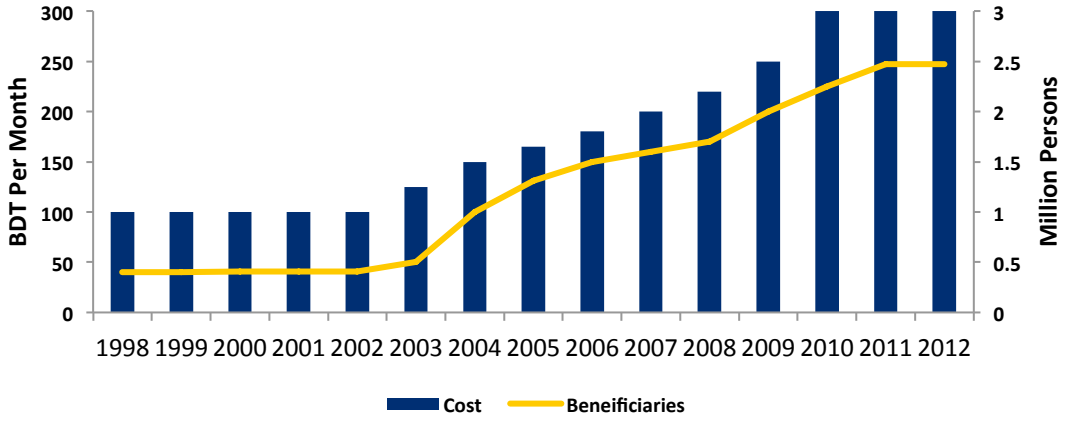
Despite these issues, the analysis in this section provides important lessons which can support policy making around social protection in old age. First, economic vulnerability in old age is real, with increased levels of disability and lower rates of labour force participation leading to a reduced capacity to earn an income as people age. Second, the consequences of this economic vulnerability are shared by a large part of the population. Nearly one third of the population live in the same household as an older person, while many more people in other households will be part of a web of support to and from older people. Third, old age in Bangladesh has important gender dimensions. Most older women are widows, while most older men are married. Furthermore, divergence in poverty rates by gender points to greater old age vulnerability amongst women. The context for this situation is a rapidly ageing population. The key question for policy makers is whether income security in old age can be left primarily to families or older people themselves in the context of high levels of poverty and vulnerability in Bangladesh.

2. Old age social protection in Bangladesh: review and options for reform

2.1 Current social protection for old age

The OAA is the most significant scheme, in terms of coverage, providing social protection in old age. Formal social protection in old age in Bangladesh comprises both contributory and non-contributory schemes. On the contributory side, civil servants and employees of public corporations are eligible for a pension based on their working history.[15] On the non-contributory side, the OAA, implemented by the Ministry of Social Welfare, is a social pension paid to poor older people with no requirement for previous contributions.[16] In reality, the civil service pension provides income security for only a small proportion of the population, with around 330,000 recipients (equal to 3.3 per cent of the population aged 60 and over). Coverage of the OAA is much more substantial, with 2.5 million older people budgeted to receive a payment in the financial year 2012/13 (30 per cent of the population aged 60 and over). The OAA is one of a large number of social protection programmes in Bangladesh (see Table 2), but constitutes one of the most substantial in terms of budget and coverage. The scheme has expanded at a remarkable speed over the last decade and a half. Introduced in 1998, the OAA initially allocated benefits for around 400,000 older people, a figure which has increased by six times as of 2012 (see Figure 21). The transfer level has also increased from an initial value of 100BDT to 300BDT today.

Figure 21: Evolution of the OAA in Bangladesh



Source: Department of Social Services, http://www.dss.gov.bd/index.php?option=com_content&view=article&id=59:old-age-allowances&catid=39:social-cash-transfer&Itemid=71(15 July 2013)

[15]For details of the schemes available to on the pension system see Miyan AM, *Retirement and pension system in Bangladesh*, Dhaka, IUBAT, 1982

[16] For details of the eligibility criteria see Old Age Allowances 2012, http://www.dss.gov.bd/index.php?option=com_content&view=article&id=59:old-age-allowances&catid=39:social-cash-(15July 2013)

Table 2: The main social protection schemes in Bangladesh

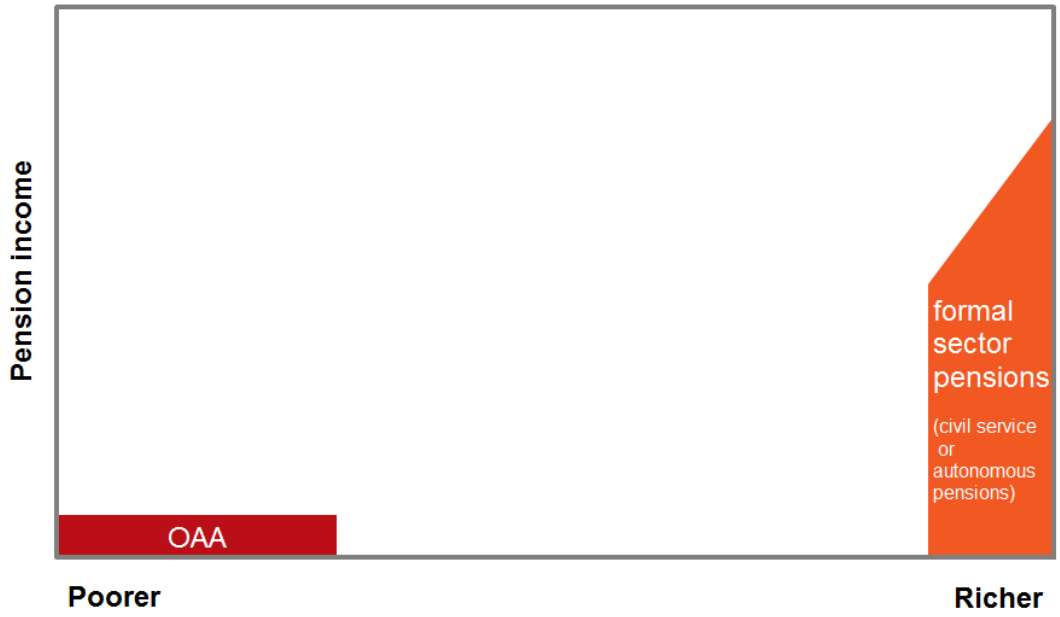
Area	Programme Description	Implementing Ministries	Start date	No of Beneficiaries (million)	Allocation (BDTmillion)	% of total allocation	% of GDP
Childhood					**16,560**	**25.34**	**0.19**
	Stipend for primary students	Ministry of Primary and Mass Education	Early 90s	5.85	8800	13.47	0.1
	Secondary education stipend programme	Ministry of Education	Early 90s	3.60	6720	10.28	0.08
	Stipend for dropout students	Ministry of Primary and Mass Education			1040	1.59	0.01
Employment					**24100**	**36.88**	**0.27**
	Food for work	Ministry of Disaster Management	Late 70s	0.6*	12760	19.52	0.12
	Employment generation for the poorest	Ministry of Disaster Management	Late 00s	1.8	10000	15.30	0.13
	Rural employment and rural maintenance programme	Local Government Engineering Department	Late 80s		1340	2.05	0.02
Disability					**1714**	**2.62**	**0.02**
	Allowance for financially insolvent disabled	Ministry of Social Welfare	Early 00s	0.2	1030	1.58	0.01
	Honorarium for injured freedom fighters	Ministry of Social Welfare			684	1.05	0.01
Women					**10471**	**16.02**	**0.13**
	Vulnerable group development	Ministry of Women and Children's Affairs	1975	0.6	6546	10.02	0.08
	Allowance for widowed, deserted and destitute women;	Ministry of Social Welfare	Late 90s	1.07	3312	5.07	0.04
	Vulnerable group development for ultra-poor women	Department of Women Affairs/Ministry of Women and Children Affairs /NGOs		0.04	613	0.94	0.01
Old Age					**12510**	**19.14**	**0.16**
	Old age allowance	Ministry of Social Welfare	Late 90s	2.4	8910	13.63	0.11
	Honorarium for insolvent freedom fighters	Ministry of Liberation War Affairs, through the Ministry of Social Welfare	1999	0.15	3600	5.51	0.05
	Total of Major Programmes (2011/12 budget)				**65355**	**100.00**	**0.77**

Source: Rahman et al. (2011) and Khondker (2013). The Civil Service Pension is not included, although it has a budget equivalent to 0.49 per cent of GDP.

** Estimate. 3.8 million months of work were expected to be generated in 2010/11. If each person received six months of work, this would provide 0.6 million beneficiaries*

Despite these achievements, the majority of older people in Bangladesh still receive no pension at all. Figure 22is stylistic representation of social protection coverage amongst older people in Bangladesh today. The vertical axis shows income from pensions and other allowances, and the horizontal axis shows coverage of older people, from richer to poorer. To the right, a small minority of better off older people benefit from employment-related and civil service pensions (including voluntary savings).To the left, the OAA targets poor older people who have been unable to save, with enough benefits to cover approximately 30 per cent of older people. Despite these provisions, over half of older people still have no access to any regular income from social protection. While this simple representation does not capture the complexities of the pension system, such as targeting errors and low returns from many contributory pensions, it does show the significant extent of the coverage gap for social protection in old age. In the absence of any formal income from pensions or allowances, we can assume the majority of older people in Bangladesh continue to rely exclusively on continued work and family support for income security.

Figure 22: Current social protection coverage in old age



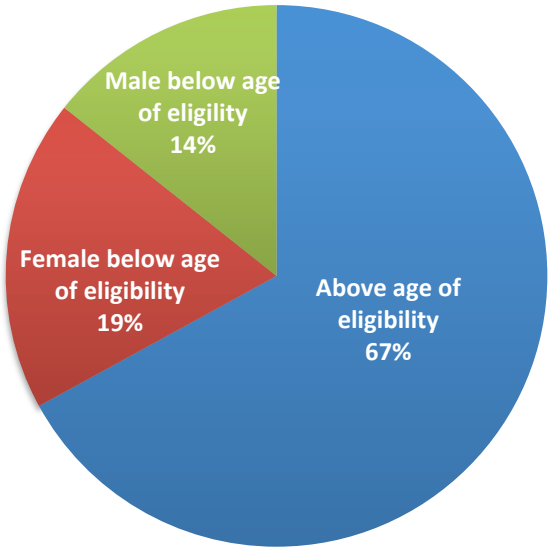
Despite the OAA being targeted at poorer older people, targeting errors mean that many will not be reached. The fact that the OAA aims to cover approximately a third of older people over the age of eligibility means that in theory there are sufficient benefits to cover all older people in poverty (as described in Figure above, the poverty rate of people aged 60 and over is 28.2 per cent). However, it has been widely documented in other literature that there are substantial errors in the targeting of the OAA. Begum and Wesumperuma, summarise existing literature and findings from their own research, noting that a high proportion of beneficiaries have been reported to be non-poor or below the age of eligibility.[17] They also report that a significant proportion of beneficiaries reported having little trust in the beneficiary selection process. Reasons for targeting errors are reported to be linked to a wide

[17]Begum S and Wesumperuma D, "Overview of the Old Age Allowance Programme in Bangladesh"

variety of issues at the local level, including weak administrative practice, political interference in beneficiary selection and lack of warning to potential beneficiaries about the selection process.

Using responses collected on receipt of benefits in the 2010 HIES, it is possible to estimate the scale of targeting errors. Targeting accuracy has two main dimensions in the case of the OAA: first, whether a beneficiary meets the age of eligibility, and second, whether or not they are poor. To assess eligibility on the basis of age, Figure 23presents the profile of households receiving the OAA on the basis of whether or not they have a member over the age of eligibility.[18] Strikingly, in one third of households there is no person above the age of eligibility. In just over half of these households the oldest member is female, with the rest being male. The inclusion of beneficiaries below the age of eligibility age confirms findings of Begum and Wesumperuma, however, the scale is surprising.[19]Although not without its challenges, targeting by age is generally considered to be relatively straight forward compared to other benchmarks such as poverty.[20]One consideration worth noting is that this figure may be influenced by misreporting in the HIES, for example, it is not uncommon for the precise age of individuals to be misreported, or even for household members to be left out altogether.

Figure 23: Households receiving OAA according to presence of age-eligible member



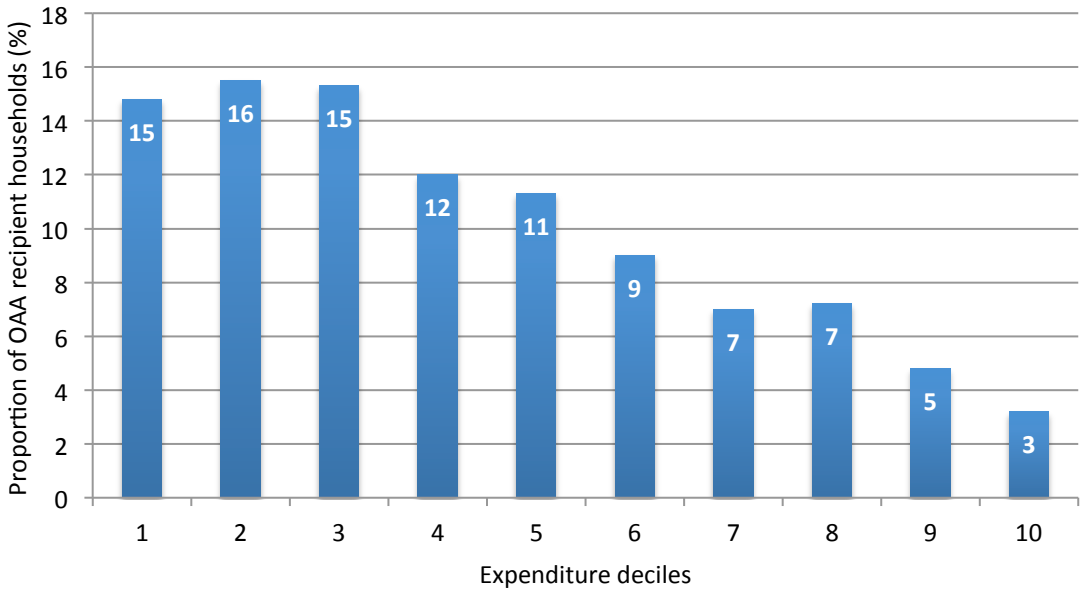
Source: 2010 HIES, Author's calculations

The majority of OAA recipient households appear to be above the poverty line. Figure 24presents the distribution of beneficiaries across expenditure deciles, from one (the poorest ten per cent) to ten (the richest ten per cent). At first glance, Figure 24 suggests that targeting of the OAA is pro-poor, with more recipient households of the OAA found in the poorest deciles than the richest. Just below 15 per cent of benefits go to the poorest ten per cent of older people, while around three per cent of benefits go to the richest ten per cent. However, the fact that benefits are generally more likely to go to poorer people is neither surprising nor particularly impressive for a programme that is supposedly limited to poor older

[18] Note that receipt of benefits is reported on a household, rather than an individual level, so we cannot determine which household member received which benefit.
[19]Begum S and Wesumperuma D, "Overview of the Old Age Allowance Programme in Bangladesh"
[20] See, for example, McPherson A, *Challenges and opportunities for age verification in low- and middle-income countries,* London, HelpAge International, 2011

people. A more useful benchmark for comparison is to ask how close targeting of the OAA is to "perfect targeting" – a situation where all benefits go to the intended target group. In the case of the OAA, considering that there are sufficient benefits to cover the poorest 30 per cent of older people, perfect targeting would be where all benefits were confined to the lowest three deciles. The reality is quite different, with only 46 per cent of benefits going to the poorest three deciles. The implication of this is that the majority of intended beneficiaries of the OAA are, in fact, excluded, while the majority of benefits can be considered to have been incorrectly targeted according to current eligibility criteria.

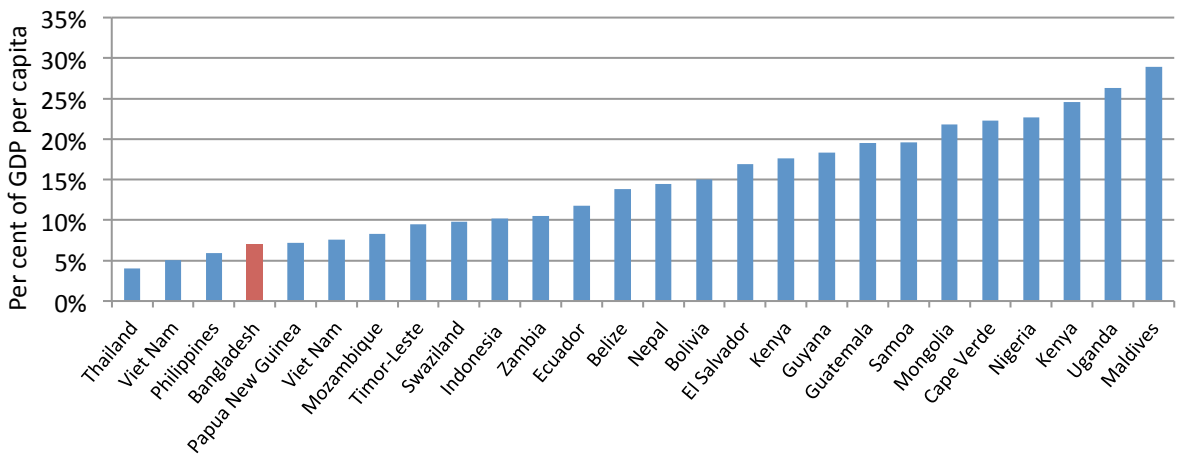
Figure 24: Distribution of OAA recipients by expenditure deciles



Source: 2010 HIES, Author's calculations

The benefit level of the OAA can be considered modest by national and international benchmarks. Figure 25 presents the benefit levels for a range of similar social protection schemes for older people in low and lower middle income countries globally. The average benefit level is 14 per cent of average income, more than double the benefit level under the OAA.

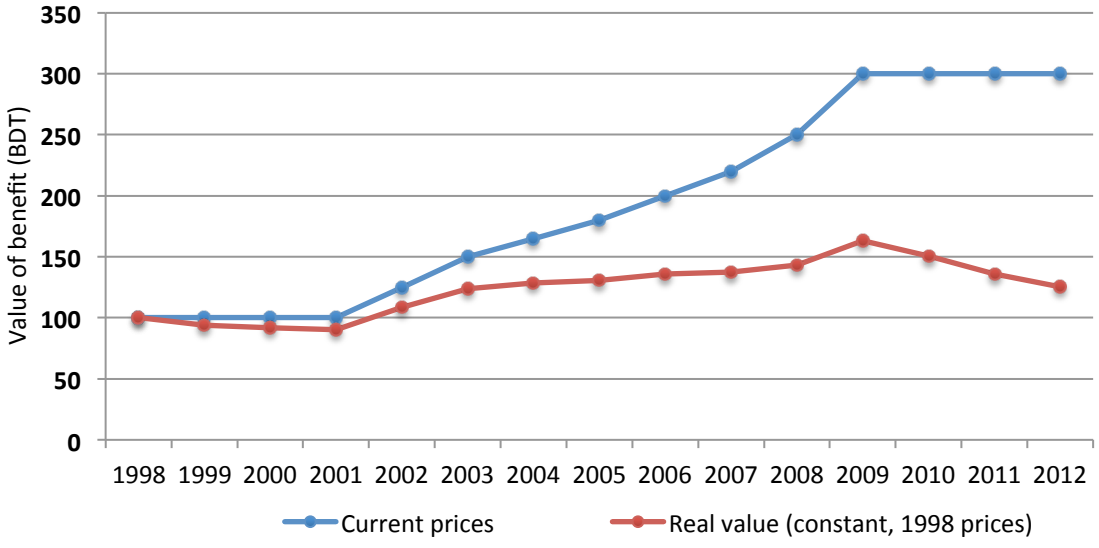
Figure 25: Comparison of benefit levels for social pensions in a selection of low and lower middle income countries



Source: HelpAge International, Social Pensions Database (version September 2012)
Note: Viet Nam appears twice as those aged 80 and over receive a higher benefit level.

In the meantime, while the benefit level of the OAA has increased over time, its value relative to prices has remained relatively constant. Since its introduction in 1998, the OAA has increased in monetary terms from 100BDT to 300BDT per month. However, price inflation over this time will have eroded the purchasing power of the transfer. Figure 26 shows the change in value of the OAA since 1998, both in current prices and constant prices. This shows that, despite the significant increase in monetary terms, the real value of the OAA in 2012 is only slightly higher than it was in 1998. This suggests its purchasing power (ie the basket of goods that could be bought with it) has not increased greatly.

Figure 26: Value of the OAA: monetary versus estimated real prices

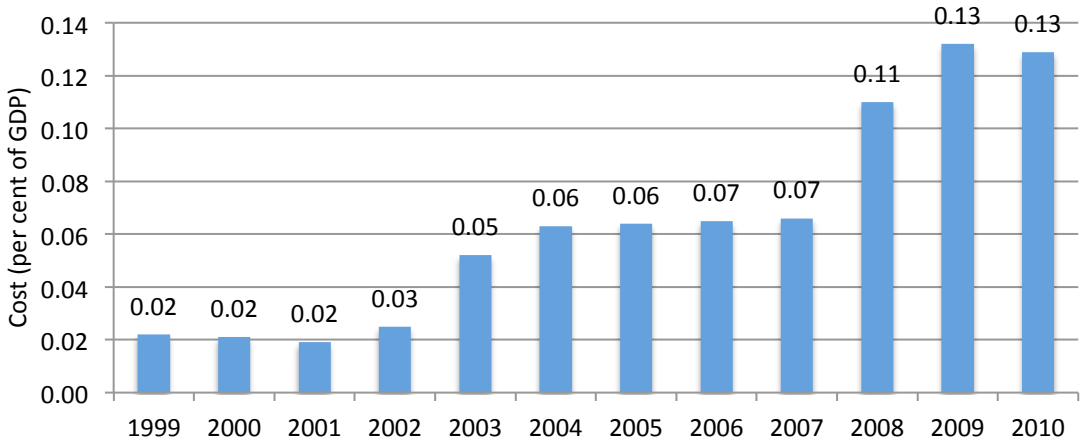


Source: Author's calculations based on Ministry of Social Welfare data and IMF, World Economic Outlook Database, April 2013
Note: For inflation figures, average consumer prices are used.

A combination of targeting errors and modest benefit levels mean that the poverty impact of the OAA is limited. Using data collected on receipt of the OAA in the 2010 HIES it is possible to estimate how poverty rates would change were the OAA removed. This analysis suggests that, without the OAA, national poverty rates would increase by around 0.1 per cent. This could lead to an increase in the national head count poverty rate to 31.6 per cent, from the current rate of 31.5 per cent. An important caveat to this analysis is that the number of OAA of recipients reported in the 2010 HIES is substantially lower than the number of beneficiaries budgeted for in 2010. To take account of this, sample OAA amounts were adjusted upward to reflect the total 2010 OAA amount. Given the small sample size of OAA recipients, the above evaluation of the OAA may be viewed with caution.

Finally, increases in coverage of the OAA have led to increased spending, but this still remains modest compared to the wider budget for social protection. As shown in Figure 28, budget allocation to the OAA increased from 0.02 per cent of GDP in 1998 to about 0.13 per cent of GDP in 2010, with a significant jump in OAA allocation observed in 2008. Spending on the OAA nevertheless remains low by comparison to other programmes. Figure 28 presents expenditure data on civil service pensions in comparison to expenditure on basic old age security through the OAA as well as the coverage of each of these schemes. In the fiscal year 2009/2010, expenditure on government employee pensions (at 35 billion BDT) was more than four times the spending on the OAA (at 8 billion BDT), despite the fact that the number of government pensioners was only a fraction of OAA recipients. Indeed, expenditure on government pensions is more than expenditure on basic social protection in general.[21] This picture illustrates the unbalanced investment in meeting constitutional obligations in ensuring basic security in old age. Together, this constitutes a pension gap of 75 per cent of older people in Bangladesh.[22]

Figure 27: Allocation of resources to the Old Age Allowance

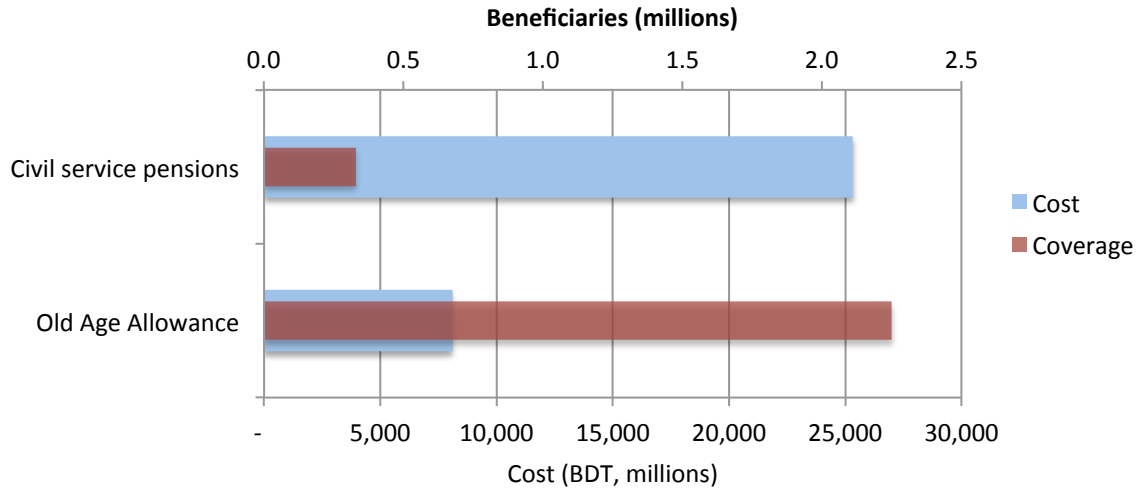


Source: Ministry of Social Welfare data, Author's calculations

[21] See Government of Bangladesh budget estimates for safety net expenditure published by the Ministry of Finance, http://www.mof.gov.bd/en/index.php?option=com_content&view=article&id=217&Itemid=1 (15 June 2013)

[22] Biplob S, *A desk research on social protection situation in Bangladesh*, Dhaka, HelpAge International, 2010

Figure 28: Government pension budget requirements outweighs investment in social protection for all



Source: Biplob S, Desk research on social protection situation in Bangladesh
Note: Coverage is for year 2009/10

2.2 Projecting poverty impact of reform options for the Old Age Allowance

The evidence so far has shown that old age is a significant strain on poor households in Bangladesh, but that the current OAA only reaches a minority of poor and vulnerable older people. This section attempts to assess the relative impact and cost-effectiveness of different policy reforms to the OAA that could increase its poverty impact. These issues are addressed in two steps: first, by considering the scope for improving the targeting of the OAA and how this would compare to an alternative of a universal OAA received by all those over a set age. Second, by looking in greater detail at a range of scenarios for a universal OAA with varied ages of eligibility and benefit levels.

2.2.1 Improved targeting, or a universal Old Age Allowance?

There are two potential options available for reducing exclusion errors within the OAA: improving the design and implementation of the means test or making the scheme universal. The simplest alternative to ensure that the poorest older people receive the OAA would be to make it universal for all people over the age of eligibility. Universal social pensions have been shown to have high success in reaching the poorest older people, although they inevitably cost more than when a pension is targeted to the poorest people. On the other hand, the government could take measures to try and make the existing targeting more efficient. Some initiatives to improve targeting are already underway, including collaboration between the World Bank and the Bangladesh Bureau of Statistics to establish a national database that can be used for improved targeting. The methodology being proposed by the World Bank is a Proxy Means Test (PMT), which is described in Box 1.

Box 1: The PMT methodology—a brief description

PMT is based on national household surveys. Given that household income in developing countries is often difficult and expensive to measure accurately, the methodology relies on household assets and other indicators—or proxies—to estimate household welfare.

To work, the proxies used need to be easy to measure. They include demographic characteristics (such as age of household members and size of household), human capital characteristics (such as education of household head and enrolment of children in school), physical housing characteristics (such as type of roof or floor), durable goods (such as refrigerators, televisions or cars) and productive assets (such as land or animals). Regressions are run to find the proxies that most correlate with poverty. While individual proxies may be weakly correlated with poverty, multiple proxies show stronger correlations.

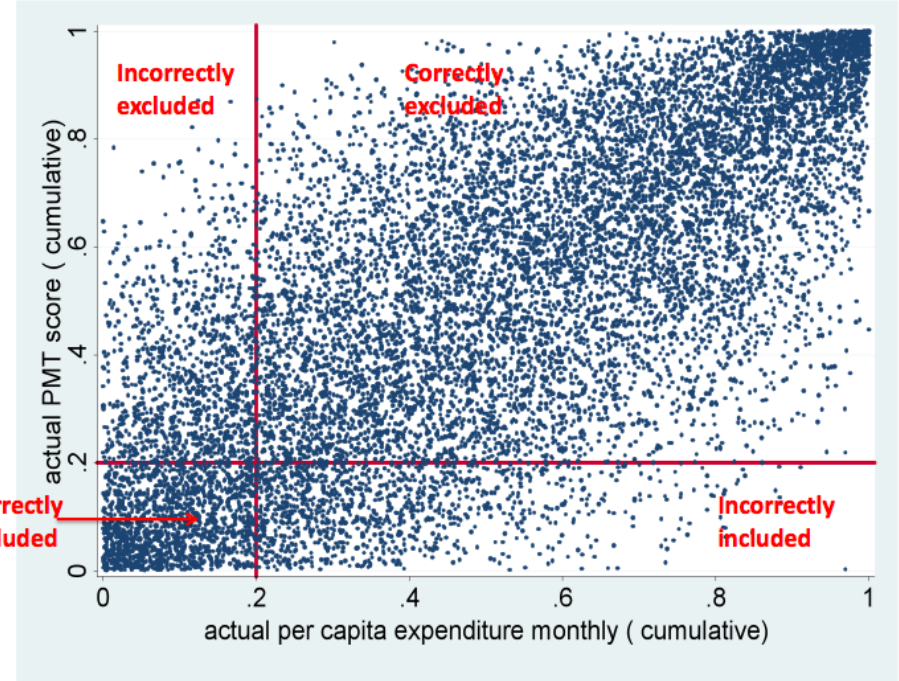
The PMT uses a set of proxies (usually between 10 and 30) that best explain poverty. Each proxy is given a weight based on its estimated impact on household expenditure. Enumerators visit households to see if they have the proxies being used in the PMT. Then, using the agreed weights, a score is calculated for each household. Households that score below the cut-off point are eligible for the social protection programme being considered.

Source: Kidd S and Wylde E, Targeting the poorest: an assessment of the proxy means test methodology, Canberra, AusAid, 2011

A key first question is the extent to which changes to the targeting methodology, such as PMT, would improve efficiency. The way this can be done is by comparing the scores generated by PMT with the actual expenditure of households. Since the latest PMT model developed by the World Bank for Bangladesh used the 2005 HIES, the authors generated a new model for the 2010 HIES using the same methodology. Annexes2, 3 and 4 describe the methodology for building this model in detail.

Analysis of the PMT model shows it will still involve significant targeting errors. The key principle behind PMT is that the score assigned to a household should correlate with poverty, as measured in household survey data. By plotting actual expenditure against expenditure predicted by the PMT in a scatter diagram, it is possible to get a visual picture of how accurate PMT would be at identifying poor households.Figure 29 does this by plotting per capita expenditure on the horizontal axis against the PMT score on the vertical axis. The black lines bisecting both the horizontal and vertical axis are used to show how accurate targeting would be if the poorest 20 per cent of households were targeted. As a point of comparison, if the PMT methodology were perfectly targeted the scatter points would form a straight line from bottom-left to top-right, implying that exclusion of poor and inclusion of non-poor would be zero. In reality, the large scatter suggests the relatively low correlation between the proxies (ie PMT values) and actual consumption, indicating large errors. The result is that a significant portion of households have a higher PMT score relative to their expenditure (meaning they would be incorrectly excluded) while others have a lower PMT score (meaning they would be incorrectly included). These findings reflect those of Kidd and Wylde who have found consistently high exclusion errors in similar analysis of PMT in Rwanda, Sri Lanka and Indonesia.

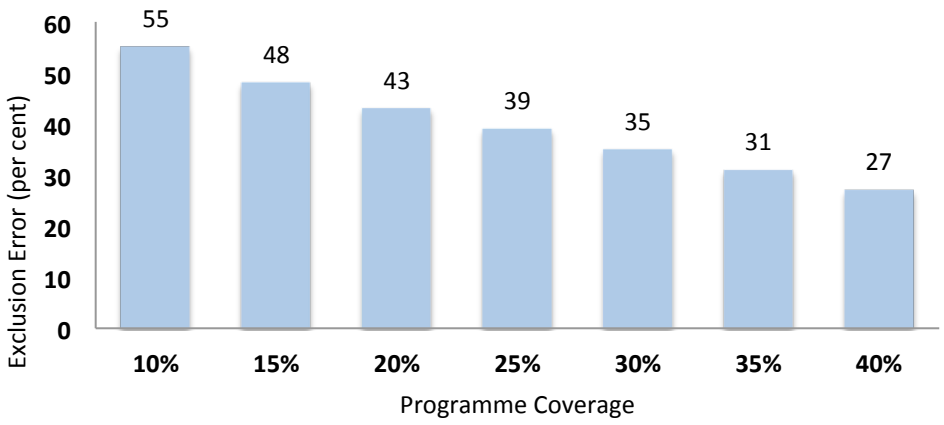
Figure 29: Actual household expenditure versus household expenditure predicted by PMT



Source: 2010 HIES, Author's calculations

The consequence is that, while a PMT may improve targeting performance compared to the existing OAA, exclusion errors for older people would still be at least 35 per cent. Using the same PMT model presented above, Figure 30 shows the potential exclusion errors for an OAA targeting households over the age of 60 at different coverage rates. When targeting the bottom 10 percent of households with older people, over 50 per cent of these households would be wrongly excluded. When targeting the poorest 20 per cent, the minimum exclusion error would be 43 percent. As the target group for the programme increases, the exclusion error reduces: a trend also confirmed in the analysis of Kidd and Wylde. Nevertheless, even with larger target groups, such as the poorest 40 per cent of households with older people, nearly 30 per cent miss out. Considering that the current OAA targets around 30 per cent of older people, we see that the exclusion error could theoretically be as low as 35 per cent. This would mark a significant improvement to exclusion errors of over 50 per cent discussed in Section 2.1, but would still result in one in three poor older people being incorrectly excluded from the programme.

Figure 30: Theoretical exclusion errors for Bangladesh PMT



Source: 2010 HIES, Author's calculations

In order to test the relative efficiency of different targeting approaches, the cost and benefit of a variety of scenarios were simulated using the 2010 HIES (see Table 3). All scenarios assumed a benefit level of 300BDT with an age of eligibility of 60.Impact is measured in terms of poverty reduction for the population living in a household with person aged 60 or over. The first scenario is a universal pension that is simply be given to all older people aged 60 and over. The second scenario assumes the benefit is targeted only at older people in household living in poverty, and that targeting is perfect (ie all households are accurately identified). Here, the impact would be the same as the universal programme but the cost substantially less. The third scenario presents a similar option, but with the targeting errors outlined above incorporated into the analysis. Finally, it is widely documented that the administration costs associated with means testing are higher than those within universal pensions. The final scenario therefore assumes administrative costs of 25 per cent (compared to the assumption of 10 per cent for other scenarios).[23] However, the World Bank has reported that "…anything beyond about 12 to 15 percent of total costs bears close examination to see why administrative costs are relatively high".[24]

As a result of high exclusion errors, PMT is unlikely to be much more efficient than a universal programme. In order to compare the scenarios, a "cost-benefit" ratio is calculated which signifies the expenditure needed (as a per cent of GDP) for one percentage point reduction in poverty. These are compared in Figure 31. The cost-benefit ratio of the perfectly targeted scenario (0.3) is less than a third of the universal one (0.10), suggesting it would be three times more efficient. However, when real world targeting errors are taken into account, the efficiency is much lower. With the same administration costs as a universal programme, the cost-benefit ratio of the targeted scheme would be 0.08.When higher administration costs are incorporated the cost-benefit ratio would be 0.09, only marginally more efficient than a universal programme.

[23] Willmore L, "Universal Pensions for Developing Countries", *World Development 35(1)*, 2007, pp.24-51

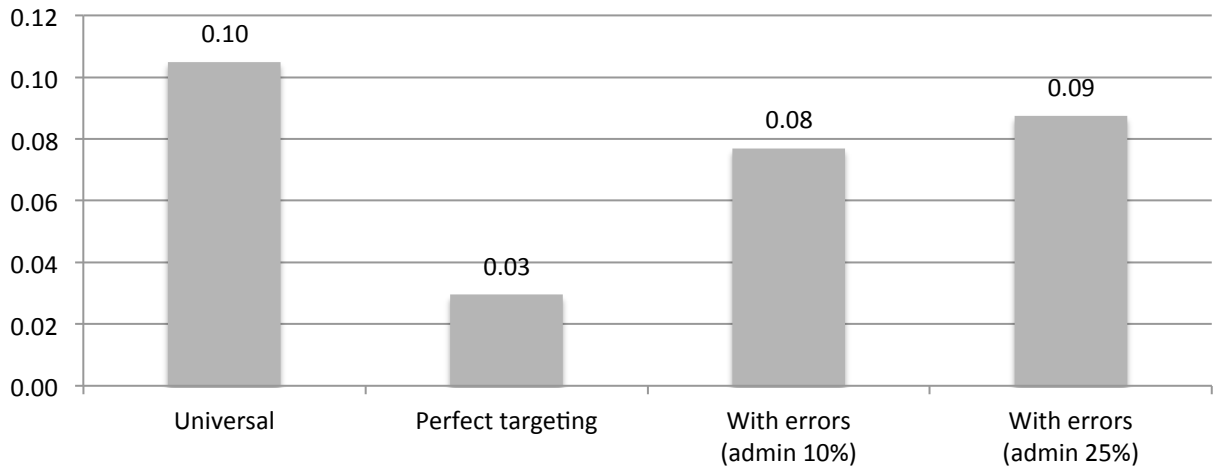
[24] Grosh M et al, *For protection and promotion: the design and implementation of effective safety nets*, Washington, DC, World Bank, 2008

Table 3: Cost-benefit comparison: universal versus targeted programmes

Scenario	Poverty rate		Percentage point reduction	Cost (% of GDP)	Cost-benefit ratio*
	Before	After			
Universal	29.57	26.49	3.05	0.32	0.10
Perfect targeting	29.57	26.49	3.05	0.09	0.03
With errors (admin 10%)	29.57	28.37	1.17	0.09	0.08
With errors (admin 25%)	29.57	28.37	1.17	0.10	0.09

**The cost-benefit ratio is equal to the cost divided by the percentage point change in poverty. The number equals what percentage of GDP would be needed to achieve a 1 percentage point fall in the poverty rate of households with people aged 60 and over.*

Figure 31: Cost-benefit ratio for targeting scenarios



Source: 2010 HIES, Author's calculations

It is also worth considering that issues at the level of implementation would likely increase exclusion errors, and reduce the efficiency of a targeted programme further. The errors described above are only those of the PMT model itself, and do not incorporate issues in implementation at national and local levels. Groshet al highlighted that "proxy means tests are most appropriately used where a country has reasonably high administrative capacity, for programmes meant to address chronic poverty in stable situations, and where they are used to target a single programme with large benefits or to target several programmes so as to maximize the return for a fixed overhead."[25]This does not bode well in the context of the OAA, where existing implementation has been found to be weak and inconsistent. There is little reason to believe that implementation would improve with PMT, which requires extra layers of administration. International experience shows that it has proven difficult to undertake accurate surveys in the allotted time periods.[26]An associated weakness of PMT is that, due to high implementation costs, the targeting processes usually only undertaken every few years. This may be as frequently as every two years, but many programmes do it far more infrequently, such as every five to ten years. In light of the fact that many Bangladeshi households will move in and out of poverty over a short period of time (as

[25]Grosh M et al, *For protection and promotion: the design and implementation of effective safety nets*

[26] See Kidd S and Wylde E, *Targeting the poorest: as assessment of the proxy means test methodology* and Bazzi S et al, *It's all in the timing: expenditure and labor supply responses to unconditional cash transfers*, Jakarta, SMERU, 2012

discussed in Section 1), this means that accuracy will decrease as more time passes after the targeting process.

A means tested programme also has a range of additional costs that are far harder to quantify. One major difference between a universal and a PMT programme is recipients' understanding of the methodology. Targeting of universal pensions, with eligibility criteria based on age, is easy to understand and tends to be uncontroversial. PMT, on the other hand, is particularly challenging as the selection of recipients is done by a "black box", making it hard for recipients and non-recipients to understand why some people have been chosen, and others not. In light of the significant exclusion errors it can be perceived as a lottery, which can lead to a weakening of social cohesion in communities as people cannot understand why many poor people are excluded and some better-off are included. Potentially, this can result in social conflict and a reduction of social capital, which may undermine any benefits that are gained from the transfer itself.[27] There are also challenges to the use of PMT, which is based on household data, for individual transfers. An older person will be selected only if their household is deemed to be poor, which makes the assumption that income is shared fairly within a household. This makes the approach much less appropriate for individual social security benefits, as it is unable to differentiate between the incomes of particular members within the households.

2.2.2 Scenarios for a universal Old Age Allowance

Considering the limited efficiency gains and persisting challenges of means testing, there is value in exploring scenarios for a universal OAA in greater detail. The impact and cost of a universal OAA will be influenced by two key design decisions: the benefit level and the age of eligibility. To show the impact of various ages of eligibility, four ages were chosen: the existing age of eligibility for the OAA (62 for women and 65 for men) and ages of eligibility of 60, 65 and 70. Similarly, four benefit levels were chosen to align with a range of national and international benchmarks: 300BDT, 600BDT, 1,000BDT and 1,600BDT. The OAA currently pays a benefit of 300BDT, but, as discussed in Section 2.1, the benefit is low by international and even low-income country, standards. National-level stakeholders have made similar reflections and suggested a higher level. The recent evaluation study conducted by the Bangladesh Institute of Development Studies (BIDS) and the Ministry of Social Welfare recommended a benefit level of 550BDT, which closely corresponds to the 600BDT level tested here. Even so, both of these levels are significantly below even the food poverty line in Bangladesh, let alone the upper poverty line. The 1,000BDT and 1,600BDT levels are used to see the outcomes of a universal OAA that align to the food poverty line and the upper poverty line, respectively.

[27] See Kidd S and Wylde E, *Targeting the poorest: as assessment of the proxy means test methodology*

Table 4: Comparison of benefit levels considering national context, human rights standards and international experiences

	Benefit level		
Transfer value	BDT	% of GDP per capita	% of international poverty line*
Current national context based on existing schemes, recommendations and policy			
Existing OAA	300	8.29	27.61
National recommendation[28]	550	15.20	50.63
30% of minimum wage	540	14.92	49.71
50% of minimum wage	900	24.87	82.84
Benefit levels based on national and international poverty lines			
Food security: food poverty line	993	27.43	91.40
Lower poverty line	1,324	36.58	121.87
Upper poverty line	1,670	46.14	153.72
International poverty line (US$1.25 (PPP))	1,086	30.00	100.00
Benefit levels based on international averages			
Low-income country (all social assistance schemes)	625	17.27	57.53
Global average (all social assistance schemes)	650	17.96	59.83

** The international poverty line is US$1.25 (PPP) per day*

Note: calculations for proportion of GDP per capita are based on the Heritage Foundation Economic Outlook Index 2013

The impact of a universal pension on poverty will vary significantly according to the benefit level and age of eligibility chosen. Table 5presents simulations of the impact of a universal pension on poverty across the total population. Impacts are presented against two measures of poverty: first, the poverty headcount according to the upper poverty line and, second, the poverty gap – which describes the depth of poverty. To give a more tangible sense of the impact on poverty, headcount poverty reduction is also presented in terms of the number of people who would be lifted above the poverty line. Figure 32 compares the impacts of different options on the poverty headcount, giving a clearer visual impression of relative impacts.

Some notable observations include:

- Making the current OAA universal, using the same age of eligibility and benefit level, would cost 0.28 per cent of GDP, and lead to a 0.8 per cent reduction in the national poverty rate, or 1.2 million people being lifted out of poverty. The cost would be double that allocated to the existing OAA. The lowest cost option for a universal pension (300BDT for those aged 70 and over) would be feasible within the current OAA budget. However, this would require the removal of existing beneficiaries who are under the age of 70, which would be highly questionable.
- The highest level tested (1,600BDT) at the lowest age of eligibility (for those aged 60 and over) would reduce the poverty rate by nearly 4 percentage points, equivalent to nearly six million

[28]Begum S and Wesumperuma D, "Overview of the Old Age Allowance Programme in Bangladesh"

people. The cost would be equal to 1.73 per cent of GDP. Such a cost is not excessive by international standards, and similar to spending on social pensions in countries including Lesotho and Mauritius.[29] Nevertheless, in the Bangladesh context it would be similar to total current spending on social protection, and 9.45 per cent of total government expenditure. While such a scheme may be an option in future years, it is unlikely to be feasible in the short term without significant reallocation of government resources.

- A pension of 1,000BDT to those aged 60 and over (equal to the food poverty line in Bangladesh) would lower overall poverty rates by 2.57 percentage points, equivalent to almost a third of the total fall in poverty achieved between 2005 and 2010 (7.5 percentage points). Furthermore, it would result in a reduction of 9.12 percentage points in the poverty rate for the population living in households with a person aged 60 and over. This is close to the overall poverty reduction between 2005 and 2010 for the population living in households headed by younger people of 10 percentage points (see Figure 14)
- A pension of 600BDT to those aged 60 and over, which corresponds to the recommendation by Begum and Wesumperuma in their 2012 paper, appears to provide a potential middle ground in terms of cost and impact. This programme would lead to a reduction in the national poverty rate of 1.6 per cent (resulting in 2.45 million people being lifted out of poverty) at a cost of 0.65 per cent of GDP, or 3.54 per cent of government expenditure. It would have the "day after" impact of reducing poverty by 5.76 percentage points for those living in households with a person aged 60 and over, which is more than was achieved between 2005 and 2010 (5 percentage points, as shown inFigure 14).

Table 5: Poverty impacts of universal pension scenarios

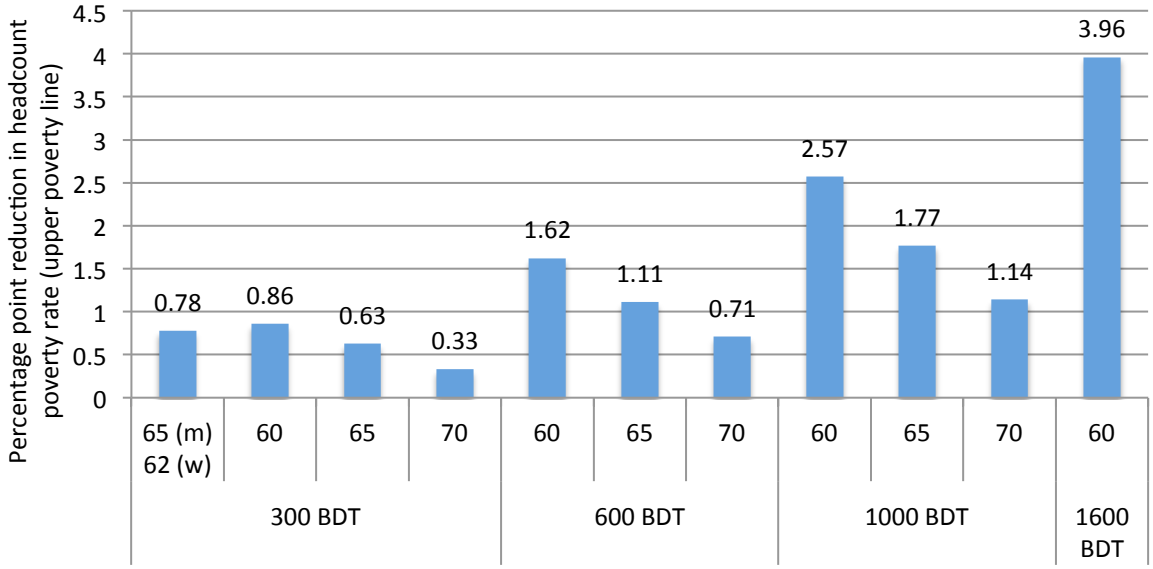
Design		**Impact**					**Cost**	
		Poverty headcount			Poverty gap		% of Government expenditure	% of GDP
Benefit level (BDT)	Age of eligibility	After transfers (%)	Percentage point fall	No. out of poverty	After transfers (%)	Percentage point fall		
300	65 (m) 62 (w)	30.83	0.78	1.18	6.92	0.27	1.51	0.28
	60	30.75	0.86	1.30	6.87	0.32	1.77	0.32
	65	30.98	0.63	0.95	6.98	0.21	1.14	0.21
	70	31.28	0.33	0.50	7.06	0.13	0.69	0.13
600	60	29.99	1.62	2.45	6.61	0.58	3.54	0.65
	65	30.50	1.11	1.68	6.81	0.38	2.27	0.41
	70	30.90	0.71	1.07	6.95	0.24	1.38	0.25
1,000	60	29.04	2.57	3.88	6.32	0.87	5.90	1.08
	65	29.84	1.77	2.67	6.62	0.57	3.78	0.69
	70	30.47	1.14	1.72	6.83	0.36	2.31	0.42
1,600	60	27.65	3.96	5.98	6.00	1.19	9.45	1.73

Source: 2010 HIES, Author's calculations

Note: "After transfers" refers to the "day after" impact. Budget and GDP figures are for 2013. GDP values for 2013 have been obtained from Medium Term Budget Framework.

[29] HelpAge International, Social Pensions database (September 2012 edition), http://www.pension-watch.net/about-social-pensions/about-social-pensions/social-pensions-database/ (15 July 2013)

Figure 32: Poverty impacts of universal pension scenarios – all households

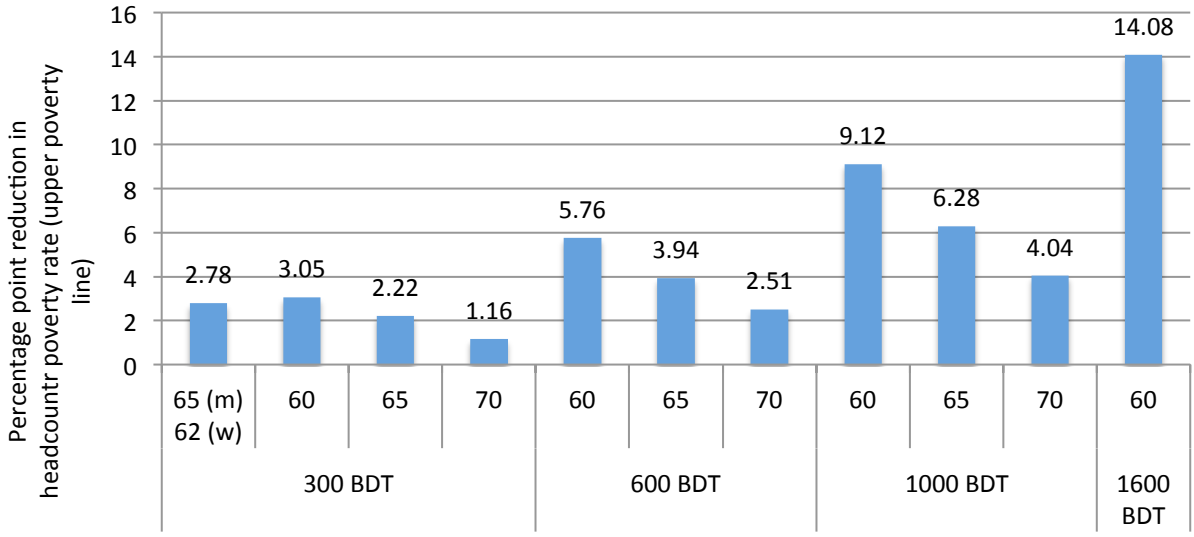


Source: 2010 HIES, Author's calculations

An important observation is that both a transfer of 600BDT to all people aged 60 and over and a transfer of 1,000BDT to all people aged 65 or over would require a similar amount of resources (between 0.65 and 0.69 per cent of GDP). Therefore, if the government of Bangladesh evaluated the possibility of introducing one of these two universal OAA schemes, their potential poverty impact could be a key determinant of choice, since the differences in terms of cost are almost negligible. Another important observation is that for each benefit level and age of eligibility, the introduction of a universal social pension would be a pro-poor measure. The impact of a universal pension on the poverty gap and extreme poverty rate is greater than the impact on absolute or head count poverty. For instance, a transfer of 1,000BDT per month to all people aged 60 and over would reduce the absolute poverty rate of this age group by 8.1percent. However, the poverty gap index would decline by 12percent, and the extreme poverty rate and extreme poverty gap would reduce by 13 and 15percent respectively (see Annex 6).

Unsurprisingly, the impact of a universal pension would be particularly significant for households where there is an older person. Figure 33shows the impact of a universal pension on the population living in a household with an older person. The relative impact of different scenarios directly echoes those seen in Figure 32, but the magnitude of impact is far higher. For example, a pension of 600BDT for those aged 60 and over would reduce the poverty rate for these households by nearly 6 percentage points, compared to a reduction of 1.6 per cent across the whole population. While striking, it is worth noting that these figures may overestimate the impacts on these households, and underestimate impacts on other households. The simulations assume that increased expenditure resulting from a pension will only occur within recipient households. However, as much as older people receive support from outside their households, they are also likely to share benefits such as pensions with those outside, such as grandchildren. On this basis, the margin between relative impacts on households with and without older people may not be so great.

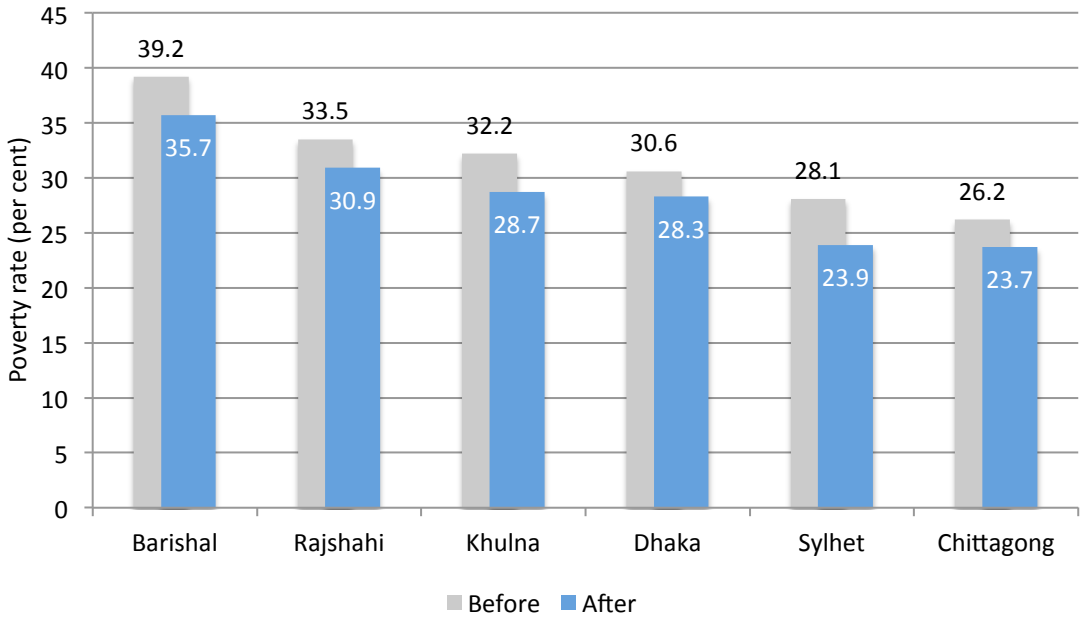
Figure 33: Poverty impacts of universal pension scenarios – households with an older person aged 60 and over



Source: 2010 HIES, Author's calculations

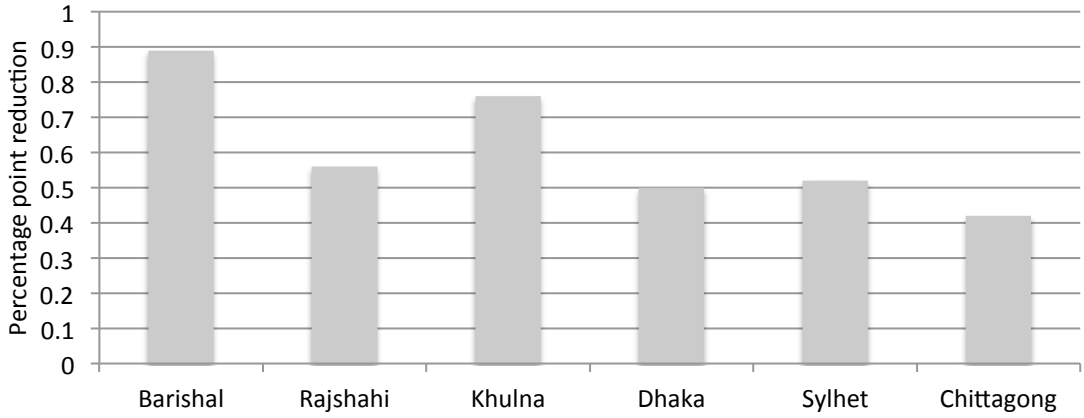
While all divisions of Bangladesh would benefit from a universal OAA, impacts would be greatest in divisions where poverty is deepest. Figure 34 presents poverty rates for households with an older person aged 60 or over before and after a universal pension, using the example of 600BDT for those aged 60 and over. All divisions see a notable fall in the poverty rate of households with an older person, with particularly significant falls being seen in Sylhet and Barishal. Therefore, one can deduce that an old age pension that does not cover all divisions might further sharpen differences in terms of poverty impact across divisions. Policy makers should be aware of the risks of using division-based, or geographical, targeting for cash transfers. In particular, the potential erosion of social cohesion and associated political costs should be considered. Figure 35 explores the extent to which a universal pension would reduce the depth of poverty by showing the percentage point fall in the poverty gap. In Figure 35, the divisions are placed in order of the depth of poverty, with the poorest first, showing a general trend that divisions with the highest levels of poverty will see the greatest impact in terms of reduction in the poverty gap. This suggests that a universal pension will particularly benefit those divisions were poverty is deepest.

Figure 34: Poverty impacts for households with an older persons aged 60 or above, by division



Source: 2010 HIES, Author's calculations

Figure 35: Percentage point fall in poverty gap after a universal pension, by division



Source: 2010 HIES, Author's calculations
Note: A benefit level of 600BDT per month to all those aged 60 and over is used.

2.3 Macro-Simulation Exercise – trade offs

A consequent question for all the above micro-simulations is their possible effect on key macro-economic variables. In order to illustrate the possible impact of a social protection programme on macro-economy, only one intervention has been selected based on its impact on poverty, coverage and programme cost. Among the various micro-simulation interventions, a universal OAA with a benefit level of 600BDT per month for each person aged 60 or over appears feasible on the basis of the cost, coverage and poverty impact. The total programme cost is estimated to be 67.9 million BDT or 0.65 percent of GDP in 2013. Under a universal scheme, the OAA is a direct transfer to households with a

person aged 60 or over. Within the context of the SAM multiplier model, 67.9 million BDT would then be transferred among the six representative household groups, according to their share in old age population. However, as the OAA is financed through tax revenue, a relevant question is: what is the opportunity cost of 67.9 million BDT channelled to households through the OAA? The issue of opportunity cost may be addressed by exploring the potential impact of channelling the same amount of money into an alternative investment project such as infrastructure development or equipment installation.

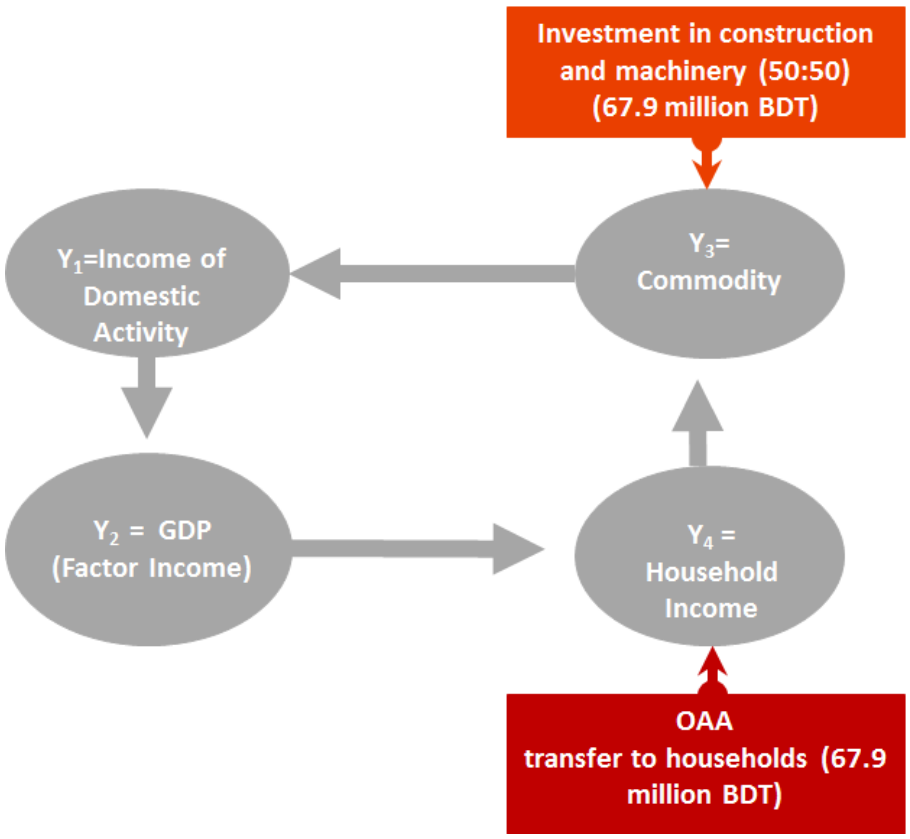
2.3.1 Simulation Design

As mentioned above, a SAM multiplier model is used to assess the macro-economic impacts. Two simulations are carried out.

Simulation 1: in the first simulation labelled "OAA", 67.9 million BDT has been transferred to all six representative household groups on basis of their observed share in old age population (i.e. those aged 60 and over).

Simulation 2: instead of transferring 67.9 million BDT to the six household groups, in the second simulation, labelled "INV", the funds are allocated in equal proportion to two investment sectors namely (i) construction and (ii) machineries.

Figure 36: Transmission mechanisms and impact paths of intervention into activities and households

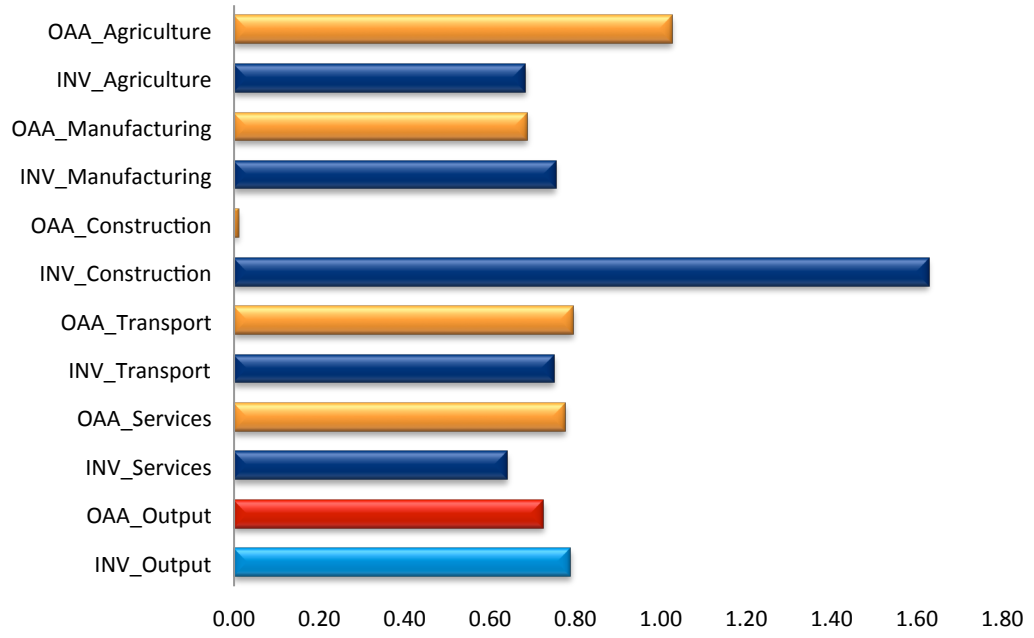


2.3.2 Simulation Results

Simulation outcomes using the SAM model are reported in terms of gross output value added, factor income and household consumption. Moreover, simulation outcomes are reported using broad classifications of activity (i.e. six activities aggregated from the 86 activities), value-added or GDP by three factors of production and household consumption by three representative households.

Overall, effects on gross output are very close under the two interventions. More specifically, change in gross output as a percentage of base gross output value is 0.79 under the "INV" simulation compared to 0.72 under the "OAA" simulation. However, an interesting finding is the pattern of effects across the broad activities. Under the "INV" simulation, the effect is dominated by construction, followed by manufacturing and transport. In the case of the "OAA" simulation, except for construction, which is purely capital goods generation activity, the impacts are much more even across the remaining four activity categories.

Figure 37: Change in gross output by major activities over the base values (per cent)

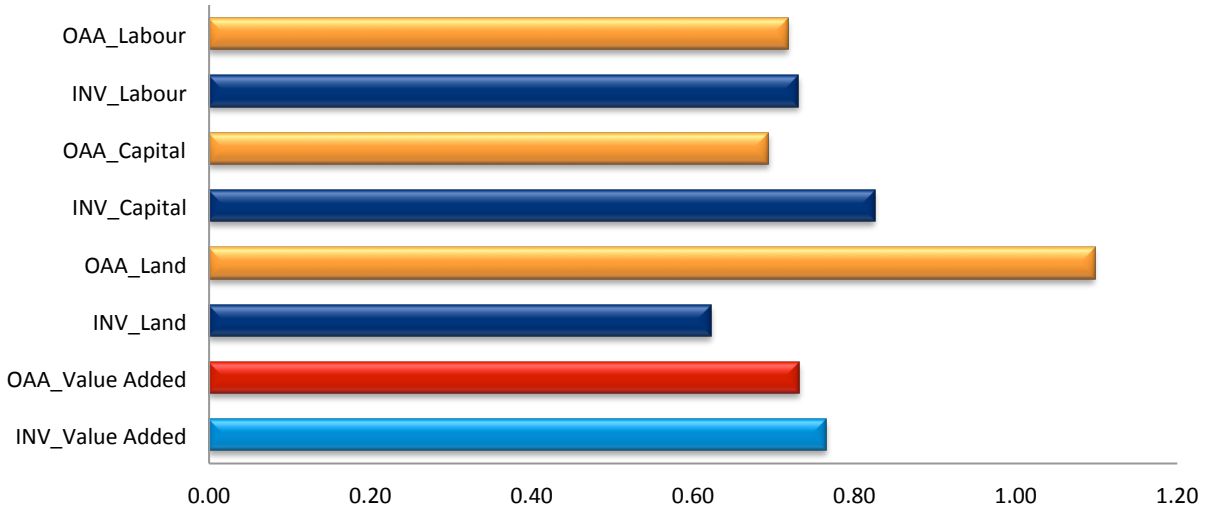


Source: SAM Simulation Model, Author's calculations

Effects on value added under the two interventions are closer than the impact found for the gross output. More specifically, change in value added, or GDP as percent of base GDP value, is 0.65 under the "INV" simulation compared to 0.62 under the "OAA" simulation. However, the distribution of additional gains in value added (GDP) among the factors of production (eg land, labour and capital) is quite different under the two simulations. Under the "INV" simulation, the effect is somewhat dominated by the capital factor due to the large expansion of gross output of the construction activity (construction is known to be a capital intensive activity). Capital factor is followed by labour factor in terms of the distribution of additional gain. Lowest benefit accrues to the land factor. The distribution of additional

gains among the factors of production is completely reversed in the case of the "OAA" simulation. Land factor is the main beneficiary of additional gain, due to relatively high demand for output of the agricultural activity. Capital is the least benefited factor due to very small increase in the gross output of the construction activity when funds are channelled via household groups.[30]

Figure 38: Change in value added (GDP) by factors over the base values (per cent)

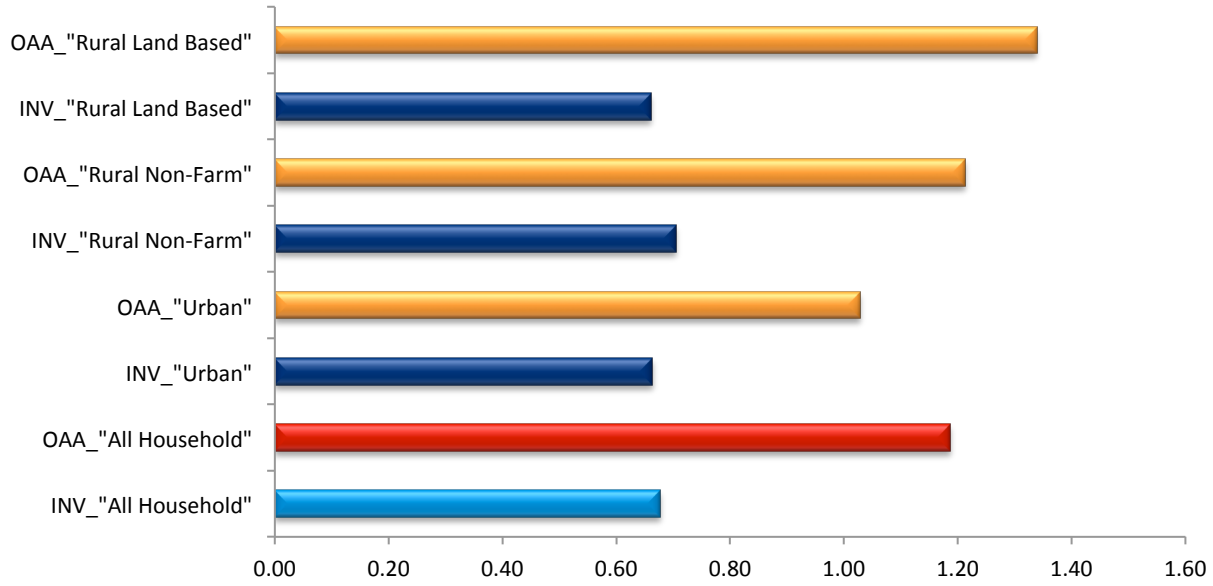


Source: SAM Simulation Model, Author's calculations

The OAA is a direct transfer to household groups compared to an investment scheme which is implemented through enhancing demand for investment generating activities. Thus, the impact of the OAA on household consumption expenditure is expected to be substantially higher than that found under the investment scheme. As anticipated, impact of the OAA on household consumption expenditure, at 1.2 per cent over the base consumption expenditure, is double that which was found for the investment programme (0.6 per cent). However, the more interesting point to note is the pattern of distribution of additional consumption gain across the three representative household groups. Under the "OAA" simulation the distribution appears pro-poor and pro-rural, with land-based household groups being the main beneficiaries followed by rural non-farm household groups.

[30] Construction is a capital-goods generating activity. Households do not demand products of construction (such as roads, bridges, and buildings) in the same way that they demand products of agriculture and manufacturing. Therefore, direct transfers to household groups usually result in low demand for construction products, which in turn leads to lower growth of construction activities and smaller gains for capital factors which are heavily used in construction.

Figure 39: Change in consumption by representative households over the base values (per cent)



Source: SAM Simulation Model, Author's calculations

2.4 Financing the reformed Old Age Allowance

A major concern for adopting a universal OAA, or any social protection programme, is the level of resources required. Consequently, universal programmes are often seen as problematic, even before discourse around their introduction has begun. In a low-income country such as Bangladesh, the aim of a universal OAA must be advocated with judicious review of the fiscal space and projected benefits of the programme.

Heller defines fiscal space as the availability of budgetary room that allows a government to allocate resources for a desired purpose, without any prejudice to the sustainability of a government's financial position.[31] He also notes that: "fiscal space can be created through raising revenue, reprioritization of expenditure, and external grants". The concept of fiscal space itself provides a rationale for carrying out social protection programmes. A 2009 UNICEF study outlines three core components of analysing fiscal space for social protection.[32] They are: (i) whether fiscal space exists or how it can be created, (ii) sustainability of such fiscal space and (iii) the expenditure quality and macroeconomic feasibility of the use of that fiscal space. Analysing fiscal space for social protection in Nigeria, Hagen-Zanker and Tavakoli note six mechanisms for creating fiscal space.[33] These mechanisms include mobilization of domestic resources through higher economic growth or increasing tax yields, debt management, either by having all or part of country's debt stock written off or by increasing domestic or external borrowing, spending reallocation to priority sectors and from less to more

[31] Heller P, *Understanding fiscal space: IMF policy discussion paper 05/04*, Washington, DC, IMF, 2005

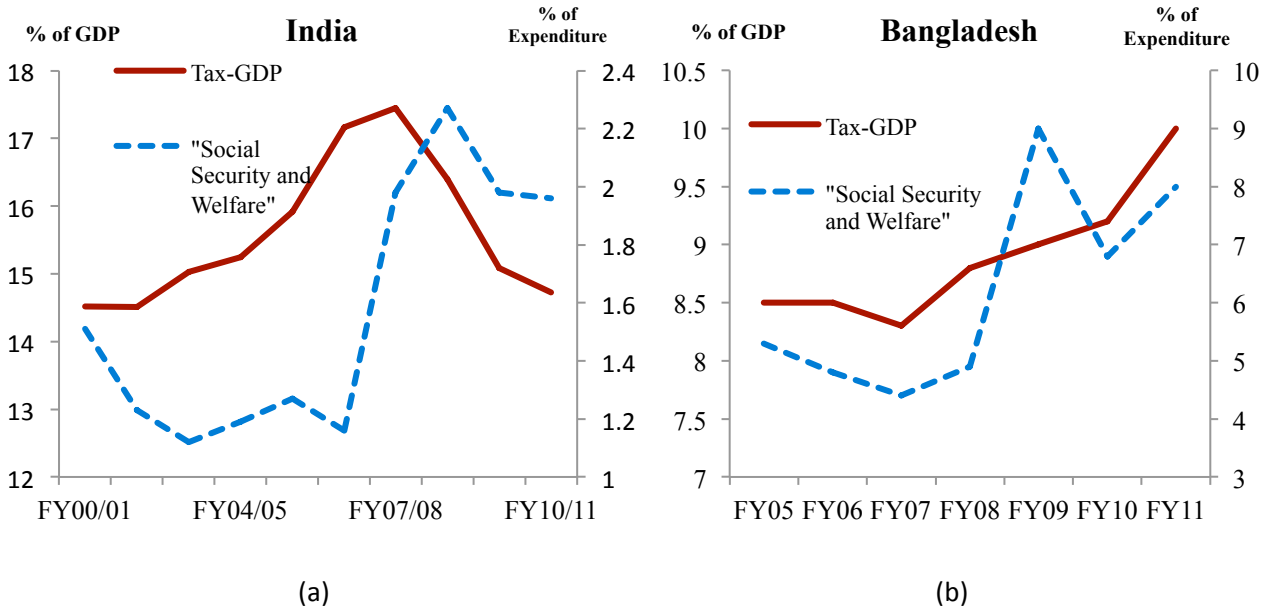
[32] UNICEF, *Fiscal space for strengthening social protection: West and Central Africa*, Dakar, UNICEF, 2009

[33] Hagen-Zanker J and Tavakoli H, *Fiscal space for social protection in Nigeria*, London, Overseas Development Institute, 2011

productive programs, aid flow, improving efficiency of spending and reducing wastage in public expenditure, and, last but not the least, political commitment.

Social security and welfare expenditure in India shows some positive correlation with tax to GDP ratio (Figure 40), which indicates that an increase in expenditure is positively attributable to fiscal space improvement. For Bangladesh the findings are similar (Figure 40).[34] Hence it can be argued that expansion of social protection is likely as tax base or fiscal space increases. However, existence of fiscal space or creation of fiscal space for additional spending does not ensure that all, or part, of these funds will be spent on social protection: the allocation heavily depends on political priorities of the country.[35]

Figure 40: Relationship between revenue mobilization and social security expenditure



(a) (b)

Source: Author's calculations from –
(a) Indian Public Finance Statistics 2010-11, Ministry of Finance, Department of Economic Affairs, Economic Division, Government of India
(b) Bangladesh Economic Review 2012 and Statement II: Non-development and Development Expenditure, Budget in Brief, Ministry of Finance, Bangladesh, various issues

As mentioned above, introducing a universal OAA programme of 600BDT per month to all those aged 60 and over would cost around 0.65 percent of GDP. Current allocation to the OAA is around 0.13 percent of GDP. Therefore, additional resources equivalent of 0.5 percent of GDP may be required to adopt the programme. Recent development is Bangladesh tend to suggest this is feasible:

1. The main commitment in the Sixth Five Year Plan is to increase the budgetary allocation for social protection programmes from 2 percent to 3 percent of GDP. Although several programmes are likely to compete for this additional resource, such as child grants focusing on nutrition, stipend schemes and the OAA.

[34]For India the correlation is 20 percent and for Bangladesh it is around 75 percent.
[35]UNICEF, *Fiscal space for strengthening social protection: West and Central Africa*

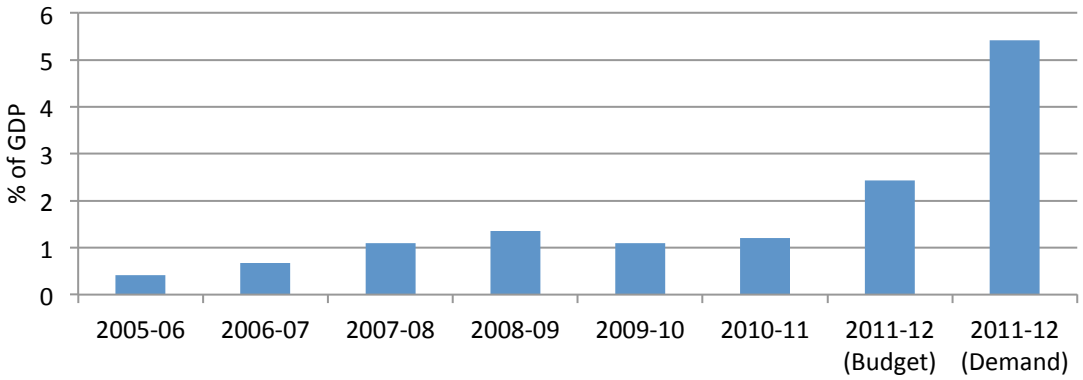
2. A 2007 study by the IMF suggested that tax expenditure, which is defined as revenues forgone due to the provision of tax holidays, exemptions, deductions, reduction of tax rates, deferrals and tax credits, amounted to2.5 per cent of GDP.[36] Various studies also note this feature as a fundamental weakness in Bangladesh's tax systems. That is, already narrow tax base of Bangladesh is severely eroded by the high incidence of exemptions, tax holidays, and tax evasions. Moreover, exemptions are frequently offered on non-economic grounds, eroding revenue yield. Furthermore, benefits of tax-expenditure have usually been appropriated by richer sections of the society. Although some improvements have been reported by National Board of Revenue (NBR), tax-expenditure is still thought to account for about 1 percent of GDP. Reform and commitment to strengthen the tax system could recoup this 1 percent of GDP, part of which could be used for financing universal OAA programme.

3. Tax collection and revenue productivity are both low in Bangladesh compared to its economic expansion. Potential tax bases and tax rates suggest huge scope for improvement in revenue mobilization in Bangladesh. It is argued that (even after controlling for low per capita income) revenue potential is likely to be in the range of between 14 and 15 per cent of GDP, compared to the current ratio of 10 percent. Low resource mobilization has also partly been constraining the growth of government expenditure. Observed total expenditure has been between 13 and 14 per cent of GDP. In a developing country like Bangladesh, desirable government expenditure levels are estimated to be between 18 and 20 per cent of GDP. The full realization of revenue potential, then, may lead to increased government expenditure in Bangladesh.

4. Budgetary subsidies, despite the sharp increase in recent years, do not capture various other forms of economic and hidden subsidies incurred through other quasi-fiscal activities. This type of subsidy includes subsidies for Compressed Natural Gas (CNG), resulting in lower price than the equivalent petroleum price, subsidies for ailing industries (such asjute and sugar industries) and the longstanding provision of cheap credit to some sectors (such as, share croppers, spice farms, fisheries etc.). These economic and hidden subsidies combined could reach between eight and nine percent of GDP. Subsidies should be based on objective criteria and their impact must be assessed and evaluated frequently to avoid the misallocation of resources. Therefore, reassessment of subsidies and quasi-subsidies may provide additional resources to invest in poverty reduction programmes.

[36] Kinoshita N, "Government Revenue Performance and Reform Potential", in IMF, *Bangladesh Selected Issues*, Washington, DC, IMF, 2007 and Mortaza MG and Begum L, "Tax Expenditures in Bangladesh: An Introductory Analysis", *Bangladesh Bank Quarterly*, Volume IV, No. 1, 2006, pp.37-43 report similar findings. They find that tax expenditure amounted to 2.5 per cent of GDP in the financial year 2006.

Figure 41: Subsidies as a percent of GDP



Source: Ministry of Finance

3. Conclusions and recommendations

Although older people only constitute a small proportion of the population they are critical to upholding the social fabric of Bangladeshi society. Around a third of the population lives with a person aged 60 or over and are therefore directly impacted by the experience of ageing, which is characterised by increased incidence of disability, reduced capacity for income generating and greater complexity of health issues. With the proportion of older people set to triple within a single lifetime, the rapidly changing age structure of the population will see a growing proportion of people coping with old age. Meanwhile traditional systems of care are breaking down, in particular among the poor, and older people are at significant risk of poverty. When people do take care of their parents in old age, this can act as an informal tax on working families, reducing their ability to care for their own children and to invest in income generating activities.

The relative poverty rates of older people based on consumption data from the HIES is not reliable as a tool to understand the relevance of old age to poverty reduction and development. Analysis using the official HIES methodology, which assumes equal distribution of resources between household members, found slightly lower poverty rates of older people as compared to national averages. Yet adjustments to statistical assumptions of the relative consumption needs of adults and children within a household lead to a different conclusion. Such variation undermines confidence in descriptive estimates of old age poverty.

Meanwhile the age of a household head correlates negatively with the impact of poverty reduction between 2005 and 2010, meaning that older headed households benefited less from development gains over this period. This points to the conclusion that the current development model may not be attuned to the challenges facing older people. A key recommendation is to deepen understanding of this trend through further research. As Bangladesh faces ageing at an accelerated rate, above the regional average, public policy will need to ensure that an ageing society does not undermine development progress.

Social protection could play a key role in preparing for an ageing population and ensuring it does not present an obstacle to Bangladesh's current development trajectory. Simulations of the impact of a universal OAA suggest that it would have a "day after" impact on poverty comparable to what has been achieved between 2005 and 2010. An OAA costing 0.64 per cent of GDP would reduce poverty for the population living with people aged 60 and over (32 percent of the total population) by 5.7 percentage points, compared to five percentage point reduction in poverty for the same population group achieved between 2005 and 2010.

An investment of this scale would have comparable macro-economic impacts to a similar investment in other sectors, such as infrastructure. Previously considered to be social welfare on a charitable basis, analysis presented here using macro-simulations confirms that social protection is not a cost to the economy but rather an investment. Furthermore, there is comparative advantage in domestic output from agriculture through increased value added to land through investment in a household-level transfer to older people. Similarly, macro-economic modelling finds comparable advantage in terms of increased household consumption in rural and urban areas. This reinforces the widely acknowledged role of social protection, and in particular cash transfers to older people, in supporting a consumption-led growth. It also points to the particular benefits that a social pension could play in supporting rural development.

Tax-financed social protection is critical for inclusive growth. Discussions around financing here have identified a number of areas for increasing tax revenue to finance an expanded social protection scheme for older people, including suggesting caution regarding the increased budgetary allocation to subsidies without evaluating the redistributive potential and impact.

In light of the current NSPS development and reforms, and drawing on the above analysis of the potential impacts of universal and means-tested social pension, the following overarching recommendations for social protection in old age are highlighted:

- A universal OAA should be a priority within the NSPS due to its role in addressing wider development objectives, underpinning consumption growth and having a significant impact on national poverty rates including among the population living with older people, who have benefited less from poverty reduction in the past.

- A guaranteed minimum income at the level of the national poverty line should be a long term goal. This would cost 1.73 per cent of GDP (or 9.45 per cent of government expenditure in 2013) and would lift 6 million people out of poverty.

- A transfer of 600BDT to all those aged 60 and over is an achievable short term goal, costing just 0.65 per cent of GDP which is well within the fiscal envelope for social protection suggested by the existing five year development plan.

- Scale up should be phased over a ten year period and could include incremental increases in the benefit to older beneficiaries (see Figure 42).

Figure 42: Scale up options for the OAA

2014	2018	2020	2024
600BDT to 60+	600BDT to 60 - 69 1,000BDT to 70+	1,000BDT to 60- 69 1,600BDT to 70+	1,600BDT to 60+

- Clear communication to the public will be necessary to clarify the objectives of the programme and the road map for expansion. This should include clarifying how age and benefit levels will be indexed over time to adjust for demographic and economic change. Importantly this needs to be coherent with rationale for minimum benefit levels for other allowances, in particular disability and widow's allowances.

- Additionally, a universal OAA should be communicated in its role guaranteeing a minimum income in old age for all Bangladeshi people, as is their constitutional right. Means testing could be introduced in the long term when administrative systems have strengthened, so long as this does not undermine the guarantee of a minimum income for all.

4. References

Ahmed S, *Social safety nets in Bangladesh* mimeo (draft), Washington, DC, World Bank, 2007

Atkinson AB, Rainwater L and Smeeding TM, *Income distribution in OECD countries*, Paris, OECD, 1995

Barkat A et al, *Impact of social and income security for older people at household level*, Dhaka, HDRC, forthcoming

Barkat A et al, *Chronic poverty among older people in Bangladesh*, Dhaka, HDRC, 2003

Bangladesh Bureau of Statistics, *HIES survey report 2010*, Dhaka, BBS, 2010

Bazzi S et al, *It's all in the timing: expenditure and labor supply responses to unconditional cash transfers*, Jakarta, SMERU, 2012

Begum S and Wesumperuma D, "Overview of the Old Age Allowance Programme in Bangladesh" in S Wening Handayani and B Babajanian (eds) *Social protection for older persons: social pensions in Asia*, Manila, Asian Development Bank, 2012

BIDS, *An evaluation of the Old Age Allowance Programme of the Government of Bangladesh: technical proposal prepared for the Directorate of Social Services*, Dhaka, BIDS, 2009

Biplob S, *A desk research on social protection situation in Bangladesh*, Dhaka, HelpAge International, 2010

Castaneda T and Lindert K, *Designing and implementing household targeting systems: lessons from Latin America and the United States*, Washington, DC, World Bank, 2005

Foster JE, Greer J and Thorbecke E, "A Class of Decomposable Poverty Measures",*Econometrica 52*, 1984, pp 761-776

Grosh M, *Administering targeted social programs in Latin America: from platitudes to practice*, Washington, DC, World Bank, 1994

Grosh M et al, *For protection and promotion: the design and implementation of effective safety nets*, Washington, DC, World Bank, 2008

Hagen-Zanker J and Tavakoli H, *Fiscal space for social protection in Nigeria*, London, Overseas Development Institute, 2011

Hagenaars A, de Vos K and Zaidi MA, *Poverty statistics in the late 1980s: research based on micro-data*, Luxembourg, Office for Official Publications of the European Communities, 1994

Heller P, *Understanding fiscal space: IMF policy discussion paper 05/04*, Washington, DC, IMF, 2005

HelpAge International, *Making a living last longer: insights into older people's livelihood strategies*, London, HelpAge International, 2008

Khondker B, A Summary of Social Protection Schemes in Bangladesh. Manuscript prepared for AusAID. Dhaka, 2013.

Kidd S and Wylde E, *Targeting the poorest: an assessment of the proxy means test methodology,* Canberra, AusAid, 2011

Kinoshita N, "Government Revenue Performance and Reform Potential", in IMF, *Bangladesh Selected Issues*, Washington, DC, IMF, 2007

McPherson A, *Challenges and opportunities for age verification in low- and middle-income countries*, London, HelpAge International, 2011

Miyan A M, *Retirement and pension system in Bangladesh,* Dhaka, IUBAT, 1982

Mortaza MG and Begum L, "Tax Expenditures in Bangladesh: An Introductory Analysis", *Bangladesh Bank Quarterly*, Volume IV, No. 1, 2006, pp.37-43

Neeloy A, "Old age, poverty, and community support: qualitative evidence from a village in Bangladesh", Dhaka, ICDDR, 2002

OECD, *Growing unequal? Income distribution and poverty in OECD countries*, Paris, OECD, 2008.

Pradha M, Mohd S and Sulaiman J, "An investigation of social safety net programmes as a means of poverty alleviation in Bangladesh", *Asian Social Science Vol 9, No. 2*, 2013

Pyatt G and Thorbecke E, (*Planning Techniques for a Better Future*, Geneva, ILO, 1976

Quisumbing A, *Poverty transitions, shocks and consumption in rural Bangladesh: Preliminary results from a longitudinal household survey*, Manchester, Chronic Poverty Research Centre, 2007

Rahman, H Z and L A Choudhury and K S Ali*, Social Safety Nets in Bangladesh, Volume 1: Review of Issues and Analytical Inventory. Power and Participation Research Centre (PPRC) and United Nations Development Programme (UNDP) publication: Dhaka, 2011.*

SFYP, *The sixth five year plan of Bangladesh: national strategy for accelerated poverty reduction*, Dhaka, Bangladesh Planning Commission, 2011

UN-DESA, *World Population Prospects: The 2012 Revision*, http://esa.un.org/unpd/wpp/index.htm

UNICEF*, Fiscal space for strengthening social protection: West and Central Africa*, Dakar, UNICEF, 2009

Willmore L, "Universal Pensions for Developing Countries", *World Development35 (1)*, 2007, pp.24-51

World Bank, *Bangladesh poverty assessment: creating opportunities and bridging the East West divide*, Washington, DC, World Bank, 2008

World Bank, *Building a targeting system for Bangladesh based on proxy means testing*, Washington, DC, World Bank, 2009

World Bank, *Pakistan poverty assessment*, Washington, DC, World Bank, 2010