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Maldives
Social Protection in the Maldives: Options for Reforming Pensions and Safety Nets

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CURRENCY AND EQUIVALENT

The external value of Maldives Rufiyaa is fixed at Rf. 12.8 per 1 US Dollar since July 25, 2001 under a de facto fixed exchange rate policy vis-à-vis the US dollar.
Exchange Rate Effective = February 16, 2005

Currency Unit = Rufiyaa (Rf.)
US$1 = Rf. 12.86

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

CPI	Consumer Price Index
DC	Defined Contribution
DB	Defined Benefit
EPI	Expanded Program of Immunization
GDP	Gross Domestic Product
GoM	Government of the Maldives
HIES	Household Income and Expenditure Survey
IHD	Integrated Human Development Policy
ILO	International Labour Organization
LFP	Labor Force Participation
MDGs	Millennium Development Goals
MHEESS	Ministry of Higher Education, Employment and Social Security
MGFDSS	Ministry of Gender, Family Development and Social Security
PPP	Power Purchasing Parity
UN	United Nations
VPA-1	1997/1998 Vulnerability and Poverty Household Survey
VPA-2	2004 Vulnerability and Poverty Household Survey

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EXECUTIVE SUMMARY

1. **The purpose of this report is to assist the Government of the Maldives in the design and implementation of social protection reforms,** in particular for pensions and safety nets**.** The report includes an overview of poverty, risk and vulnerability in Maldives as well as analysis of the role and effectiveness of pensions and social assistance policies in helping poor households mitigate and cope with risks. Based on the analysis, the study delineates a menu of options for reform of the existing pension and social safety net system. The report has been prepared in close consultation with the Government of the Maldives**.**

2. **The structure of the study follows the issues outlined above.** Chapter 1 sets the stage with an overview of growth, inequality, poverty and vulnerability. Chapter 2 discusses old-age pensions and pension reform options. Chapter 3 covers safety nets (social assistance), while annexes describe the data sources and contain the analytical findings underpinning the recommendations. The executive summary details the main findings and policy options proposed in the report.

3. **The study uses both household survey and administrative data.** The main data sources used for this report are the Vulnerability and Poverty Surveys conducted in 1997/98 and 2004 and administrative data on programs and civil servants provided by the government. Other data sources such as the Household Income and Expenditure Survey and the census are also drawn upon.

4. **The reform options will need to be phased in over time, depending on the fiscal situation.** It should be noted, at the very outset, that the reform options proposed by this report involve non-negligible fiscal costs. The short term fiscal constraints facing the Government (as a result of the tsunami) may make it necessary to delay full implementation of the package until such time as budget resources are available to absorb these incremental costs.

5. **The reforms under consideration are substantial**. Today, Maldives has some 1,000 recurrent recipients of social assistance (0.3 percent of the population). After the proposed reforms, this number could increase to perhaps 20,000 beneficiaries (6.7 percent of the population), of which 14,000 would receive the universal old-age benefit.

I. Growth, inequality and poverty

6. **Over the past 25 years, Maldives has recorded impressive rates of economic growth and significant accomplishments in access to health care, education and other social amenities**. GDP growth averaged 7.6 percent per year in the period 1976-2004, and exceeded 10 percent per year for most of the 1980s, surpassing the performance of all other South Asian economies. The Government's drive to improve the

health and education systems had led Maldives to already achieve several of the Millennium Development Goals (MDGs).

7. **Driven by this impressive growth and investment in human capital, poverty in the Maldives was halved from 1997 to 2004.** Based on a poverty line of Rf. 15 per person per day, the share of the population living in poverty declined from 45 to 18.9 percent of the population (or 60,000 individuals) prior to the tsunami**.** The incidence of poverty is fairly shallow (i.e., many, but not all, of the poor are fairly close to the poverty line).

8. **Despite the gains from growth, the Maldivian population is vulnerable to aggregate and individual shocks.** Aggregate risks include the most recent impacts of the tsunami that caused large-scale loss of incomes and assets; potential future environmental risks of global warming leading to a rise in sea levels; and population aging. The most important individual shocks reported by survey results are health risks and joblessness, with health shocks causing the largest and most frequent income losses. The main *coping mechanisms* used by the poor are informal insurance and own savings and income, and limited public support (government support was used for coping in about 10 percent of shocks).

9. **The transient poor who move in and out of poverty outnumber the chronically poor, but the characteristics of both groups of poor are very similar**. The highest incidence of poverty/vulnerability is in the *Northern atolls*, among household heads *with little or no education, a large number of children, with elderly, and without working members.* Some (but not all) among widows and divorcees may also be highly vulnerable. However, the largest group of the poor and vulnerable are households with *many children, and households whose heads are jobless and/or with little education and/or female-headed***.** Ninety percent of the poor live in the atolls; the Northern and North-Central regions alone now contain more than 60 percent of the country's poor**.**

10. **The Maldivian Government would like to develop an effective social protection system for its country** that is consistent with its level of income and implementation capacity. Economic growth has been, and will continue to be, the dominant factor in the reduction of poverty in Maldives, but the concentration of poverty in the Northern atolls and among particular population groups is of considerable concern. Seeking to address these issues, the government is interested in reforming its pension system, and meeting the constitutional mandate to provide income support to all employed Maldivians. It is also interested in developing an effective safety net for the very poor, and those who may suffer poverty from catastrophic health shocks or from natural disasters. The evaluation of the current system and options for reform towards meeting these objectives are outlined below:

II. Old Age Security: The Pensions System

11. **The pension system in the Maldives covers only public sector employees**. It has two components–the Civil Service Pension (CSP) scheme and the Government Provident Fund (GPF). The Civil Service Pension (CSP) scheme is a non-contributory,

pay-as-you-go (PAYG) defined benefit (DB) arrangement covering approximately 26,000 government employees. Pensions are financed directly from the government budget.

12. **The Maldives' pension system is globally unique in the sense that pensions are paid out every 20 years of uninterrupted government service and there is no requirement to retire.** Employees can continue to work for another 20 years and earn a second pension, and in a few cases, even a third. Therefore, with an accrual rate of 2.5 percent per year applied to the last wage in the 20 year period, pensioners in Maldives receive their benefits along with their earnings. The pensions are not indexed however, so their value in real terms declines over time depending on rates of inflation.

13. **The Government Provident Fund (GPF) is a defined contribution (DC) arrangement with matching employee and government contributions of 5 percent of the employee's basic wage each month**. Participation is voluntary and withdrawals are allowed from their account for the education of their children, house construction and repair, health care and obligatory hajj. Recently, there have been massive withdrawals as the Government encouraged the purchase of housing. The scheme does not play a major role in providing a source of retirement income. On the other hand, it involves a significant subsidy at a cost to the government for workers that participate.

Key issues

14. The system has two major deficiencies namely, inadequate retirement income and lack of safety net for the elderly**.**

15. **First, the civil service pension scheme is not designed to produce a reasonable level of retirement income**. Specifically, the civil service pension is calculated as 50 percent of basic salary after every 20 years of service. The pension calculation does not apply to overtime and allowances which on average comprise around 40 percent of total remuneration. Combined with the fact that the pension is not indexed, its value is very low compared to average incomes when the worker reaches old age. Therefore, the parameters of the scheme do not result in a secure and adequate stream of pension income after a certain age. Given that the scheme does not stipulate a retirement age, it is not surprising that civil servants choose never to retire in the Maldives. A longer term issue is the possibility of extending coverage to the rest of the labor force.

16. **The second deficiency is the absence of any safety net for the elderly in a country where only civil servants participate in a pension** scheme of any kind. With more than two-thirds of the labor force lacking pension coverage, the only type of program likely to have any impact in the near future is one that involves transfers to the elderly not linked to their employment or contribution history. The design of this program would explicitly take into account reforms to the civil service pension scheme (as well as the reform of social assistance) given the overlap in the population being covered and the need to coordinate overall target pension levels.

Reform options

17. **In order to develop an effective pension system, two objectives must be met:** (a) introducing a financially sustainable retirement savings scheme for civil servants (with the possibility of expanding to other formal sector workers in the future), and (b) providing a safety net for all elderly citizens in the Maldives.

18. **The emerging reform plan – guided by a GoM Inter-ministerial task force – would separate redistributive and savings functions in two distinct programs**:

- **The contributory plan would eventually replace current rules for civil servants**, first with the introduction of a retirement age and pension credit for past years of service and, eventually, by a defined contribution scheme**.** Contributions from workers and employers would finance this retirement savings scheme. The consumption smoothing scheme would, in the long run, be fully funded and defined contribution in nature and so avoids the creation of any new liabilities. Past service can be credited through special recognition bonds that are redeemed at retirement in order to smooth fiscal flows
- **The non-contributory plan (often referred to as a *'demogrant')* would pay all elderly citizens a poverty-level benefit**. General government revenues would finance the demogrant. The government could consider applying a 'pension test' whereby other pension income is taken into account towards achieving the minimum standard.

19. **Within this general approach, there are a number of choices to be made that have both social and financial implications**. First, the contributory scheme can be phased in gradually and only for younger workers or for all workers simultaneously. In either case, the transition rules - and exactly how past service is credited towards the new scheme - must be determined. For the demogrant, the benefit level and method of adjustment over time, clawback (targeting) mechanisms and eligibility age are all variables that affect the cost of the program and its ultimate impact.

20. **The annual cost of the package depends on several factors. The upper bound estimate of 1.5-2.0 per cent of GDP per annum** consists of three expenditures. The first is an untargeted demogrant at age 65 with an estimated cost of 0.7 per cent of GDP. The second cost arises when the government contributes on behalf of all civil servants to a segregated pension fund at a rate of 7 per cent of the wage bill or about 0.7 percent of GDP. The third cost is ambiguous. Mandatory retirement of all civil servants age 65 and above would generate a net savings since the average pension would be lower than the average wage for these individuals. However, if the number of civil servants was kept constant through new hiring, this would lead to a net cost of around 0.2-0.4 per cent of GDP.

21. **Finally, while the reform package appears sound in terms of good practice, the specific conditions of Maldives will require a highly customized implementation of these programs.** Implementation and management of reform will require several years of capacity and institution building. Implementation will need to focus on issues related to data management (for both the demogrant and the defined contribution scheme), and choices regarding asset management, portfolio composition, and insurance benefits. Scale in particular, will be a key consideration in these areas. Finally, reforms must take into

account the overall initial conditions especially with regard to the current or prevailing fiscal situation.

III. Protecting against Poverty and Vulnerability: Social Safety Net

22. **The government has put in place several programs to protect the poor and vulnerable**, including. (a) an absolute poverty scheme initiated in 2003 under which Rf. 500 a month is given to highly vulnerable individuals who are not able to eat more than one meal a day, not in possession of more than two sets of clothing, or are homeless, (b) assistance to obtain school materials for children of low income families, (c) assistance to seek medical treatment from hospitals in Maldives or abroad, (d) assistance to obtain assistive devices for the disabled and drugs for the mentally ill, and (e) institutional care for orphans and mentally disabled persons. These publicly funded programs are supplemented by non-governmental support comprising remittances by extended family members and Zakat, the Islamic charitable support. Following the **tsunami,** the government disbursed emergency income support to the affected population. Approximately Rf. 50 million was disbursed to about 63,000 affected families. Tsunami assistance is temporary.

Key issues

23. **The safety net programs are ad hoc and overlapping,** with critical vulnerable groups omitted, and some benefits disbursed to individuals based on unverifiable subjective judgments. The key objective of protecting the poor is therefore not being met.

24. **The safety net system has very low coverage and funding relative to the level of income of the Maldives**. Only 0.3 percent of the population and 1.6 percent of the poor are covered by recurrent transfers; and total safety net spending (outside of the tsunami benefit) is 0.2% of GDP. That said, it is important to note that adequate funding, without accompanying reforms in targeting efficiency will not be sufficient to ensure the benefits help alleviate poverty. However, without adequate funding it will not be possible to ensure a modern, well administered, and well-targeted safety net.

25. **The distribution of publicly funded programs appears to be inequitable** because substantive shares of current program benefits accrue to the best-off third of the population. Even private transfers, when analyzed as a whole, seem more or less equal across income groups, and not distributionally pro-poor.

Reform options

26. **An effective safety net should protect the chronically and transitorily poor households from sudden shortfalls in income and consumption** induced by various shocks. Safety nets help address chronic poverty, but also help the poor escape poverty by improving or protecting their human capital against a variety of vulnerabilities (stemming, for example, from disability, medical emergencies, macroeconomic shocks, and natural disasters), and provide protection to the poor in case of difficult economic reforms.

27. **A number of reform options have been proposed in this report for the consideration of the government**.

- The government may consider a **universal umbrella poverty targeted program** that folds in most of the existing benefits and provides a single transfer to the very poor (identified and targeted as below). For specific vulnerable groups such as the poor disabled and the poor among the tsunami victims, rather than establishing separate programs or benefits for these groups, it is proposed that they be included in the umbrella poverty program.
- **The benefit can be flat lump sum, or can have two parts – a fixed 'family allowance' supplemented by a variable 'child allowance'**. The latter option would allow greater flexibility and fairness in addressing household vulnerability. A threshold benefit level will need to be identified as an upper cap on benefits so that that work incentives are not compromised, and fiscal costs are sustainable (Rf.500-800 per month per household would seem an appropriate range). However, the benefit could be increased in case of a catastrophic health shock. The benefit should be indexed to inflation to ensure that protection is not eroded over time.
- **Several targeting options are available to the government.** In particular, the report explored the potential of using a proxy means test in combination with community-based targeting. Based on the findings of selected simulations, the study recommends a *combination of geographic targeting and community-based identification* of beneficiaries aided by guidelines that emphasize household characteristics statistically associated with vulnerability.

28. **Depending on options chosen by the government, the fiscal cost of the poverty-targeted assistance could range from 0.6-0.8 percent of GDP.** This is in addition to the fiscal cost of the proposed pension reforms (demogrant and civil service pensions), which as mentioned ranges from 1.5-2 percent of GDP. Thus, the total fiscal cost of the pension and social assistance reforms discussed in this report ranges from 2-3 percent of GDP**.** These estimates will need refining as the details of the program are finalized. *Reforms should be phased in once fiscal resources become available, presumably once the impact of the tsunami has faded.*

29. **Program implementation needs careful attention**: It is important to ensure proper identification and targeting of the poor, and verifying, monitoring and updating records need to be decided. An agency to coordinate implementation, with adequate and well trained staff will also need to be appointed, and the new programs should be piloted before being scaled up to cover the entire country.

30. **Monitoring and Evaluation of the program should be built in from the start of the program** to assess program performance, administration and alert the government to implementation problems**.** This would help officials receive feedback on program administration that should contribute to changes in programs or implementation procedures as needed to enhance efficiency of administration.

Poverty and Vulnerability

To inform the design of social protection programs taken up later in this report, this first chapter reviews the macroeconomic and human development progress made by the Maldives over the past two decades, and evaluates the evolution, determinants and profile of poverty and vulnerability in the country. This chapter is organized as follows. The first section provides an analysis of growth and human development, while the second section outlines trends in poverty. The third section discusses vulnerability to shocks and the final section delineates who are the poor and vulnerable in Maldives.

GROWTH AND HUMAN DEVELOPMENT

The Maldives has a very unique geography comprising a chain of Indian Ocean islands spread over a distance of 900 kilometers. The country has 1,190 islands, formed into 26 geographic atolls; 198 islands are inhabited. Population is roughly 300,000 people. One third of the inhabited islands have a population of less than 500, and 70 percent of the inhabited islands have a population of less than 1,000 inhabitants. The altitude of most of the islands is very low, not surpassing a meter above sea level. The country is also characterized by extreme paucity of land-based natural resources, including water and agricultural land.

Over the last quarter century, Maldives has transformed itself into the most prosperous country in South Asia. Notwithstanding the recent drop in GDP as a result of the tsunami, GDP growth averaged 7.6 percent per year in the period 1976-2004, and exceeded 10 percent per year for most of the 1980s. As a result, real GDP in 2004 was more than eight times higher than in 1971. The growth rate of per capita GDP averaged 3.4 percent per year from 1976 – 2003.

Growth was led primarily by the tourism and the fisheries sector. Tourism and fisheries are now the two largest sectors of the Maldivian economy, followed by agriculture; since the mid-1990s these two sectors also account for roughly 40 percent of government revenues. For example in 2003 tourism accounted directly for 33 percent of GDP[1], and indirectly some 60-70 percent of GDP. Tourism provided 14,000 jobs in 2000, fisheries 9,000 in a total labor force of 117,000, 26 percent of which is foreign (Ministry of Planning and National Development, 2003).

The performance of macroeconomic indicators (e.g., inflation, public debt management) has also been favorable—inflationary pressures have been under control, and measures to restrict the growth of public debt, on the rise since the late 1990s, have been relatively successful; in 2003 public debt reached 46.5 percent of GDP, up from 40.9 percent in 2000, but the debt service remains manageable.[2] The main factor behind rising fiscal outlays has been efforts of the government to expand provision of public services (especially education and health) in the atolls. The geography of the country militates against economies of scale, making the provision of public and private services and infrastructure very costly.

Maldives has also made tremendous progress in delivering social service. In health: over the period 1987-1997 the crude birth rate, the crude death rate and the infant mortality rate were halved and more than two decades were added to the life expectancy of Maldivians at birth. While in 1970 the infant mortality rate per thousand live births was 159, in 2002 it fell to 55.

[1] World Bank. 2004. “Maldives: Country Economic Memorandum.” World Bank. Washington, DC.
[2] IBID. Thus far the government has sought resolution to this problem by broadening the revenue base. A number of measures have been under consideration including the increase in the bed tax, unchanged since 1988, that became effective in November, 2004.

Simultaneously, the crude death rate fell from 38 to 4 per thousand. Several debilitating diseases, such as malaria, childhood tuberculosis, filaria and leprosy have either been eradicated or have transmission rates close to zero. Child immunization has become nearly universal and vaccination coverage against hepatitis has reached 80 percent of the population. **In education:** Basic education is virtually universal; primary and lower secondary school attendance now exceeds 95 percent of the respective age groups, both for girls and boys, according to VPA-2. As for **other services**, far larger numbers of Maldivians today have access to potable water, sanitation and electricity than a decade ago

Maldives has already achieved several of the MDG target indicators, but still has some challenges ahead. The gender gap in school enrollment and literacy among those aged 15 to 24 is virtually non existent.[3] The proportion of births not attended by skilled health personnel has been reduced by three-quarters.[4] MDG targets that emerge as potentially more problematic are in health and water: halving child malnutrition below the age of 5, halving the proportion of the population not having access to safe drinking water, reducing by three-quarter the maternal mortality ratio, and slowing the rate and reversing the spread of HIV/AIDS.

POVERTY: LEVEL, TRENDS AND REGIONAL DISTRIBUTION

Consistent with economic growth and human development, poverty in the Maldives fell dramatically—by more than half—from 1997 to 2004. Based on a poverty line of Rf. 15 per person per day, headcount index of poverty (the share of the population consuming below the poverty line) declined **from about 45 to less than 19 percent before the tsunami** (see Figure 1).[5] The tsunami will have resulted in sharply increased poverty in the affected atolls, at least temporarily, but data on this not yet available. *The conclusion that poverty declined substantially before the tsunami does not depend on any specific poverty line. The dominance curve in Figure 5 shows that poverty incidence in VPA-2 is lower than in VPA-1 for any plausible poverty line*.[6]

Most of the decline in poverty realized since 1997 took place prior to 2002/03 (Table 1). In fact, some measures of poverty suggest a stagnation or slight increase in the short period from 2002/03 to July 2004. However, as outlined in Annex 1, the sample size of HIES was not very large, and so it is unclear to what extent the results are fully comparable. This should certainly not overshadow the basic finding that poverty decline was fast, deep, and fairly widespread in the late 1990s and early part of this decade.

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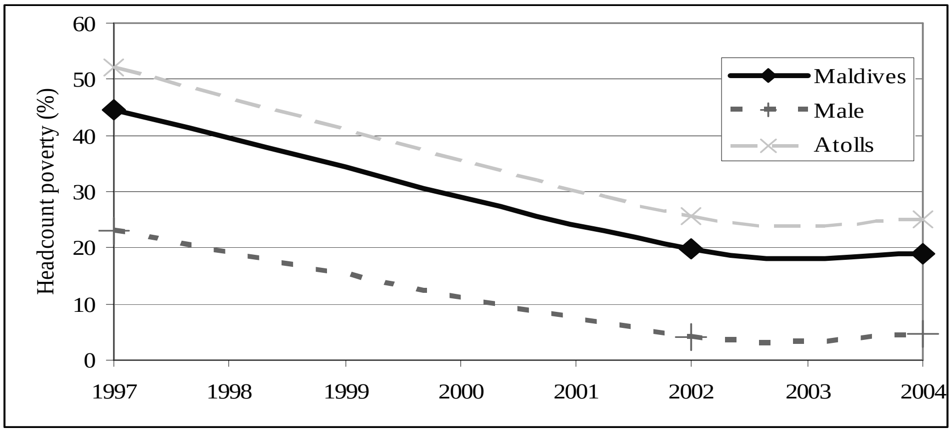
[3] VPA-2
[4] Annual Reports of Ministry of Health.
[5] Annex 1 describes the data sources and the assumptions underlying these conclusions.
[6] A statistical dominance curve involves comparing the cumulative distribution functions for consumption for each of the survey years. One distribution "dominates" another if the income distribution function for that year lies to the right of the earlier year. If one finds that first-order dominance holds between two different years, it implies that all poverty measures, including the headcount, poverty gap, and squared poverty gap, in the first year are higher than in the second year for ***all poverty lines***. In other words, in the case of Maldives, the decline in poverty between 1997 and 2004 is not an artifact driven by poverty lines; the decline is noticeable for all possible poverty lines.

Figure 1: Headcount poverty, 1997-2004



Source: Preliminary Staff estimates based on VPA-1 and VPA-2.

The rapid improvement in living standards is reflected in a drastically expanded pattern of ownership of household durable goods.

Table 4 shows how ownership of durable goods has expanded in each tercile of the income distribution in the 1997/98-2004 period, resulting in a large decline in the inequality of durable good ownership; indeed, households in the bottom tercile have almost caught up with households in the top tercile with respect to ownership of low-cost durable goods such as fans and irons.

Poverty fell most in Male'—from 23 to less than 5 percent, and less sharply, but still significantly, in the atolls—52 to 25 percent in the atolls. As a result, even more than before, income poverty is now concentrated in the atolls (Table 1). The depth of poverty—a measure of how far the poor are below the poverty line—registered an equally impressive reduction, from 0.166 in 1997 to 0.057 in 2004 in Maldives overall. In 2004 the size of the poverty gap amounted to 0.9 percent of GDP—that is, assuming perfect targeting, it would cost 0.9 percent of national product to lift all of the poor to the poverty line. The severity of poverty also fell remarkably, suggesting the very poorest shared in growth.

Poverty declines were much greater in the South relative to the Northern and North-Central regions. The Northern region appears to have seen only modest decrease in poverty, and has now emerged as Maldives' poorest region, followed by the North-Central region (Figure 2). This differential change in poverty has altered the geographic pattern of poverty in the country. Poverty now shows a declining pattern moving from North to South. In 2004, the Northern region with 16 percent of the country's population accounted for just 10 percent of total expenditures while Male', with 30 percent of the population accounted for more than 40 percent of expenditures (Figure 4).

Table 1: Poverty Indicators 1997-2004, by Survey

	Survey and year	VPA 1997/98	HIES 2002/03	VPA2004
Maldives	Mean expenditure per capita	23.0	33.0	40.9
	Headcount poverty	0.447	0.199	0.189
	Poverty gap (P1)	0.166	0.046	0.057
	Poverty depth (P2)	0.083	0.018	0.025
	Gini	0.416	0.366	0.425
Male'	Mean expenditure per capita	31.8	50.1	56.0
	Headcount poverty	0.229	0.040	0.045
	Poverty gap (P1)	0.082	0.007	0.014
	Poverty depth (P2)	0.040	0.002	0.007
	Gini	0.399		0.355
Atolls	Mean expenditure per capita	19.4	26.7	34.6
	Headcount poverty	0.521	0.257	0.250
	Poverty gap (P1)	0.195	0.060	0.075
	Poverty depth (P2)	0.098	0.023	0.033
	Gini	0.397		0.431

Based on a measure of expenditures per capita that excludes housing costs.
Poverty measures based on a poverty line of Rf.15 per person per day ($1.15).
Source: Preliminary staff estimates.

The different rates of decline of poverty represent differing growth rates. The *growth-inequality curve* (Figure 6) demonstrates that in the Maldives economic growth benefited households in all parts of the income distribution. Figure 6 shows that all percentiles experienced annualized growth rates in consumption between 9-11 percent, demonstrating that, although the top 40 percent of households nationally gained more than others, all regions of the country shared in growth—but not to an equal extent. The regional *growth-inequality curves* in Figure 7, show that, in the atolls, the top quarter of the population gained the most while in Male' it was the bottom quarter that gained the most.

…and represent different changes in inequality. In Male', inequality declined and complemented income growth in reducing poverty. In contrast, inequality rose in the atolls, but, the positive effect of growth substantially swamped the smaller negative effect of rising inequality. For the given growth rate, had inequality remained constant, poverty would have fallen somewhat faster in the atolls than at present (Table 2). Overall, for Maldives as a whole, poverty headcount would have fallen by 2 percentage points more than at present, had inequality not risen.

Compared to other South Asian countries, Maldives has lower poverty but fairly high inequality (It is most similar to Sri Lanka). Unlike other countries in the region, Maldives experienced a spectacular growth performance and was therefore able to reduce poverty despite increasing inequality. Nonetheless, high inequality in the atolls will remain a source of concern to policymakers (Figure 3). Fairly high but shallow poverty means that well-targeted social assistance can potentially have a large impact on poverty. Table 3 attempts a cross-country comparison of inequality and poverty (based on national poverty lines) for the countries of South

Asia. Since national poverty lines are set at different levels[7] and expenditure measures are collected differently, the comparison should be treated with caution.

Table 2: Poverty-inequality decomposition. Maldives 1997/98-2004

	Maldives	Male'	Atolls
Poverty rate in year 1	0.447	0.229	0.521
Poverty rate in year 2	0.189	0.045	0.25
Change in poverty	-0.258	-0.184	-0.271
which can be decomposed into:			
Growth component	-0.277	-0.144	-0.316
Redistribution component	0.02	-0.04	0.045

Source: Staff estimates using the Ravallion-Chen methodology, based on average effects.

Table 3: Cross-country comparison of poverty and inequality in South Asia

	Gini index of inequality of expenditures	Poverty headcount ratio at national poverty line (% of population)	Year
India	32.5	28.6	2000
Pakistan	33	33	1999
Nepal	37	42	1996
Bangladesh	32	50	2000
Sri Lanka	47	23	2002
Maldives	42.5	18.9	2004

Source: World Development Indicators (except for Maldives, where estimates from this report are used)

Figure 2: Poverty headcount, by Region

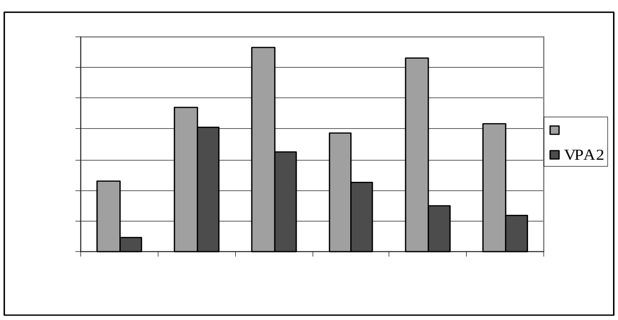


Figure 3: Inequality, by Region

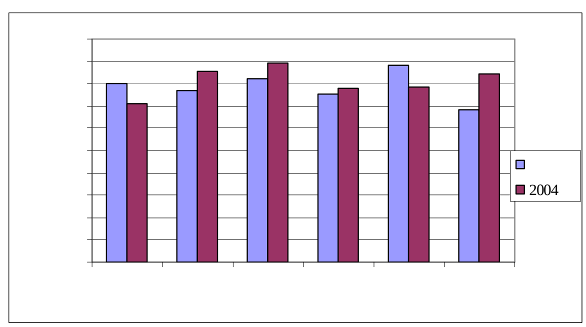


Figure 4: Population and expenditure shares, by region

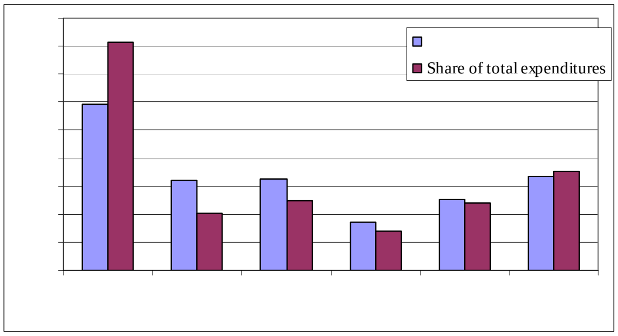
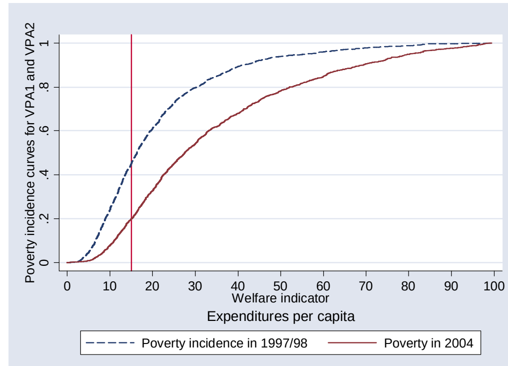


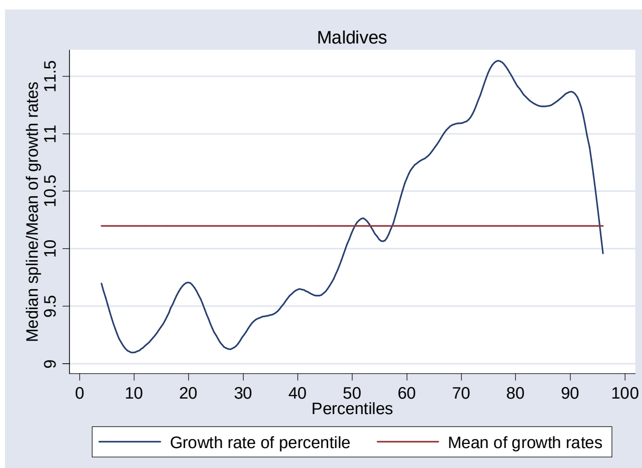
Figure 5: Dominance Curve



Note: The figure shows poverty incidence for a range of potential poverty lines (0-100 Rf. per person per day). The upper line refers to VPA1 and the lower line refers to VPA2**.**

Source: Preliminary Staff estimates based on VPA-1 and VPA-2.

Figure 6: Growth inequality curve (Annual Percentage Growth in Per Capita Expenditure, per Percentile), Maldives



Source: Preliminary Staff estimates based on VPA-1 and VPA-2.

Figure 7: Growth inequality curves for Male' and atolls, 1997/98-2004

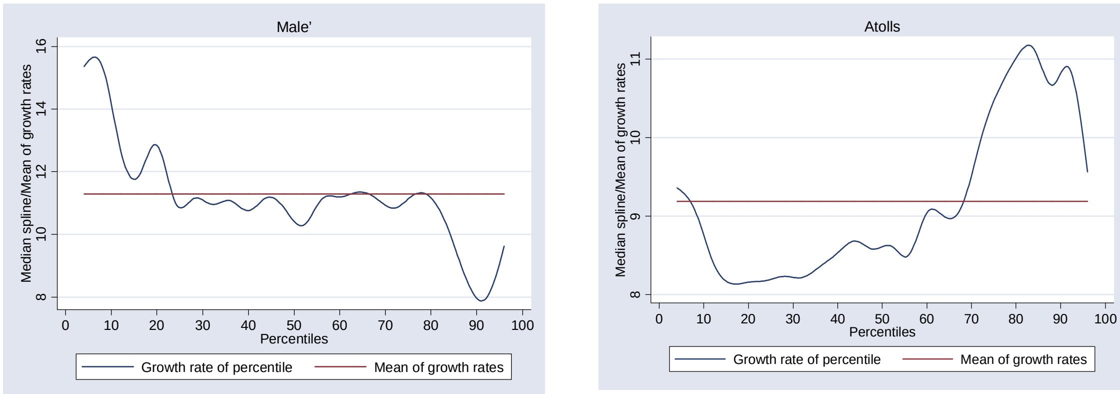


Table 4: Ownership of Consumer Durables by Consumption Terciles, 1998-2004 (in %)

	Poorest tercile		2nd tercile		Richest tercile	
Ownership of:	**VPA1**	**VPA2**	**VPA1**	**VPA2**	**VPA1**	**VPA2**
Fan	26	91	33	97	45	97
Electric Iron	28	91	33	96	42	95
Fridge	5	27	9	45	17	62
Water pump	2	26	2	37	9	54
Telephone	0.3	8	0.7	20	4	18
Car	0	0.3	0	0.6	0.6	1
Dhoani (boat)	1	7	3	8	5	13
TV	7	76	9	84	16	84

Source: Preliminary Staff estimates based on VPA-1 and VPA-2.

Table 5: Household transitions in and out of poverty, 1998-2004 (panel data sub-sample, covering atolls only)

Category	Status	Number of Households	Share of Total (in %)
Chronic poor	Poor in 1998 and also in 2004	184	15
Transient poor	Poor in 1998 but not poor in 2004	419	34.5
Transient poor	Not poor in 1998 but poor in 2004	104	8.5
Never poor	Not poor in 1998 and also in 2004	509	42
	Total	*1216*	*100*

Source: Staff calculations based on the panel subset of the VPA-1 and VPA-2 surveys.
Note: The panel data sub-sample cover atolls only, and the poverty rates of this sample are not nationally representative.

VULNERABILITY TO SHOCKS

For most households, poverty is a transient phenomenon. Panel survey data shows that 15 percent of atoll households were chronically poor in the sense of remaining poor over the two samples under comparison, and nearly 43 percent of households in the atolls were transient poor. That is, they moved in and out of poverty over the study period as a result of fluctuating incomes

(Table 5).[8] Previous studies for other countries have also found much higher transitory than chronic poverty.[9]

Transitory poverty reflects household vulnerability to income shocks that affect individuals or communities. Of course, if households do not have access to finance, assets, private networks, or public programs to cushion shocks, transient shocks can lead households to chronic poverty; and can also lead chronic poor deeper into poverty.

Food scarcity was an important recent shock experienced by households. Respondents in the VPA-2 survey were asked about food shortages they had faced within the last 12 months—6 percent of households experienced such shortage of food (see Table 6). Those who suffered food shortage did so on average five times in the last year. The incidence and frequency of food scarcity was much higher in the lowest expenditure tercile (10% experienced shortage of food) as compared to the highest tercile (2.6% incidence). Incidence and frequency of food shortages was the same in Male' and in atolls, suggesting that lack of income more than availability causes food scarcity.

Table 6: Food scarcity

	Share experiencing food scarcity (%)	No. of times experienced in last 12 months (conditional on having a crisis)
Tercile of expenditure:		
Low	10.2	6.2
Medium	5.5	3.8
High	2.6	4.4
Region:		
Atolls	6	5
Male'	6.4	5.8
Total	6.1	5.2

Source: Preliminary Staff estimates based on VPA-2.

Health shocks and loss of main income earner were the most important adverse shocks to households over the past six-year period (the survey pre-ceded the tsunami, there is no doubt tsunami now would rank number one).[10] Disease and injury constitute the most frequent type of shock (Table 7), experienced by 53 percent of those households that reported any major shock The five most often quoted health issues were viral fever, injury and accidents, stomach problems, and backbone injuries. Death of a household member is the second-most frequent shock (18% of reported shocks). Unemployment was reported as a major shock by 5 percent of

[8] A small but interesting data set is available for a panel of households for 1997-98 and 2004: these are households that were interviewed in VPA-1 and again for VPA-2. The panel data is drawn from all areas of the country except Male'

[9] Baulch and Hoddinott (2000) show that for several countries the proportions of the transient poor are much higher than the chronic poor.

[10] The Survey Respondents were also asked about any crisis (or shock) they had faced in the last 6 years. The households that reported having experienced one of these shocks do not seem on average to be poorer or richer than other households. Only one-fifth of households reported a crisis; since one would have expected a higher incidence of crisis, it is possible that only relatively severe shocks were identified.

households, and the loss of boat or fishing equipment by 3 percent of households. Assorted other events account for the remaining 22 percent of shocks.

Table 7: Shocks experienced by households (past 6 years)

	Share of all reported shocks, in %	How often shock occurred in past 6 years	Expenses to cope with shock (Rf.)	Forgone income (Rf.)	Av. expenditure of households that suffered this shock (Rf. per capita per day)
Death of bread winner/other	18	0.9	10,641	7,671	40
Sickness, injury, accident	53	2.5	26,804	8,509	46
Jobless	5	1.3	959	5,401	44
Loss of fishing assets	3	1.7	50,289	15,606	45
Other crisis	22				
All crises	100	1.9	22,864	8,085	46

Source: Preliminary Staff estimates based on VPA-2.

Aside from individual or household specific shocks, Maldives also faces aggregate risks:

- **The recent tsunami was a major natural disaster with national large-scale impacts**. About 63,000 affected individuals were provided immediate cash assistance, many more were given in-kind relief, and some 3,700 households became homeless

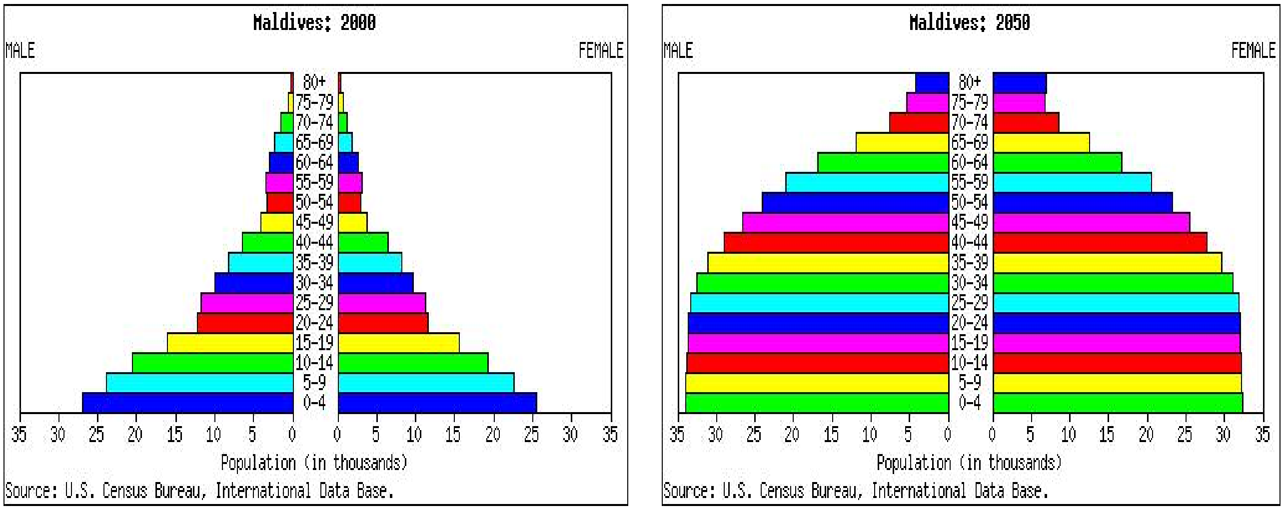
- **The very low height of the islands render the country exposed to global warming** (over next 50 years) and potentially rising sea levels The government has begun addressing this long term risk via a focus island strategy emphasizing provision of high quality physical and social infrastructure at a few major regional centers. These focus islands would be equipped with sea walls and other protection against natural hazards

- **Socio-geographic vulnerability arises from the small size and large dispersion of the population,** which often resides in small communities of less than 500 people, which translate into diseconomies of scale (unit costs of social services are 4-5 times higher than those found in continental developing countries) and contributes to the large inequalities between Male' and the atolls in income and services.[11]

- **The aging of the population, and associated poverty and health risks.** The aging of the Maldivian society will occur as a consequence of the decreasing population growth rate and increasing longevity. The old-age dependency ratio[12] currently at 5.8 percent is expected to stay constant until 2025, and to double between 2025 and 2050 to 11.6 percent, though it will still be below levels found in higher income countries and Sri Lanka (Figure 8). Ageing also implies a heightened risk of old-age poverty, something which the government is planning to address through pension reform.

[11] Currently housing more than a quarter of the Maldivian population on a total land area of less than 2 square kilometres.
[12] (defined as the number of persons aged 65 and older divided by the number of persons aged 15-64,

Figure 8: Demographic Dynamics



Source: US Census Bureau.

Households **incur direct costs in terms of loss assets or medical fees, and forgone income as result of shocks.** For example,

- **Households incurred direct medical costs as well as income loss as a result of adverse health shocks.** Households who suffer shocks have difficulty coping and are much more likely to experience temporary poverty (which can sometimes become chronic). For example, health shocks, and especially disease, are associated with very high expenditures (equivalent to 3 months consumption for an average family). Of those who reported being sick 88.2 percent visited a doctor, 3.6 percent a trained health worker, 2.6 percent a traditional healer. Disability was reported by some 2.4 percent of respondents (because of the phrasing of the question, this is likely to cover only extreme disabilities). Aside from medical expenditures, sickness also resulted in a major loss of income during the illness.

- **A large rare shock such as the tsunami has resulted in massive loss of physical assets and forgone income.** The total damages of the disaster are estimated at roughly US$470 million or close to 62 percent of GDP. About US$298 million of this are direct damages to physical assets, and the rest are indirect damages (such as lost tourism income).[13] The cost of restoring the economy to its pre-tsunami level is estimated at US$406 million (WB/ADB/UN, 2005). The reconstruction phase is now getting under way, with efforts to rebuild damaged infrastructure and recover lost livelihoods.

[13] The indirect damage estimates need to be treated with caution particularly when it comes to tourism and livelihood damages.

WHO ARE THE POOR AND VULNERABLE?

The highest incidence of poverty is experienced by households (a) with heads who do not work, (b) are women, (c) have little education, (d) with elderly members, and (e) have many children. The link between poverty and 'not working' is worrisome. Official unemployment, based in the narrow but standard definition of unemployment as "available for work, and actively searching for work within last week", is low in the Maldives (2 percent). However, labor market participation is also very low, at 48 percent (62 percent for males and 33 percent for women). Many of those not employed are likely to be 'discouraged workers' that have given up active job searching. Among those working, households head working in manufacturing, fishing or agricultural households have a higher incidence of poverty than those in government jobs (Table 8).

Table 8: Sector of employment of household head by tercile of per capita expenditures

Industry in which household head is working:	% of households Terciles of per capita expenditures		
	Low	*Medium*	*High*
Government	18	29	30
Fishing	25	17	10
Hotels/restaurants	3	5	6
Other services	2	4	6
Manufacturing	28	18	18
Construction	7	5	5
Transport	3	3	4
Agriculture	7	4	3
Other/not working	93	85	82

Chronic and transient poor are largely similar, with only a few differences: Among the chronic (vs. transient) poor, there is larger share of female heads of households, a higher proportion of unemployed heads, large families, and households headed by widows, divorcees, or elderly. Unemployment and lack of education of the household head show some correlation with chronic poverty (Table 9).

The largest group of poor is households who have a large number of children, who live in the atolls (especially in the Northern and North-Central region), and households whose head has little or no education (Table 10). The poorest tend to have no able-bodied members and receive no remittances.

Estimates of the determinants of poverty (and vulnerability) confirm the above characteristics of the poor. Using regression techniques to identify the most important correlates of poverty reveals that residence in the atolls (especially in the north), households with a higher dependency ratio (ratio of children to total family size), less education, households headed by the elderly (65+), women, and households with widows have a higher probability of living in poverty. These characteristics are constant across the two survey years (see Annex 2).

Table 9: Incidence of Select Demographic and Household Characteristics among the Chronically Poor, Transient Poor, and Non-Poor (In %, Panel Sample)

Characteristics	Chronic poor	Transient Poor	Never poor
Female headed household	53	44	44
Household head uneducated	28	30	25
Household head unemployed	22	14	16
Household has at least one widow or one divorcee	30	30	21
Household contains elderly members	31	22	27
Household containing more than 6 children	11	8	6
Household head illiterate in English	96	92	86
Any household member migrated	18	0.2	21

Source: Preliminary Staff estimates based on the panel sub-sample covered in both VPA-1 and VPA-2.

How do households cope with poverty and vulnerability? Poor households use informal insurance as the main coping mechanism, followed by own income and government support. Government support was used for coping in about 10 percent of the crises cited here. In many countries households faced with a shock respond in a manner that undermines their human or physical capital—taking children out of school, putting children to work, selling their major assets, incurring debt at usurious interest rates, and so on. There is little or no evidence to suggest that this type of behavior is widespread in the Maldives.

CONCLUSIONS

The main findings of this chapter are the following:

- **Poverty has declined dramatically—by more than half—in Maldives during 1997/98-2004** (from 45 to less than 19 percent). The incidence of poverty is now fairly shallow. The reduction in poverty was caused by high and widespread economic growth, which swamped an increase (from already quite high levels) in inequality over the same period.

- **Poverty in the Maldives is now amongst the lowest in the region, but inequality appears to be amongst the highest in South Asia** (although comparability is problematic). However, the positive effect of high economic growth has swamped substantially the small negative effect of rising inequality on poverty.

- **The regional incidence of poverty is now concentrated in the atolls in the Northern part of the country**. The incidence of poverty is much higher in the atolls than in Male', and more pronounced in the North vs. the South of the country. The Northern and North-Central regions contain more than 60 percent of the country's poor. The atolls realized a modest growth in inequality, which reduced the impact of growth on poverty reduction.

- **Aside from low income (poverty), the Maldivian population also suffers from vulnerability arising out of aggregate shocks (natural disasters, aging) and individual (household-specific shocks)**. Aggregate shocks include the most recent impacts of the tsunami which caused enormous loss of incomes and assets and the potential environmental risks of global warming and a rise in sea level. The most important individual shocks are health risks and joblessness.

Table 10: Poverty rate and population size of select groups (in %)

	Poverty incidence %	Share of population %	Share of poor population %
Region			
Male’	4.5	29.7	7.1
Northern	40.4	16.2	34.6
North-Central	32.5	16.2	27.8
Central	22.6	8.6	10.3
South-central	14.8	12.7	9.9
Southern	11.7	16.7	10.4
All atolls combined	25.0	70.3	92.9
Household contains elderly	19.7	73.8	76.9
Household does not contain elderly	18.6	26.2	23.1
Household contains only elderly	47.6	0.4	0.9
Household does not only consist of elderly	18.8	99.6	99.1
Education of household head			
Below primary	23.4	61.9	76.7
Primary	16.8	9.2	8.2
Lower secondary	14.2	15.9	11.9
Higher secondary	1.6	3.8	0.3
Higher education or vocational	6.0	9.3	3.0
Household head is jobless	24.1	25.9	33.1
Household head is employed	17.1	74.1	67.0
Female head	19.7	46.3	48.4
Male head	18.2	53.7	51.7
Household contains a widow or divorcee	18.1	33.3	32.0
Household does not contain a widow or divorcee	19.3	66.7	68.1
Number of children in household			
0	11.1	6.8	4.0
1	10.6	13.9	7.8
2	12.1	18.1	11.6
3	18.1	20.7	19.8
4	21.8	16.1	18.6

	Poverty incidence %	Share of population %	Share of poor population %
5	28.2	9.9	14.8
6	34.5	6.8	12.4
7	20.1	3.9	4.2
8 or more	35.4	3.7	6.8

- **The incidence of poverty and vulnerability is highest among households with little education, with a large number of children, with elderly, and those not working**. Some (but not all) among widows and divorcees may also be highly vulnerable.

- **The largest share of the poor and vulnerable are** households with many children**,** and households whose heads are unemployed and/or with little education and/or female-headed. Ninety percent of the poor live in the atolls, of which two thirds live in the northern atolls.
- **The main coping mechanisms used by the poor are** informal insurance, and own savings and income. Government support was used for coping in about 10 percent of the crises.

These findings suggest that **economic growth will be the main driver of poverty reduction, but not all regions and population groups may benefit from growth**. Specifically, social protection policies will need to address the concentration of poverty in the Northern and North-Central atolls and to households without able-bodied members or other sources of income (such as remittances), poverty among the less educated, families with many children, and the elderly without family support. The design of social protection policies will have to address chronic poverty, but also take into account transient poverty caused by shocks to income (e.g., health shocks, hunger, and natural disasters), and the aging of the population.

The following two chapters build on the above findings and address two key social protection areas of government concern: providing **old age income security through pensions** (given high poverty rates among the elderly and an aging population), and **safety nets for the poorest population groups**.

The Pension System

In the Maldives there is a Constitutional mandate to provide a pension to all employed persons, although the Constitution does not define either the type of pension or the exact definition of 'employed'. Currently, however, most of the population is not covered by any pension scheme. The minority that does receive a cash payment that is labeled a pension works in the public sector. As discussed below, this 'pension' does not perform the usual function and is instead a kind of wage supplement for civil servants. The Government of Maldives is planning to replace this scheme and extend a basic or 'social pension' to the rest of the population. What follows is based on close interaction with the Government's working group assigned to deal with these issues following extensive consideration of other options during 2004.

Pension systems generally have two primary objectives: minimum income security, and smoothing consumption (and longevity insurance). The first is to provide a minimum level of income security in old age and this often entails redistribution to the elderly poor through public programs. The social pension that is proposed below will need to be coordinated with the Government's other safety net schemes (see next chapter). The second objective is to smooth consumption by shifting income from individuals' working years to their old age. Part of this smoothing function is often performed by an annuity that also provides longevity insurance.

This chapter reviews the current pension system and presents a limited set of options for reform.[14] Reforms must take into account the overall initial conditions especially with regard to the fiscal situation. Phasing in those parts of the package that generate savings initially may be necessary in light of short term fiscal constraints. At the end of the chapter, a hypothetical time line is presented.

CURRENT PENSION SYSTEM: OVERVIEW

The pension system in the Maldives covers only public sector employees. It has two components–the Civil Service Pension (CSP) scheme and the Government Provident Fund (GPF). The Civil Service Pension (CSP) scheme is a non-contributory, pay-as-you-go (PAYG) defined benefit (DB) arrangement covering approximately 26,000 government employees. Pensions are financed directly from the government budget. The Maldives' pension system is globally unique in the sense that pensions are paid out every 20 years of uninterrupted government service and there is no requirement to retire.[15] Employees can continue to work for another 20 years and earn a second pension, and in a few cases, even a third. Therefore, with an accrual rate of 2.5 percent per year applied to the last wage in the 20 year period, pensioners in Maldives receive their benefits along with their earnings. The pensions are not indexed however, so their value in real terms declines over time depending on rates of inflation.

The Government Provident Fund (GPF) is a defined contribution (DC) arrangement with matching employee and government contributions of 5 percent of the employee's basic wage each month. Participation is voluntary and withdrawals are allowed from their account for the education of their children, house construction and repair, health care and obligatory hajj. Recently, there have been massive withdrawals as the Government encouraged the purchase of housing. The scheme does not play a major role in providing a source of retirement income. On

[14] Given the advanced stage of the Government's discussion, alternatives are presented only insofar as they conform to the basic structure of the Working Group's proposal.

[15] Many countries are moving away from mandatory retirement ages and/or reducing disincentives to retirement, especially in aging OECD countries with rising ratios of pensioners to workers. Most civil service schemes however, have maintained this practice which is felt to be necessary from a human resource perspective.

the other hand, it involves a significant subsidy at a cost to the government for workers that participate.

An assessment of current policy found two major deficiencies: First, the civil service pension scheme is not designed to produce a reasonable level of retirement income. Specifically, civil servants receive a pension equivalent to 50 percent of basic salary after every 20 years of service and regardless of age. The pension calculation does not apply to overtime and allowances which on average comprise around 40 percent of total remuneration. Combined with the fact that the pension is not indexed, its value is very low compared to average incomes when the worker reaches old age. The current parameters of the scheme do not result in secure and adequate stream of pension income after a certain age. Given that the scheme does not stipulate a retirement age, it is not surprising that civil servants choose never to retire in the Maldives (although it is clear that many are not actually working either). One interpretation of the current practice is that wages paid to elderly civil servants until they die are simply an expensive and inefficient substitute for paying an adequate pension.[16]

The second deficiency noted by the GoM is the absence of any safety net for the elderly in a country where only civil servants participate in a pension scheme. With more than three-quarters of the population lacking pension coverage, the only kind of program that is likely to have any impact in the near future is one that involves transfers to the elderly not linked to employment or contribution history. In other words, the safety net would be based on redistribution rather than savings. The design of this program would explicitly take into account reforms to the civil service pension scheme given the overlap in the population being covered and the need to coordinate overall target pension levels.

The main objectives of the pension reform that have emerged from the dialogue between the World Bank and the GoM can be summarized as follows:

- To introduce a financially sustainable retirement savings scheme for civil servants (with the possibility of expanding to other formal sector workers in future)
- To provide a safety net for all elderly citizens in the Maldives.

THE EMERGING REFORM PACKAGE

In this context, the Government has set up a working group to study options for reform. The group includes representation from the President's office, the Ministry of Finance and the Ministry responsible for social security. The emerging reform package would rely on two new pension schemes, one contributory and one non-contributory.

[16] In fact, the original motivation for the first civil service pension schemes was to replace employees whose productivity had started to decline while keeping them from falling into destitution.

Contributory Pension System

The first element of the reform package will address the consumption smoothing objectives of a pension system. As such, this part of the system will be based on contributions or savings and will seek to replace a significant fraction of the worker's own net income after retirement. The contributory plan will replace current rules for civil servants, starting with the introduction of a retirement age, under the current proposal, at age 65. This would immediately affect roughly about 1,400 civil servants. Those employees hired after the reform will participate in a defined contribution scheme. With regard to those already covered by the current scheme, two alternatives are being considered.

Option 1: Fully Funded DC Scheme

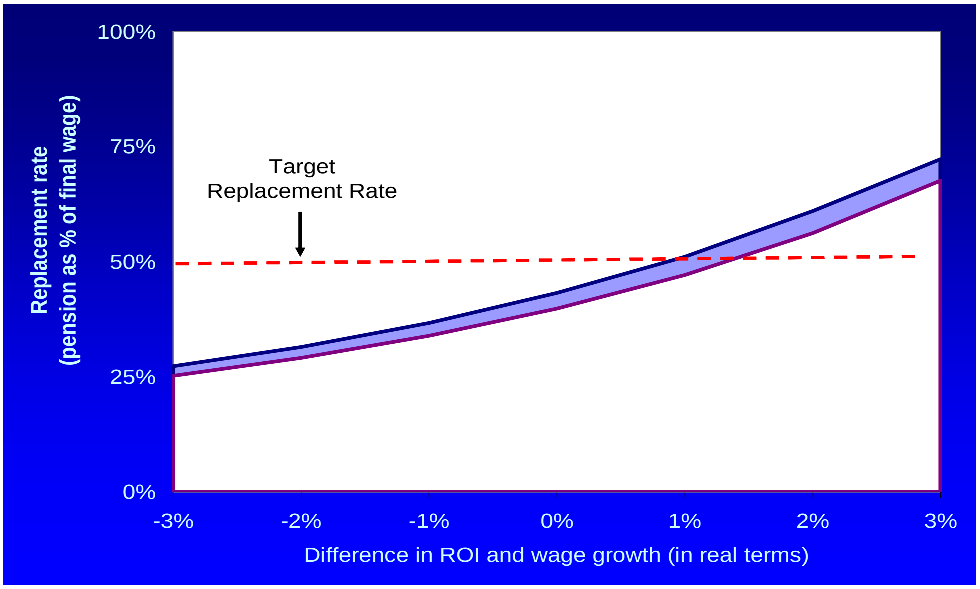
The first option offered is an immediate switch to a fully funded DC scheme. This appears to be the preferred option (based on comments received from the Government). In Option 1, effective from the implementation date, all existing employees and new entrants to the government will be mandated to begin contributing, along with the Government to a new individual retirement account.

Under the DC scheme, matching employee and government contributions totaling 14 percent of the employee's total monthly emoluments will be channeled to individual retirement accounts each month. The funds will then be invested by the pension fund manager in accordance with the investment policy and the returns to the investment will determine the actual pension payments of the employee upon retirement. The proposed contribution rate was determined based on a target replacement rate of 50 percent of lifetime revalued average wage for a full career worker.[17]

As shown below in Figure 9, this target could be achieved with a 14 percent contribution rate under reasonable assumptions about mortality, rates of return and wage growth. The figure also highlights that outcomes are not guaranteed by the Government. If investment returns were to trail the growth of wages by say, 2 percentage points over the career of a worker, the replacement rate would fall critically short of the required; on the other hand, better-than-expected replacement rates would be achieved if investment returns were to exceed wage growth by 2 percent or more.

[17] The average based on a similar definition was around 56 percent for the OECD. See OECD (2005).

Figure 9: Replacement Rates under Different Rates of Return on Investments of the DC Scheme (for 14% contribution rate)



Source: Bank staff calculations.

For existing employees, it is proposed that the accrued years of service of each individual employee be valued as if they have been accrued under a DC scheme. Therefore, as recognition of accrued rights, the government will put aside a lump sum payment based on the individual's accrued years of service, a total contribution rate of 14 percent, and the employee's total monthly emoluments preceding the month before the implementation of the new scheme. The lump sum is calculated as shown in Formula 1 below.

Formula 1

Lump sum in recognition = (14% x total monthly emoluments) x (accrued service (in months))

Example 1

If the implementation date is assumed to be 1 January 2006, then an individual with a total monthly emolument of Rf 4000 in Dec 2005 and 10 years of service by the end of that year, will have his/her accrued rights recognized as follows:

Lump sum payment = (14% x 4000) x (120 months)

Transferred into account = Rf 67,200.

In the example in Formula 1 above, a lump sum of Rf. 67,200 will be transferred into the individual's retirement account immediately before the commencement of the employer-employee contributions under the new DC scheme. The accumulated pension after the reform would be based on the monthly contributions of 14 percent of the employee's total emoluments each month plus investment returns, until retirement. By the time the employee reaches retirement the total pension accumulated would comprise of the lump sum payment and the accumulated balance after the reform plus returns to investment. Upon retirement, pensions will be paid out in the form of annuities each month, indexed to price inflation.

The obvious benefit of a mandatory switch for all employees would be a quicker and possibly more cost-effective transition. The employees would benefit from the accumulation of a 100 percent government sponsored lump sum payment to their retirement accounts, while the government would benefit from making a large implicit pension debt into an explicit payment. The savings objective will also be met as the payment will not be accessible until retirement and upon retirement it will paid out as an annuity. Note that although older workers would be immediately included in the scheme, the value of their benefit would be almost completely known from the outset of the scheme since it would be derived from the valuation of their past service. Younger workers on the other hand, would derive their final pensions from the contributions and investment returns over the next four decades. In effect, there would be a very gradual shift from a DB to a DC environment as each cohort passes through the system.

The drawback to this option, from Government's perspective, is that a large amount of initial financial outlay will be required to recognize the accrued rights of all the employees at once. While there would be some savings in terms of wages not paid to those over the retirement age, the short term outlays could be very large if the previous service years are 'cashed out' immediately.

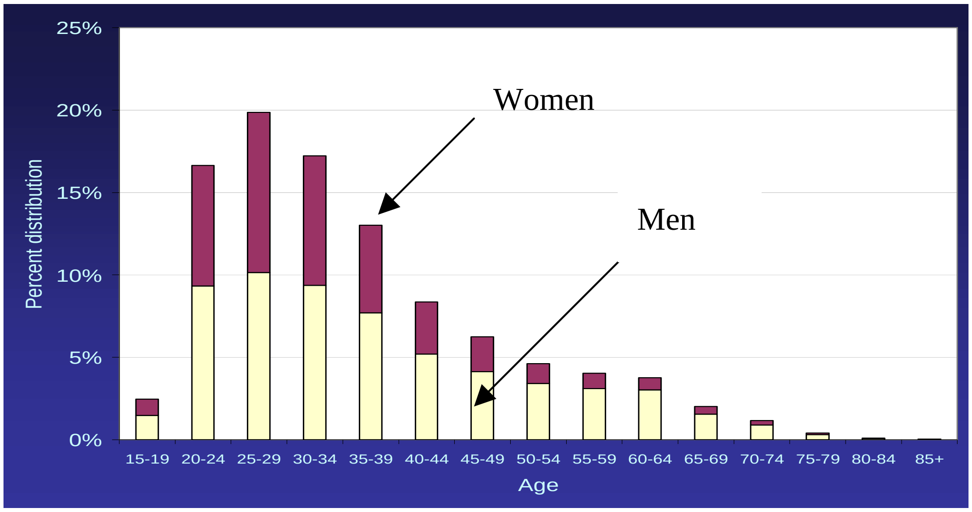
An alternative financing approach would be to issue special bonds that would be deposited into the individual accounts and redeemed at the time of retirement. This method has been used in several Latin American countries where they are referred to as 'recognition bonds' since they recognize past service credits toward the pension. Under this arrangement, the initial portfolio would consist mainly of the special bonds which would earn a rate of interest and be redeemed at retirement. Gradually, the investment policy would shift the asset allocation to a diversified portfolio based on a target rate of return or a limited range of options provided to members. If desired, the transition could be accelerated by having the government buy back these bonds with a cash injection to the extent affordable.

In contrast to much of South Asia,[18] **the civil service in the Maldives is relatively young and the average number of years of service is relatively low.** This is because the Maldives is in the early stages of a demographic transition, and also because the public sector has expanded dramatically in the last 15 years. In other words, both the average age and the average number of years in service are quite short, making the transition to a DC scheme less costly. Unless the public sector continues to expand as a share of the labor force however, the system will begin to mature and the average age in the public sector will rise rapidly. The current situation presents a unique opportunity to transition to a fully funded pension scheme at a time when the transition costs are not very high.

Figure 10 illustrates the favorable demographics that would allow for most workers to join a DC scheme and accumulate a sufficient balance to provide a reasonable replacement rate at age 65. The average age of a civil servant in Maldives today is approximately 34. This is much lower than is the case in neighboring countries. In Pakistan the average age is about 37 and in Indian states such as Tamil Nadu, the average age is closer to 40. On the other hand, if the size of the civil service relative to the overall labor force remains relatively stable, the average age of a civil servant will increase dramatically. By 2040, the average civil servant would be more than 45 years old. As the first objective of the reform package is to provide income security during retirement, this requires that the new pension scheme be consistent with the ageing process in Maldives, both in terms of the public sector workforce and the population as a whole. Lastly, a fully funded scheme is by definition sustainable.

[18] See Palacios (2005) for a regional review.

Figure 10: Age Distribution of Civil Servants, 2003



Source: World Bank staff calculations

Option 2: A Hybrid Defined Benefit and Defined Contribution Scheme

A second option would involve introduction of a hybrid of a fully funded DC and a partially funded DB scheme, with gradual transition to a fully funded DC scheme for all government employees. Under it, as in Option One, matching government and employee contributions totaling 14 percent of the employee's total monthly emoluments will be made.

Effective from the date of implementation, all new entrants to the government will automatically be mandated to join the fully funded DC scheme and start contributing 7 percent of their total monthly emoluments, with matching contributions from the government into their individual retirement accounts. As new entrants, they will not have any accrued pension rights. Thus, the accumulated pension benefits will be based only on the accumulated contributions and returns to investments.

Existing employees could be divided into different groups based on their accrued years of service or age, which will in turn determine whether they will be covered under a fully funded DC or a partially funded DB scheme after the reform. For example, those employees with fewer than 10 years of service would be required to join the fully funded DC scheme, with full recognition of accrued rights as described under option one. Those with more than 10 years, but aged 65 or below would be given a choice between joining the DC scheme and the partially funded DB scheme. Recognition of accrued rights of those who choose the fully funded DC scheme will be treated in the same manner as that of those existing employees who were mandated to join the DC scheme.

However, the accrued rights of those who choose the DB scheme are recognized differently. The accrued pension rights will be recognized at retirement by crediting all accrued years of service at the new accrual rate of 1.5 percent per annum as shown below under Formula 2. The new accrual rate of 1.5 percent instead of the old accrual rate of 2.5 percent is used because when the accrued rights are credited at retirement, it will be applied to a much broader base of total emoluments.

Formula 2

Accrued pension rights = 1.5% x years of service before reform

Example 2

A 40 year old employee with 15 years of service before the reform would have accrued pension rights = 1.5% x 15 = 22.5%. The accrued pension rights of 22.5% will be credited only upon retirement.

Now the employee will start accumulating pension rights under the new DB scheme until he/she reaches retirement at age 65. Thus the accumulated pension rights for 25 years of service after the reform would be 37.5%.

As is evident, the accumulated and accrued pension rights sum up to 60%, which is the target replacement rate for a full 40 years of service. Thus the pension amount received would be 60% of the reference wage at retirement.

Finally, those employees over the retirement age at the time of the reform would have the new 1.5 percent accrual rate applied to their years of service to that point. The pension payments received under the old scheme for every 20 years will be folded into the reference wage.

Non-contributory pension or demogrant

The second element of the new system under consideration will serve to ensure a minimum level of income during old age for all Maldivians (as vaguely mandated by the Constitution) that is not related to past contributions. This program will be financed from general budget revenues and therefore will entail redistribution from taxpayers to the elderly. This scheme would have to be coordinated closely with the overall safety net system (see Chapter 3).

The Government is aware that this type of demographic targeting does not maximize poverty reduction for a given level of resources. The program is seen as complementing rather than substituting for the targeted safety net. The parallel approach is considered useful for several reasons. First, it fulfills the constitutional mandate, although not necessarily in the way anticipated by the language of this document. Second, viewed from a long term perspective, it completes the overall pension system by providing redistribution and a minimum pension outside the contributory pension scheme. In the long run, as coverage in the contributory scheme expands along with the size of the formal sector, the combination of the two components would achieve the consumption smoothing and poverty alleviation objectives. It would also reduce the long run costs of the demogrant should the suggested pension test be applied. This separation of redistributive and savings functions has been recommended by the World Bank and others for various reasons.[19] Finally, there may be additional arguments for separating this cash transfer based on the permanence of the condition (old age), the simplification of administration and therefore reduction of costs, and even questions of intrahousehold allocation.[20]

19 See World Bank (1994).

20 Another possibility would be to merge the non-contributory old-age pension into the proposed new umbrella poverty benefit. In this option, the targeting mechanism and benefit scheme developed for the proposed umbrella benefit would also apply for the old-age benefits. This option would provide room for

Option 1: Demogrant

The **proposed non-contributory pension or 'demogrant' would use the same benefit level as the current Absolute Poverty Scheme (Rf. 500 per month).** In order to avoid the administrative burden of means-testing the non-contributory pension, the eligibility condition could be based purely on age and residence. The eligibility age might be coordinated with the reformed contributory scheme, presumably at 65. As shown in Figure 14 below, the cost of the program is very sensitive to the eligibility age chosen.

Option 2: Pension Tested Demogrant

One option to reduce costs and improve targeting at the margin, the proposal includes a 'clawback' based on a pension test. In other words, if an individual already received a pension at or above the Rf. 500 amount paid from the demogrant, that individual would not receive the transfer. On the other hand, if the contributory pension generated less than Rf. 500, the individual would receive a 'top-up' to 500. Furthermore, the MHEESS makes a monthly payment of Rf.500 to those identified to be living in absolute poverty and at the moment there are 1026 people registered in the program, of which 51 percent are over 65 years. Thus once the demogrant is introduced, most[21] who are over 65 years will automatically be exempt from receiving the payment under the absolute poverty program.[22]

Another important policy choice involves the adjustment of benefit levels in the future. In Figure 11, the benefit is projected based on the assumption that it maintains its level relative to per capita income in the future. An alternative that would reduce costs is to either link it to an absolute poverty line or to inflation. The important principle in this regard is to adjust benefits in a transparent way linked to objective and explicit criteria rather than on an ad hoc basis.

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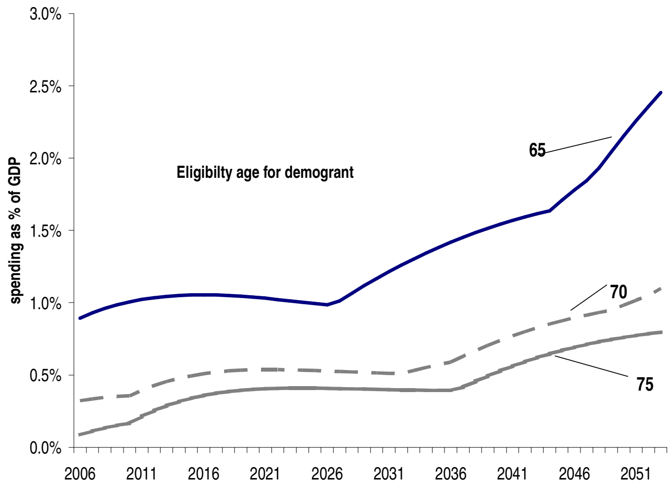
significant fiscal savings (depending on how large a share of the elderly the system would aim to cover). For a review of the arguments for and against non-contributory old age pensions or 'social pensions', see Palacios and Sluchynsky (2006).

21 A few elderly in co-residence situations with very poor households may still quality for safety net benefits.

22 Another possibility would be to merge the non-contributory old-age pension into the proposed new umbrella poverty benefit. In this option, the targeting mechanism and benefit scheme developed for the proposed umbrella benefit would also apply for the old-age benefits. Under this scenario, Maldives would have a truly unified social assistance system. However, not all the elderly population would then be covered, and it is unclear if the Constitutional mandate would be achieved. This option would provide room for significant fiscal savings (depending on how large a share of the elderly the system would aim to cover).

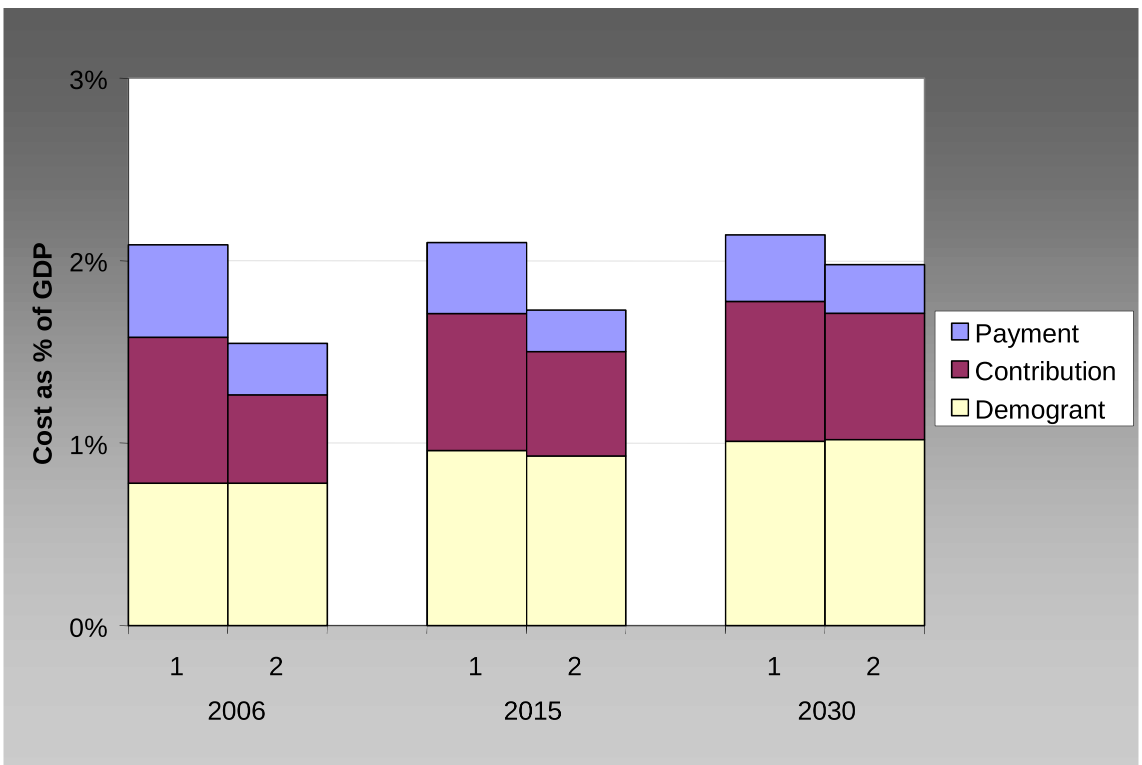
Figure 11: Cost of demogrant with different eligibility ages



generous with regard to the benefit payout; the inclusion of a survivor benefit for Option 2 is one of several outstanding issues (see below).

The reform package has significant fiscal implications on a cash flow basis. As always, it is crucial to make an assessment of the tradeoffs (higher deficits, increased taxes or reduced spending in other areas) that are always present in the shift to a funded pension scheme. It is important however to keep in mind that the current practice is essentially to pay workers their full emoluments until they die rather than shifting to a pension that represents some fraction of that amount as is the case in all other countries. The relevant comparison then is between the present value of future wage payments and the present value of future pensions under the reform. This calculation has been made for the current workers over age 65 as shown in Figure 13 below. The same argument applies to the existing workforce. The key difference is that for those already above age 65 the stream of pension payments will not be backed by a fund. For new hires, pensions would be prefunded and for workers already in the old system, the proportion of funding will increase with each retiring cohort.

Figure 12: Cost of pension reform package proposed by Working Group



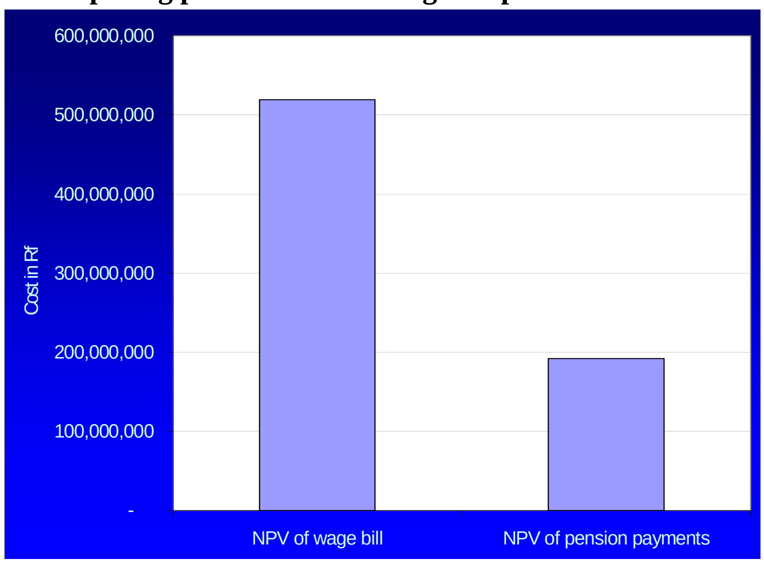
Source: Preliminary staff calculations subject to revision pending data clarifications.

The caveat is that to the extent that hiring practices lead to the full replacement of all retiring workers, these savings will not materialize. In our cost estimates, we have ignored the savings by maintaining constant the size of the civil service (proportional to the population). This is a pessimistic assumption—there is general consensus that older workers do not contribute much to the functioning of government, and some do not work at all. If they are not replaced, the impact on what the public sector produces may not be affected and if they are replaced, public sector output would increase. In either case, the cost estimates presented here are on the high side.

Together with the assumption that the benefit level of the demogrant would be raised with incomes, the cost estimates presented here should be seen as an upper bound.

It is also important to keep in mind that the alternative of introducing a partially funded or unfunded defined benefit scheme would result in an unfunded liability. Although the cash flow implications of the government's contribution to the scheme are significant, the avoidance of a new liability is an important advantage of the proposed reform. To the extent that the funds are invested abroad (see discussion below), funding also provides an opportunity to diversify the source of workers' retirement savings, an important consideration in a small, undiversified economy with extremely limited avenues for investment.

Figure 13: Comparing present value of wages to pensions for those over age 65



Source: Preliminary staff calculations subject to revision pending data clarifications.
Note: NPV=Net present value

How are individuals affected by the proposed reform?

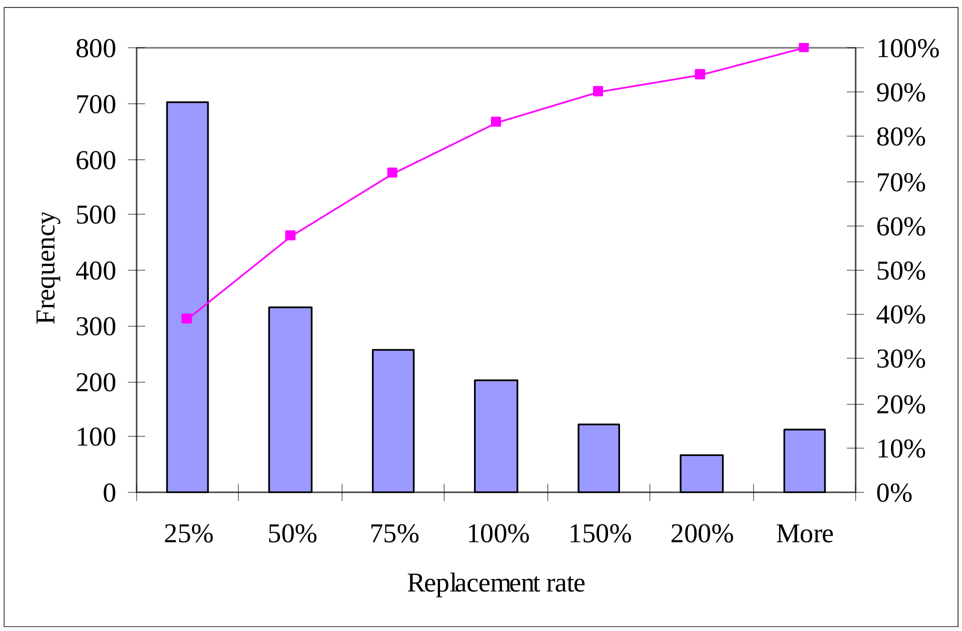
Clearly the demogrant unambiguously raises the incomes of households with elderly members. As discussed in Section 2, households with elderly members are somewhat poorer than other households in Maldives, and a transfer of this size can be expected to make some contribution to poverty reduction. The impact of the program would grow over time as the population ages assuming that benefits keep pace with incomes.

The impact of introducing the contributory pension scheme is much more complicated. Three categories of individuals can be separated for the analysis – new entrants, current civil servants under age 65 and civil servants over age 65. We take each in turn. New entrants to the civil service will contribute to their individual accounts and will therefore have net compensation 7 percent lower than would have been the case otherwise. They will also not be eligible for lifetime employment but will have to retire at age 65. Instead of receiving the compensation of an active employee until they die, a pension will be awarded and its value would be a function of the number of years he/she contributed and the investment return that was earned.

For workers already in service at the time of the reform, the impact will depend on their current age and when they joined. For older workers that had joined at a young age, say 21 and who will subsequently retire at age 65, the method of calculating their past service credits described above would result in relatively high replacement rates – in this case, around two-thirds of pre-retirement income. In other cases, where workers for some reason have few years of service at ages 40 or above, replacement rates would be modest. As a transition mechanism, a minimum replacement rate could be applied. This would obviously increase the cost of the overall package, albeit marginally for reasonable target benefit levels.

The same logic applies to workers that must retire immediately after the reform is introduced due to the mandatory retirement age. In their case, the effect on their current income is immediate and again depends on the number of years of previous civil service employment. Figure 14 shows the dispersion of outcomes in terms of replacement rates for this group. Whether workers are better or worse off under the reform depends on their subjective valuation of leisure versus work. Of course, for those individuals that were not actually working currently and still received pay, there is a clear loss.

Figure 14: Dispersion in replacement rates for civil servants retiring immediately after introduction of mandatory retirement age



provides for adequate replacement rate targets and holds several advantages over alternative models. In particular, it avoids the creation of new, open ended liabilities for the government, allows for international diversification of retirement savings sources and results in a platform that could readily be extended to the rest of the population.

Introducing a new pension scheme of any kind implies a range of implementation challenges. These challenges are attenuated when a fully funded defined contribution system with private asset management is involved. A brief review of the various implementation issues that arise are discussed next.

Implementation of reforms

Implementation of the proposed reform package requires actions in at least four different areas: Data management, asset management, investment policy, and insurance benefits. The last three are related to the new defined contribution scheme and some are likely to take several years to fully implement. Interim arrangements will be necessary in some cases. (It is recommended that the recordkeeping for the demogrant be integrated with that of the safety net benefits as discussed in Chapter 3). This section looks at each of these issues in turn.

Data Management

Both the parametric and systemic reforms require computerized information on earnings histories. The gradual shift to a longer averaging period for the reformed defined benefit scheme requires that earnings histories are constructed and available in electronic form to the pension department so that pensions can be accurately and efficiently calculated.

The data requirements for the new DC scheme are more demanding. Individual account contributions must be tracked monthly with adjustments to status of the employee and any changes in remuneration taken into account on a regular basis to ensure that deducted amounts are correct. Workers should receive regular statements and a mechanism for resolving any discrepancy through reconciliation of information should be possible. Individual workers may be provided with choices as to fund managers and portfolios; an information system that allows for efficient processing of these selections may have to be designed. Depending on investment policy, it is likely that valuation should be done on a daily basis.

In principle, systems that provide some of this information should already be available since individual accounts already exist in the form of the GPF. However, it is likely that the GPF accounting is subject to significant delays, errors and even fraud (in this sense, improving recordkeeping would provide benefits whether or not the DC scheme was being introduced). The first step towards implementation would be an assessment of current systems and a 'gap analysis' that lays out a plan to migrate to the new information system necessary. Existing GPF staff could be retrained to administer the new scheme's recordkeeping although new software and upgraded hardware may be required.

The international experience in this area suggests that significant delays can be expected. In the US for example, there have been problems with information systems purchased to track the DC accounts of several million civil servants that belong to the Thrift Savings Plan (TSP). The DC scheme for civil servants in Thailand, introduced in 1997, has yet to completely centralize their recordkeeping process and is forced to rely on separate submissions by ministries. Depending on when the scheme is implemented in the Maldives, an interim arrangement that ensures that records are kept from the inception of the scheme until the final system is in place are likely to be necessary. The starting point would be the current records kept for the purposes of the GPF, but this would not offer a long term solution for a system that should be accessible on a timely basis and with (eventually) daily valuation of assets.

Another relevant case is that of India. In India, civil servants hired after January 1, 2004 are automatically enrolled with the new DC scheme. While significant background work has been done towards establishing a new recordkeeping agency, this entity had not been contracted after more than two years.[24] In the meantime, ten percent of the salary of approximately 100,000 workers is being deducted in the same way as had always been done with GPF contributions. The balances are bookkeeping entries just as the GPF had always been and returns are prescribed.[25] This interim arrangement has allowed the scheme to start operating on a notional basis but only when the new Central Recordkeeping Authority is established will monies be invested outside of government.

The final set of implementation issues relate to the demogrant program. This will require the registration of all Maldivians age 65 and over from the time the scheme is introduced. A database to monitor them and to stop payment after death will have to be created and staff assigned. The same database would have to be cross-referenced against civil service pensioners in order to apply the pension test. The Social Security Section is expected to administer this program. An efficient system of payment of benefits would also have to be introduced in conjunction with other cash transfer programs. If means tested, the demogrant will require an effective targeting mechanism to the poorest elderly, which will have its own informational requirements (see next chapter).

Governance and Asset Management

A new institutional structure and governance arrangement will have to be put into place to provide oversight and in some cases, administer the new system. Collection and recordkeeping, discussed above, would be centralized. However, some services such as asset management and eventually certain insurance coverage could be contracted out. The decision-making apparatus for this system would therefore need to be carefully crafted to safeguard this significant pool of long term savings.

The method by which the asset manager(s) are selected, monitored (and removed) will be an important part of the design of this new scheme. Three broad approaches are possible – (i) contracting out asset management on behalf of all members, (ii) time bound concessions to specific firms, and (iii) individual choice of provider. The last option has two variants. Individual workers can choose from all market participants or a subset as limited by the government based on some criteria. Conversely, the concession option (ii) could result in the selection of several external managers.

The international experience includes examples of each of these approaches. For example, Malaysia's Employee Provident Fund (EPF) has shifted the management of a small part of its members' assets to external, private fund managers. The government dominated Board of the EPF selects the external managers and their performance affects the investment return of all the members. A similar approach is taken by Thailand's GPF which manages the assets of the DC scheme for civil servants in that country. In both cases, individuals

[24] See IIEF (2004).
[25] The Central Pay and Accounts Office in India has been assigning 16-digit unique identification numbers for this purpose.

play no role in choosing the external asset managers and only part of the portfolio is managed externally.

The second approach is to solicit bids from the private sector and select one or more providers based on a set of objective criteria. In the case of Bolivia and Macedonia, this approach was used for all workers, including civil servants. In both cases, an important criterion for the government granting the concession was the proposed level of fees. The five year concessions granted in Bolivia and Panama resulted in low fees, although there are significant caveats in each case. The concession period in Macedonia was longest at 10 years. Panama has also used the concession approach to contract the firm that manages the defined contribution accounts of its civil servants that was established in 1998. Like Panama, India plans to solicit separate bids for recordkeeping and asset management. Unlike Panama, however, the approach in India is to select multiple asset managers (perhaps as many as six) and to allow individuals to choose from among them. The main advantage of the concession approach is to reduce costs, but at the expense of worker choice.

The third approach is to allow workers to choose from among all licensed pension fund managers. This is the approach taken in all of the Latin American and Eastern European countries where private DC schemes have been introduced with the exceptions already mentioned of Bolivia and Macedonia.[26] These twenty or so countries allow civil servants (along with private sector workers) to choose their asset managers from among all market participants. It should be noted however, that market concentration is high and that the number of providers averages fewer than a dozen.

The process used to select the manager(s) is as important as the ultimate arrangement. Except in the case that workers are allowed to choose from the entire universe of licensed providers, it will be crucial that the selection of one or several managers is handled through a transparent process based on objective and explicit criteria. The concession approach involves competitive bidding with scoring on predetermined criteria, similar to procedures used in other large government procurement. In India, the entity responsible, the Pension Fund Regulatory and Development Authority is also the supervisor. In Panama and the U.S., the selection is done by a special Council or Board. The latter approach may be preferable if the fact that the supervisory agency has been involved in the selection of the asset manager makes the agency more reluctant to expose problems with the firms that it chose. On the other hand, ensuring the independence and professionalism of the special Board that would be created to oversee the selection is not a trivial task.[27]

The appropriate strategy depends, among other things, on the scale of the system, the quality of market providers available and the tradeoff between costs of administration and the objective of allowing individual choice. In a system such the Maldivian where the number of workers contributing to the DC scheme is very small in absolute terms and where there is little or no experience upon which to base the selection of asset managers, safety and administrative simplicity may trump competition and choice. As the assets grow however, the benefits of transparent competition may grow relative to the costs and local capacity can be developed in this area.

[26] Out of the ten countries that have introduced mandatory, privately managed DC schemes in Latin America, only Mexico has not extended this system to the civil service.
[27] For a review of the issues and recent attempts to resolve the conflicts of interest in governance of public pension funds see Palacios (2002).

Investment Policy

The potential for defined contribution schemes to produce reasonable pensions is largely determined by the rates of return that individuals achieve on their investments. The mandatory nature of the Maldivian scheme will almost certainly lead the Government to propose portfolio restrictions, especially with regard to the overall risk.

Countries with mandatory private defined contribution schemes usually impose explicit limits on the schemes' investment portfolios (Australia and Sweden are notable exceptions.) Investment rules for mandatory funded schemes take several forms, including asset class limits and minimums, issuer limits, and concentration limits. Rules also specify valuation requirements and reporting of investment practices and results. Regulations that restrict how pension funds exercise shareholder rights can also be included in this category.

Limits are likely to be appropriate in countries where a relatively small number of instruments trade frequently. This is especially important in terms of achieving transparency which requires accurate valuation of assets. From the perspective of domestic investments, the tradeoff between diversification and liquidity will pose a challenge to policymakers. Limits can impose costs, however, by restricting the efficient frontier of investments.[28] A frequent restriction imposed on pension fund investments (especially for publicly managed funds) involves investing abroad.

The situation in the Maldives in this regard is extreme. There are essentially no domestic instruments that are regularly traded where pensions could be invested. The issue of scale suggests that this would not (and probably should not) change in the longer run. The Government is in the process of studying options for issuing debt and, prior to the tsunami, was developing the new mortgage bank with potential for housing backed securities. These are never likely to be liquid markets and in any case, would not serve a more general diversification objective.

It is clear that international diversification can provide significant benefits for investors, especially in small countries facing significant country-specific risks.[29] While foreign investment may introduce additional costs and exchange rate risk, there are no real alternatives in the Maldives. International investment has the additional benefit of diversifying a part of Maldivian workers' assets beyond its economy that also happens to be highly dependent on two sectors – fishing and tourism.

Another policy question to be determined is whether to allow portfolios to vary across workers. It would be possible, for example, to allow some workers to choose a portfolio that included a higher proportion of equities and others to choose a higher share with fixed income instruments.

The majority of mandated DC schemes around the world have forced all workers to hold the same portfolio. Most of these cases were national systems which included civil servants. The desire of policymakers to limit dispersion in outcomes and to make the system simpler to administer and supervise was an important factor supporting this approach. The drawbacks are also clear however, and the recent trend appears to be towards more (but limited)

[28] See Srinivas and Yermo (2001) for a review of portfolio limits in Latin America and their impact on risk-adjusted returns.
[29] For a discussion of portfolio regulations and their effects, see Davis (2000), Reisen (1997) and Srinivas, Yermo and Whitehouse (2000).

portfolio choice. Hong Kong's reform of 2001 included a range of options for workers (including newly hired civil servants) ranging from very conservative money market funds to much more aggressive equity funds. Thailand's GPF plans to introduce portfolio choice within a year or two and is currently studying the issue. India plans to allow three portfolio options ranging with higher/lower concentration of bonds and equities, respectively.

An interesting variant on the question of portfolio choice is the use of 'life-cycle' or 'life-style' investing strategies. In Chile, after more than 20 years with a single portfolio system, regulators introduced five options with varying degrees of fixed and variable income asset limits. Since 2002, about 3 million workers have declared their portfolio choice. Members that do not make a choice are assigned according to age with younger workers being assigned to funds with higher variable income shares and vice versa. Workers approaching retirement age are not allowed to invest in Fund A, the portfolio with the highest equity share. Chile provides a good example of how it is possible to transition from one design to another. The Chilean design relies on the age-based default to allocate workers to funds that better reflect their ability to absorb market volatility.

The examples in Chile, the U.S., India and Thailand illustrate two important points about investment policy choices for DC pension schemes. First, it is clear that investment options can (and probably should) change over time. As administrative issues are resolved, workers become more familiar with the scheme and capital market developments proceed in parallel, more flexibility can be offered to participants.

Insurance Benefits

The insurance benefits of the current scheme can be transposed to the DC scheme. This can be done in several ways and policymakers would have to determine which way is most suitable in the context of Maldives. From a scheme design perspective, the insurance provisions can be separated into those that apply before and after retirement.

Provisions for death and disability during service fall into the first category. Assuming that the intent was to maintain the prevailing target benefit levels, at least two options for financing exist. First, the government could directly insure the members of the scheme, charging an actuarial fair premium and paying out the pensions directly. In this case, the balance of the individual would revert to the government's budget. A second method, variants of which have been implemented in Latin America, is to purchase group insurance from a private insurer. In this case, a premium is paid and the insurer is responsible for making up the difference between the amount required to purchase the prescribed annuity and the balance in the individual's account at the moment of death or disability.

At retirement, withdrawals could be taken in lump sums, annuities or scheduled withdrawals. Most countries that rely heavily or exclusively on a DC scheme have restricted the amount that can be taken as a lump sum for the same reasons that justify less than full commutation of benefits in the DB scheme. On the other hand, once target replacement rates have been achieved, some Latin American countries allow for some withdrawals in this form. The last two types of withdrawal typically rely on private providers. Many types of annuity can be offered including price indexed annuities and variable annuities (where payments depend partly on investment returns). Another key decision is whether to require that joint survivor annuities are purchased in order to protect the spouses of pensioners.[30] Scheduled withdrawals are an attempt to avoid the rapid dissipation of DC balances after retirement and are sometimes handled by the same firms that managed assets during the accumulation period. They do not, however, offer longevity insurance. The problems during the early stages of the system include the dearth of annuity products in the market (partly due to the lack of hedging instruments), an underdeveloped insurance sector and difficulties in pricing in the absence of reliable mortality tables.[31]

Sequencing the Reform

In addition to these design and implementation issues, there is also an important question of sequencing the reform especially in light of the fiscal impact of the package. Facing serious short term fiscal constraints, the GoM may want to stagger the reform into at least two phases. In phase 1, the contributory scheme could be introduced by retiring workers over age 64 immediately and deducting seven percent of total compensation for all civil servants. Preparations would be made for investment of DC contributions and for the payout of the demogrant in phase 2 of the reform. Assuming a rapid economic recovery and rising revenue base, it may be feasible to implement phase 2 of the reform package in early 2007. In the meantime, account balances would be recorded but would not be segregated.

In short, while the proposal is fundamentally sound, good sequencing and implementation will require substantial effort. There are no 'losers' in the demogrant program, but in the case of the contributory program, some individual workers will receive lower take-home income for two reasons: (i) for workers forced to retire, pensions will not generally be as high as wages (which they now receive until death). Some of these workers would have preferred to continue to work. (ii) deduction of the seven percent contribution rate would reduce the take-home wage of civil servants. Finally, short term fiscal constraints may make it necessary to delay full implementation of the package until such time as budget resources are available to absorb the incremental costs.

Longer term considerations for coverage expansion

The system contributory system described above has the further advantage of providing a solid platform for a long run expansion to other segments of the labor force. By nature, it is self-financed and portable. Self-financing would allow workers outside government to 'plug in' to the DC infrastructure and harness the economies of scale involved in administration, recordkeeping and asset management. This is important in a small country where per contributory costs can be high in a decentralized system. Moreover, portability would allow account balances to be maintained when individuals moved in an out of the public sector over their working lives.

The DC framework is also conducive to the inclusion of workers in the informal sector where regular wages are not the norm. If extended to the informal sector, contributions can be made on a flat basis and can vary according to factors such as seasonality of employment or incomes. In addition, a few countries have recently harnessed DC schemes to attract lower income informal sector workers with matching contributions from government, although this obviously implies additional fiscal costs. To the extent that a pension or other income test were to be applied to a demogrant, these matching contributions could help defray the costs of the program as the population ages in the coming decades.

[30] Recall that in our simulations of replacement rates of the DC scheme under different assumptions, the annuity was a joint and survivorship annuity that replicates the current DB provisions.
[31] See Palacios and Rofman (2000) for a review of evidence in Latin America.

CONCLUSIONS

The main findings of this chapter are the following:

- The current practice with regard to pensions in the Maldives **does not meet the twin public policy objectives of consumption smoothing and minimum income security in old age**.

- **Lifetime employment** for civil servants **is a poor substitute for a retirement scheme** that pays reasonable benefits.

- The proposed reform package includes a **non-contributory element that would provide a safety net for all elderly Maldivians as well as a contributory scheme** for civil servants that would be financially sustainable and mitigate income loss after retirement (i.e., smooth consumption). *This component will need to be carefully coordinated with Maldives safety net programs (see next chapter)*

- **The reform package developed by the Working Group is generally sound** and the fully funded approach to the contributory element of the new system holds several potential advantages including sustainability, the possibility of international diversification and a platform that can be readily extended to a greater proportion of the labor force if necessary.

- **The proposed system also lends itself to the long run expansion of coverage to the rest of the labor force in Maldives.** This is due to its self-financing nature and the portability of accounts. A seamless DC system would be able to take advantage of economies of scale and thereby reducing the costs that otherwise may reduce ultimate retirement account balances.

- However, reforms must take into account the overall initial conditions especially with regard to the fiscal situation. **Phasing in those parts of the package that generate savings first may be necessary given short term fiscal constraints**.

- Perhaps most importantly, both elements of the new pension system require **strong implementation measures and new management structures.** These will be a challenge in light of existing institutional capacity constraints.

- The table below summarizes the main changes and their implications for social protection and fiscal policy.

Table 11: Comparison of current and proposed pension system

	Current system	Problems with current system	Proposal	Advantages	Fiscal Costs
Social Security	Civil servants receive unindexed pension of 50% of basic wage every 20 years	Pension concept is really a long tenure wage supplement. Initial level and subsequent indexation not sufficient to provide support in old age	Introduce contributory funded scheme for civil servants with a 14% contribution rate split between worker and government for a mandated retirement age of 65 with price indexed annuity	Self-financing in the long run. Allows workers to retire and government to hire younger staff as needed	0.4-0.7 % of GDP for contributions as employer per annum. 0.5-1% of GDP per annum to pay for retroactive service credit. (Overall cost to government depends on hiring practices in response to retirement)
Demogrant	About 500 elderly recipients of social assistance at Rf. 500 per month	Does not meet mandate for universal pensions in Constitution	Introduce demogrant paying all elderly above age 65 (roughly 14,000 beneficiaries) a benefit of Rf. 500 per month; Pension test applied	Meets constitutional mandate for universal pension coverage; Provides safety net for all elderly in Maldives;	Rf. 85,000,000 per annum (0.7% of GDP), rising in the very long run
Overall system	No system in place to achieve primary objectives of any pension system.	Very limited extent of pension coverage; key objectives not met.	Redistributive plus savings programs would be introduced	Meets objectives of pension system in coherent fashion with feasible administrative strategy.	Around 1.5-2 percent of GDP; reduction in NPV of future wage bill for over 65 workers relative to pension bill.

Safety Nets

Maldives has a **range of safety net programs, instituted with the objective of alleviating poverty and vulnerability**. As noted below, these programs are fragmented, overlapping, and are not well targeted to the poor.

The objective of safety net programs is to help the poor and vulnerable cope with income shocks and other risks. Safety nets can help address chronic poverty, targeting the very poorest who are often unable to work. Safety nets can also help individuals maintain or develop their human capital, e.g., by helping the poorest participate in education or health care, or improve their employability. Safety nets can also help individuals avoid transient poverty brought about by unpredictable life cycle risks such as unemployment, sickness, disability, or old age poverty. If well-designed and flexible to contract and expand when needed, safety nets can also help cope with large covariate risks arising from natural disasters (e.g., tsunami) or macroeconomic shocks (e.g., price changes) and help facilitate enaction of difficult policy changes (e.g., worker retrenchment). In this way, safety nets not only protect against poverty, but also help promote growth.

Informal safety nets also help individuals cope with poverty, but often break down in time of large covariate shocks. These transfer, include, for example, remittances and intra-household transfers that help individuals share risk and smooth consumption. To the extent these transfers are redistributive in nature, it is important that government programs be so designed as to not crowd out informal transfers. However, informal safety nets are rarely sufficient, and rarely redistributive (the poor may not have friends in high places), and they often break down in the face of large covariate shocks.[32]

The objective of this chapter is to evaluate existing safety net programs and propose potential options that would improve their effectiveness. The first section of the chapter describes current programs and their key parameters, including expenditures. The next section discusses the key issues facing the delivery of safety net to the poor (including, inter alia, targeting. incentives, and administration). Reform options are discussed in the final section, including the choice of targeting method and reform of implementation procedures.

CURRENT SAFETY NET SYSTEM: OVERVIEW

The current social safety net in Maldives is comprised of several formal programs. A brief description of current programs, including the program launched immediately after the tsunami, follows.

[32] In the wake of financial crisis in 1997, informal family support in Korea has collapsed leading to significantly higher than average poverty among the elderly, necessitating a revamped and largely expanded publicly funded safety net. (See K. Subbarao, 1999).

Coping with Chronic Poverty

The Absolute Poverty Scheme, initiated in 2003, is the main cash transfer program for the poor in the Maldives. The program is administered by the Social Security section of the Ministry of Higher Education, Employment and Social Security (MHEESS), previously located at the erstwhile Ministry of Gender, Family Development and Social Security (MGFDSS). Eligibility is based on individuals meeting at least one of the following criteria: not able to eat more than one meal a day, not in possession of more than two sets of clothing, or currently homeless. The level of benefit is Rf. 500 per month, disbursed through the atoll offices. In 2004, program had 1026 beneficiaries. Program expenditures were Rf. 6 million, less than 0.1 percent GDP.

The Government also **provides vouchers to defray textbook costs, one uniform, shoes, and socks** for low income families. While school enrollment is high in the Maldives, some low income families find it hard to afford the cost of school books and uniforms. The voucher program allows poor families to buy textbooks for their children. The program is administered by the Ministry of Education but the selection of eligible children is made by the island and atoll offices. Island offices also handle the distribution of the vouchers. Eligibility is at the discretion of island authorities, e.g., the absence of a father's support is one reason for granting textbook vouchers.

Coping with Vulnerability

Assistance for health care in Maldives or abroad. The Government provides two types of assistance—medical treatment against catastrophic illness (payment of fees/travel costs). It also provides assistance to disabled (hearing aids/glasses) and critical drugs (for mentally ill).

- **Assistance to seek medical treatment in the Maldives**. Eligibility is open to everyone, based on a petition supported by a doctor. Most applications are from patients in need of medical treatment in Male' or on atolls other than their home atoll. The benefits cover travel and treatment costs. In 2004, the average benefit (or cost of treatment) was Rf. 1530. A total of 2093 people received this benefit, at a cost of Rf. 3.2 million.

- **Assistance to medical treatment abroad**. The Government also pays for medical treatment abroad (treatment and airfare for patient and one helper), as many types of advanced treatment are unavailable in the country. The Social Security section of MHEESS administers the benefit. Eligibility is open to all individuals, subject to doctor certification (from the Indira Gandhi Memorial Hospital (IGMH)) of their need for medical treatment and agreement of the Medical Board. In 2004, the average benefit was Rf. 7670 (1173 people were provided this assistance, at a total cost of Rf. 9 million).

- **Assistance for disabled**. The Government provides assistive devices for the disabled and critical drugs for the mentally ill. (a) Disabled are provided with key assistive devices (hearing aids, crutches, etc.) Some 317 disabled benefited last year, at a moderate cost; (b) mentally ill patients are provided assistance to pay for critical needed drugs. These benefits are administered by the MHEESS). In addition to monetary assistance, Maldives has institutions for children whose mothers are unable to provide adequate care, for example, due to parental drug abuse; a home for the mentally disabled; and a rehabilitation centre for drug abusers. The responsibility for the latter was transferred to the special task force on drug abuse under the President's Office.

- **Ad hoc petitions for special assistance**. In addition to programs described above, any citizen can petition the President's Office for assistance under special family circumstances. The number of cases and amount of expenditures under this assistance are not known

Targeted cash assistance to tsunami victims was used to help tsunami victims cope with natural disaster. In the months following the December 2004 tsunami, a program of cash transfers was developed to support the affected population. The Security Forces, relying on Inter-Ministerial teams, were responsible for program implementation. **Eligibility was open to all families whose homes were damaged by the tsunami**. Multi-sectoral teams from Male' together with island committees identified the beneficiaries, registered them, and disbursed the assistance as a one-time cash transfer. The level of benefit was Rf. 1500 per family member to those who completely lost their houses; Rf. 1000 per person to those whose houses were damaged and needed repairs; and Rf. 500 per family member to those whose houses were flooded and who therefore lost household items and belongings. The program covered **63,000 beneficiaries and disbursed approximately Rf. 50 million**. A follow-up income support program for the poorest among the tsunami affected (i.e., the elderly and people with disabilities) has also been proposed.

Non-Governmental Support

Charity, remittances, and inter-household transfers comprise the informal safety net. Zakat, the Islamic charity, also helps poor families obtain text books and uniforms for their children. The charity collects a modest amount each year (Rf. 7.4 million in 2002), which is distributed based on eligibility determined by island chiefs, Approximately 60,000 individuals receive benefits. Benefit levels are very modest. Aside from Zakat, the informal safety net consists of remittances and assistance provided by (extended) family members and friends (either in Male' or from abroad).

Total Beneficiaries and Expenditures

Maldives **spends a total of 0.2% of GDP annually on safety net programs** (not counting the 0.5% of GDP spent on income support for tsunami victims in early 2005). Table 12 provides a summary of programs.

KEY ISSUES

There are several issues that constrain the effective functioning of the current safety net. These issues include the ad hoc and fragmented nature of safety net programs, limited coverage, low expenditures, and targeting efficiency. Each issue is discussed in turn below.

Table 12: Expenditures on Social Assistance (pre-tsunami, and excluding ad hoc petitions)

Type of Assistance	2004		2003		2002
	No. of beneficiaries	Expenditure (Rf.)	No. of beneficiaries	Expenditure (Rf.)	Expenditure (Rf.)
Income support					
Absolute Poverty Scheme	1,026	6,156,000		7,968,990	-
Assistance to obtain school materials for low-income families	921	730,676	452	386,312	
Coping with vulnerabilities					
Assistance to seek medical treatment from abroad	1,173	9,093,728	834	5,637,054	5,221,944
Assistance to seek medical treatment in Maldives	2,093	3,231,946	1,311	2,237,523	1,830,273
Assistance to obtain assistive devices for the disabled	317	173,563	355	114,840	156,034
Assistance to obtain drugs for the mentally ill	624	96,003			74,455
Other assistance		9,310			
Total (excluding tsunami relief)		19,491,228		16,344,720	7,282,708

Source: Maldives government.

Program development and management

The majority of safety net programs in Maldives are administered by different agencies, some without formal qualifying criteria or a regular schedule of benefits. There are a number of disadvantages associated with fragmented social policy frameworks of this nature, for example:

- Lack of coherent strategy and planning: Most programs are run on an ad hoc basis without an overall strategy.
- Administration is uncoordinated which is not surprising given that there is as yet no overall strategy.
- Lack of coordinated monitoring and evaluation. There is no way of knowing who is accessing which programs and for how long.

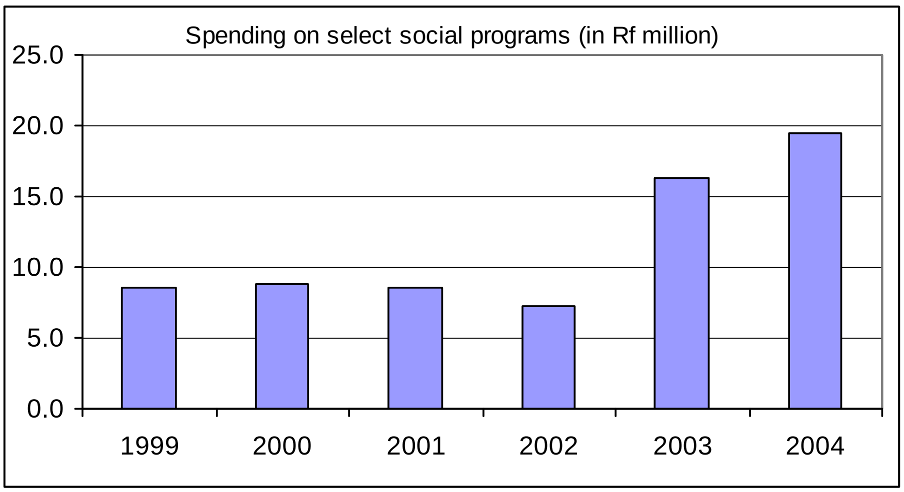
Program coverage, benefit levels, and expenditures

Program coverage is quite low, relative to total poor population of Maldives. However, the exact coverage is difficult to ascertain because of ad hoc petitioning and in the absence of a good monitoring and evaluation framework. Overlapping target groups for each individual program may lead to some individuals or households accessing multiple benefits from different ministries while some vulnerable groups may be excluded from coverage.

Benefit levels are low relative to average incomes of households. For example, Rf. 500 benefit for the destitute is only 25 percent of the poverty threshold expenditure level of a family of four. Such benefit levels would be even lower per capita for large families.

Potential problems of work disincentives are likely to be limited given the low level of benefits. However, there is currently no incentive for families to move out of programs when economic conditions change. The GoM is aware that many of the beneficiaries no longer meet the original eligibility criteria but essentially remain enrolled in the program for lack of a regular procedure for updating beneficiaries' lists. Lack of clear and transparent eligibility criteria mean that atoll offices currently have little incentive to strike people off the lists. The existence of ad hoc payments from multiple sources may contain unverifiable subjective judgments and also decrease the transparency and accountability of safety net program expenditures.

Figure 15: Fiscal cost of current social safety net programs



Source: Government of Maldives.

Though very modest, expenditures have increased over time. The fiscal cost has more than doubled, however, over the last couple of years. This reflects the introduction in 2003 of the Absolute Poverty Scheme, and the increased number of beneficiaries and amount of assistance under medical treatment assistance (international). As a result, the absolute amount spent has risen from just about Rf. 7 million (0.1% of GDP) in 2002 to Rf. 20 million (0.2% of GDP) by 2004 (Figure 15), and further increased to 0.7% of GDP after the tsunami (when adding tsunami-related social assistance expenditures).

Program expenditures are lower than many other middle income countries, which often spend the equivalent of at least 2 to 3 percent of GDP on safety nets, while in OECD countries the expenditure levels are even higher.[33] Even a low income country such as India spends 2 to 2.5 percent of GDP on safety net programs; Sri Lanka spends around 1.3 percent of GDP (Table 13). However, it should be noted that it is not the level of expenditure, but whether it effectively reaches the poor, without distorting work incentives that really matters. Maldives needs to address this issue of reaching the desired target groups effectively as it attempts to reform the safety net program framework.

Table 13: Public Expenditure on pensions and social assistance in selected countries

[33] See K. Subbarao et. al. (1997) for details.

(% of GDP)		
Country	**Public pensions***	**Social Assistance**
Pakistan	1.7	0.5
India	2.2	2-3
Sri Lanka	1.8	1.3
Bangladesh	0.3	0.8
Maldives	0.2	0.2 pre-tsunami 0.7 post-tsunami

* Does not include large implicit debt.

Targeting of Transfers

Government transfers – social assistance and pensions – appear to have a pro-rich distribution. (See Table 14, based on VPA-2, and also Annex 3). In fact more than half of all payments go to the richest tercile. It is difficult to identify which social safety net programs that make "government assistance" so pro-rich because no disaggregated information is available in the vulnerability survey. That pensions are not pro-poor is not surprising, as they are received by civil servants (who are not poor) and also linked to last salary of the individual.

Weak targeting of other programs may reflect inequitable access to programs, given ad hoc eligibility criteria, use of petitions, and lack of program information for those poor living some distance from Male' or an atoll capital. Highly vulnerable groups may not be aware of benefits or services that can support their urgent needs.[34]

Intra-household transfers are roughly equitable between terciles. Private transfers, remittances, and alimony are also not pro-poor. When all private transfers are combined together, they are about equitable across terciles. This is not surprising. Evidence for other countries is similar: the poor cannot be expected to have friends in "high places". The poor help the poor via private transfers. Government assistance including pensions, on the other hand, is significantly inequitable inasmuch as the share of the richest consumption tercile is highest.

[34] In the VPA-2 survey all respondents were asked whether and how much they received of the following types of transfers: (a) government assistance, (b) pensions, (c) zakat, (d) remittances from Male', (e) remittances from abroad, (f) alimony payments and (g) other transfers. Zakat payment has only one observation in the sample; so we deleted this from analysis—it is possible that there is significant under-reporting of zakat receipts. Annex 4 shows another way of breaking down the information on receipts by source and by tercile.

Table 14: Distribution of Assistance and Transfers [35]

Type of transfer	Consumption Tercile Low	Medium	High	Total
Government assistance (a)	26.1	21.7	52.2	100
Pension (b)	14.9	29.6	55.5	100
All government transfers (a+b)	19.4	26.4	54.2	100
Intra-household remittances (c)	30.9	37.8	31.3	100
Other assistance from family and friends in Maldives (d)	27.3	25.2	47.6	100
Assistance from family and friends from abroad (e)	18.8	63.3	17.8	100
Alimony (f)	28.3	41.8	29.9	100
All private transfers (c + d + e + f)	30.0	35.8	34.3	100
Other Sources	27.3	25.2	47.6	100

Source: VPA-2. The table shows how transfer receipts are distributed across terciles.

OPTIONS FOR REFORM

International experience shows that developing an effective and financially viable safety net system requires several building blocks: (i) identification and targeting of benefits to the poor (and protecting them against vulnerability); (ii) earmarking a sustainable fiscal envelope for safety nets, which is both affordable to the country and ensures sufficient resources to maintain effective and well-managed programs; (iii) tailoring the program to the administrative capacity of the country; (iv) paying adequate attention to work incentives, ensuring that beneficiaries do not reduce their labor supply while claiming safety net transfers; (v) complement informal forms of support; and (vi) be based on the preferences of society about the level and type of protection it would like to offer those in poverty.

Knowledge about the correlates of poverty – which groups of the poor are the most sizable in the society – is necessary for targeting. Chapter 1 provides this information – families with many children, households headed by individuals with little education or by women, households with no able-bodied member, etc. Perhaps most importantly, safety nets reforms require considerable Government commitment in legislating and implementing reform measures. Finally, it should be noted that the most effective safety net is economic growth and employment creation, and the resulting growth in household incomes, which will continue to be the main vehicle for poverty reduction.

The Government is aware of the problems facing its safety net programs (noted above) and **would like to develop a single, rational system with clear eligibility criteria;** to develop protection against "uninsurable risks" such as chronic poverty and health shocks, and in so doing, help reduce poverty and promote growth. Given that Maldives is now a middle income country, the Government has expressed its preferences for the basic building blocks of the safety net:

- Address chronic poverty as the basic building block of the system (including safety net for the elderly), with adequate incentives to work

- Improve human capital of the poor (allow poorest children to participate in education programs)

[35] (Annex 5 presents the same information broken down in a different manner, namely as incidence and average size of transfers received in each tercile).

- Adaptability of the safety net to cope with vulnerability (expansion of the safety net to handle disability, medical emergencies, macro shocks, and natural disasters). The government has also expressed its intent to extend health insurance to the entire population in a later phase (this has not been covered by this report).

- Ensure a safety net to protect the poor in case of difficult reforms (retrenchment, or increase in prices of essential goods).

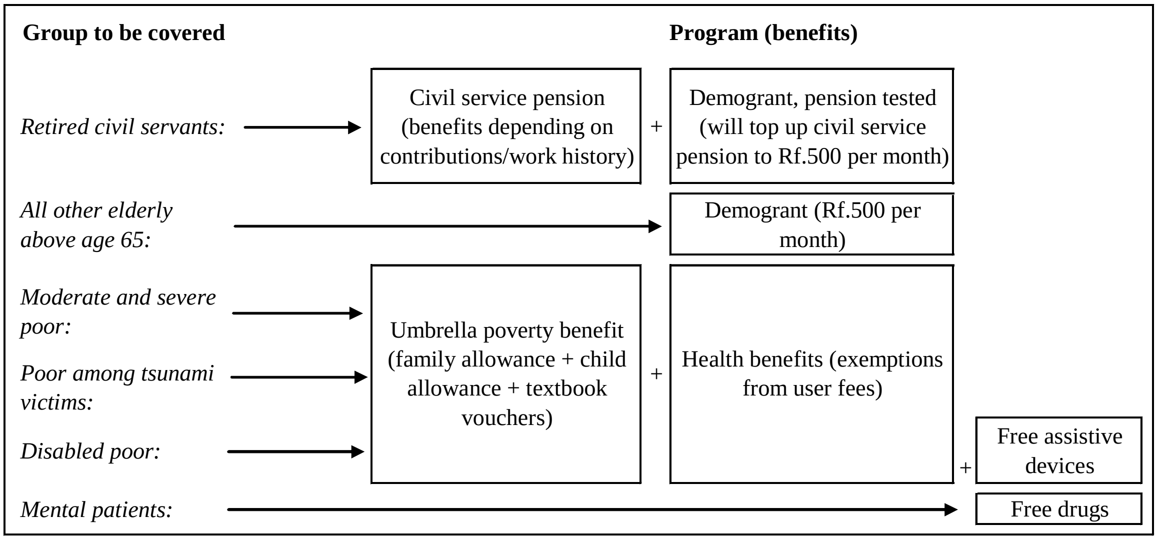
Developing a Unified Safety Net

The most optimal way of achieving the above objectives would be to develop an 'umbrella' or unified safety net program. The program could fold in several safety net programs currently under operation (e.g., absolute poverty benefit, health benefit, disability benefits, and textbook vouchers) under a unified targeting and administrative system, and under management of a single Ministry.

Program unification has several advantages for program design and implementation. It would allow: More unified strategic development, harmonized benefit levels, improved incentives, lower costs of administration, and improved monitoring and evaluation. Transparent and uniform eligibility criteria will go a long way to facilitate entry into and exit out of the program.

The reform options are illustrated in Figure 16 **and are elaborated below**:

Figure 16: Overview of program options



By folding in all benefits, the umbrella program would cover both the chronic and transitory poor. That is, the single poverty program would cover all of the chronic poor (including disabled, poor widows, potentially the elderly above a particular age, and poor children who need funds to meet school expenses), but could also expand to help the transient poor, particularly those who experience health shocks or natural disasters. For example, the program would provide a basic level of protection to all poor households, the benefit would also be increased to allow for participation of poor children in school (through textbook vouchers), and in the case of a catastrophic health shock. The poor among households affected by the tsunami could also be included in the umbrella program (avoiding the need to establish parallel programs). The interaction of benefits, i.e., umbrella poverty benefit with school and medical benefits need to be specified clearly (see Table 15 for more detail--issues of how to target are discussed below).

Table 15: Overview of Program Options for social assistance

Program and benefits	**Targeted to the poor** (using new targeting approaches, see below)	**Universal**
Old age benefits		Universal untargeted old-age pension (See Chapter 2; for retired civil servants apply 'pension testing')
Umbrella Poverty-targeted Program comprising the following elements		
Family allowance (fixed tier)	Cash transfers to the moderate and severe poor—revised version of existing Absolute Poverty Scheme (example: Rf. 400-500 . per month in fixed tier)	
Child allowance(s) (variable tier)	• Add a 'child allowance' of Rf. 100 (example) per child below 18 in eligible families, up to a ceiling, for example Rf. 800 per month.	

	• Add assistance for textbooks for poor children (or simply convert the existing voucher program into cash and fold into variable tier)	
Disabled poor	Poor individuals among the disabled are included in umbrella program, subject to targeting, but with less strict targeting criteria, and would receive the same family and child allowance as everybody else enrolled in the umbrella program. • Add Assistive devices for disabled—existing program, consider targeting	
Poor among tsunami victims	Include poor among tsunami victims (those not benefiting from rehabilitation grants) in umbrella program (benefits *not* additive)	
Health benefits		
Assistance for obtaining medical treatment abroad and domestic—existing program, propose move to targeted waiver of user fees:	User fees waived for poor (using same targeting approach as for umbrella benefit)	Program of medical treatment abroad and domestic continued, but with user fee charged to nonpoor
Mental patients		Drugs for mental patients—continue existing program, untargeted (benefits can be additive if mental patient happens to receive poverty or pension benefits)

Two tiered benefits, with fixed and variable components. The government is considering various options regarding the benefit levels, and considering a system with fixed and variable tiers. A two-tiered benefit, a base benefit ('family allowance') and another ('child allowance') varying with the number of children (or with family size) is used in many countries because it results in fairer distribution of assistance when larger families receive higher benefits than small families (for example, Figure 17 shows the scenario of a base benefit of Rf. 400 and a variable benefit of Rf. 100 per child, up to a limit of Rf. 800 per month). Alternatively, the basic benefit to a poor household could be increased if there was a special vulnerability, say a disabled member or a widow. This variation would allow for basic poverty relief, while giving flexibility of covering additional vulnerable members. One option to consider would be to scrap the textbook vouchers, converting this benefit into cash and absorbing it into the child allowance (for eligible households).

At the household level **some upper threshold level of benefit will need to be determined**. There would need to be some limit as to the amount of benefit that a household could receive from different categories of benefit for which it was eligible. This is both for fiscal reasons but mainly because too high a benefit may lead to work disincentives (by making a job unattractive for household members who are able to work). Table 16 shows how this would work using as example the scenario of Rf. 400 in the fixed tier and Rf. 100 per child, with a ceiling of Rf.800 per household per month: For a 'typical' poor family with 3 children, this schedule of benefits would result in a benefit of Rf. 700, covering 31 percent of the poverty threshold, and corresponding to 11 percent of average expenditures. As a rule of thumb, this level of assistance would seem adequate (poor households tend to have other income sources apart from social assistance), and would be unlikely to jeopardize work incentives. Moreover, given that the intended target group for all of these benefits is the chronically poor, with emphasis on those unable to work, problems of work disincentives can also be minimized by sticking to this target group. Benefit levels would be uniform across the country.

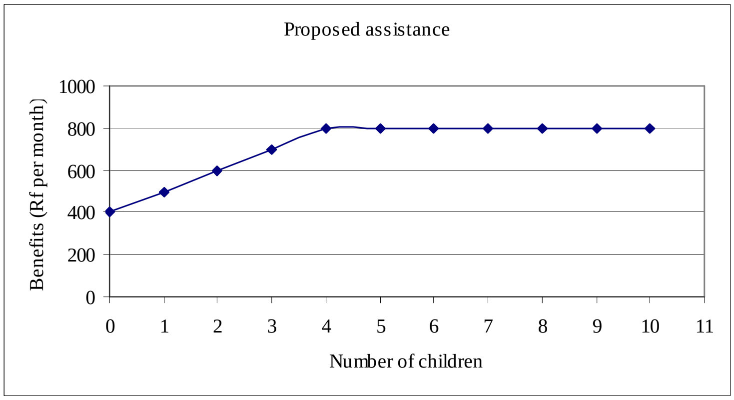
Coverage would be extended to (transient poor) victims of natural disaster and the poor among the disabled by including these groups in the umbrella poverty program. The targeting criteria for these groups could be less strict—for example, if in general the umbrella poverty program is intended for moderate-to-severely poor households, the eligibility rules for the disabled (and potentially also for natural disaster victims) could be softer, accepting also the slightly poor from these groups into the program.[36] In case of any future climatic or economic shock, a good precedent would be established that the umbrella program can simply extend coverage to the affected, thereby providing a system of flexible protection. It is always preferable to pilot new programs, and one possibility would be to pilot the umbrella program in some of the islands affected by the tsunami.

Table 16: Benefit levels and benefit adequacy
(example of fixed tier benefit=Rf. 400, variable tier= Rf. 100 per child, and ceiling of Rf. 800)

Number of children	Proposed assistance	% of poor households that have this size	Assistance as % of poverty threshold (family with 2 adults)	Assistance as % of poverty threshold (family with 1 adult)	Assistance as % of average expenditures (2 adult family)
0	400	8	44.4	88.9	16.3
1	500	12	37.0	55.6	13.6
2	600	20	33.3	44.4	12.2
3	700	22	31.1	38.9	11.4
4	800	16	29.6	35.6	10.9
5	800	11	25.4	29.6	9.3
6	800	6	22.2	25.4	8.1
7	800	3	19.8	22.2	7.2

[36] This option would seem administratively easier than a separate disability pension, for which a system of medical certification of impairment of working ability has to be established.

Figure 17: Profile of proposed benefits under poverty program (example)



The study has worked on the understanding that a universal old-age pension is desired by the government and mandated by the Constitution.

Targeting Options

No safety net can ever be perfectly targeted. There will always be targeting errors, large or small, which program design should take into account and seek to minimize. The literature refers to two different kinds of targeting problems: inclusion errors—some non-poor are included in the program and exclusion errors—some poor are left out of the program. In addition to inclusion and exclusion errors, there are also other factors that reduce the share of program resources being transferred to the poor, which program design also needs to take into account: Corruption/leakage—resources not reaching any beneficiary. Administrative costs of targeted programs need to be kept low in order for targeting to be cost-effective.

Safety net schemes worldwide use several different methods of targeting cash benefits: Means testing involves testing an individual's incomes and assets, but is not relevant for a largely informal economy, where incomes are hard to verify (as in the Maldives). In this situation, many countries, e.g., Armenia, Russia, and many countries in Latin America, use proxy means testing—which uses key characteristics correlated with poverty to identify the poor (e.g., area of residence, housing characteristics, etc.). This mode of targeting may be one possibility for the Maldives. Categorical targeting is a simpler targeting method that uses a single characteristic (e.g., girls, or old age or disability), and is also a possible means of targeting a poverty benefit. Geographical targeting is another means of targeting benefits, particularly in countries where poverty is very concentrated in particular regions, such as the Maldives (northern atolls). Community based targeting has been found to perform very well in analysis of global targeting experience, particularly in countries where communities have a long tradition for collaborating in various spheres of life (e.g., Uzbekistan and Albania). Maldives also has a tradition of strong local communities, which could be used to identify and target the poor.

Based on the above discussion, the following options for targeting the umbrella poverty program appear promising candidates:

Option 1: Community-based targeting

Implementing a **new system of community-based targeting** in Maldives in combination with geographical criteria and a set of guiding principles. Geographical criteria could be used to ensure more benefits flow to the poorer atolls. For example, one option would be to limit the umbrella poverty program to the atolls (or even to high-poverty atolls). However, the political feasibility of this option will have to considered.

Communities (island councils) would have to nominate poor households for the number of slots they have been allocated. People could apply to the program and their applications be decided at community meetings, carefully avoiding stigmatization of applicants. Communities could be provided with a list of guiding (but not binding) criteria to be used when deciding on eligibility: many children, no breadwinner, little education, no formal sector job, does not receive remittances or other assistance, and so on. Such identification can be done at meetings of the community as is being done in India and Ethiopia (and should *not* be done by just a few members of a Committee). To avoid exclusion and inclusion errors, transparency is key, and it can be ensured only if decisions are taken at community meetings. This is not altogether a difficult proposition: in small islands "every one knows everyone", and consensus on selecting the most vulnerable should not be difficult, especially since Maldives has considerable experience in this regard. However, it should be noted that international experience shows that sometimes community targeting can sometimes lead to poor being excluded if they do not follow community norms, and this issue will have to be addressed through a grievance addressal mechanism (e.g. at Ministry level) if this approach is followed in the Maldives.

Option 2: Proxy means test vetted by communities

In this approach, **applicants would be visited by a social worker (say, from the atoll administration) who would interview the household and solicit information on income (i.e., a self reported means test) and on the variables of the proxy means test** (demographics, housing characteristics, and occupation). The proxy means test should not stand alone, though, because simulations (described in Annex 4) show that in the Maldives proxy means test by itself is likely to result in a substantial number of exclusion and inclusion errors. Proxy means test needs vetting by communities: (i) communities could be asked to approve those applicants which the proxy means test has indicated to be potentially eligible; and (ii) rejected applicants who feel they were wrongly excluded could appeal to the community for inclusion.

Option 3: Categorical targeting only

Under this proposal, **all households with four or more children would be eligible for benefits, as would recent divorcees and widows, and elderly over 65.** This approach fits well with the proposed universal old age pension (which is also categorically targeted) and would probably be the simplest to implement. However, simulations suggest that this option is also guaranteed to have fairly high inclusion and exclusion errors, so there appears to be no alternative to relying on vetting by communities and instituting a good mechanism for monitoring and handling complaints.

Fiscal cost

Table 17 illustrates the potential costs associated with the proposed umbrella program, based on seven alternative sets of assumptions about benefit size and coverage. Based on the assumptions spelled out in the table, the umbrella program (covering cash transfers to the poor, including disabled poor) could cost the government around 0.3-0.6 percent of GDP per year. An important assumption which determines total costs is the number of poor households to be covered. When other parts of the proposed safety net package (demogrant, and medical benefits) are factored in, the entire package of safety net and reform outlined here would cost the equivalent of around 1-1.5 percent of GDP in the first year (using a 2006 estimate of GDP). More than half the cost stem from the universal old-age pension, unless it is also means- or pensions tested. The table is illustrative and is based on assumed benefits and target groups.

These calculations are very tentative—many aspects of the design of the programs are yet to be decided by the government, and the total cost obviously depends on the decisions made. As noted, the government has several options to consider: to keep some programs universal or means-tested; it could vary the benefit levels. Further work is needed to determine the actual cost of safety net reform package preferred by the government based on the parameters chosen.

Table 17: Fiscal Cost of umbrella program (cash transfer to the poor), in different scenarios depending on benefit size and coverage

	Basic benefit per month per household (fixed tier)	Basic benefit (variable tier, per child)	Upper threshold (Rf. per month per household)	Households covered		Cost (million Rf.)	Cost, % of GDP
				Number	As % of all poor households		
scenario							
1	400	100	800	6000	68	48.2	0.43
2	500	100	800	6000	68	52.7	0.47
3	500	50	800	6000	68	46.8	0.42
4	400	100	800	8845	100	71.1	0.63
5	400	100	800	4423	50	35.6	0.32
6	400	100	600	6000	68	42.2	0.38
7	500	0	500	6000	68	36.0	0.32

Note: Table is illustrative. Actual costs will depend on decisions regarding benefit levels, coverage, and benefit interactions. The table does not include the cost of the demogrant and medical benefits. Administrative costs are excluded.

IMPLEMENTATION

Implementation of safety net programs raises a number of challenges. **Implementing new administrative procedures, targeting systems, flow of funds, methods for delivering benefits, M&E, and communicating with communities, potential and existing beneficiaries will pose complex challenges for the government.** Significant capacity building (and probably additional staff) to ensure successful implementation will be required. The new programs should be piloted before being scaled up to the entire country (those pilots could experiment with different targeting methods and benefit levels to determine what works best). The implementing agencies currently have very limited staff and capacity and will need substantial capacity building before scaling new programs up at the national level. A few key issues of critical relevance to the implementation are highlighted below. An implementation manual describing the detailed processes of the new programs would be useful.

Given that MGFDSW does not have implementation capacity in the islands, it will be critical to involve atoll and island chiefs in the implementation of programs (Ministry of Atolls Development has indicated its willingness to assist). Atoll administrations, in particular, could be charged with the responsibility to verify, monitor and record claims. It could also be engaged in some random checks from time to time. Alternatively, implementation could also be carried out by social workers in social service units that the Ministry of Gender and Family is planning to establish at island level. In addition, the implementing agency could use the baseline and follow-up information to define an *exit strategy*: which households need to be taken out of the program because the family situation has improved. It is necessary to periodically revisit beneficiaries to determine if they should exit the program. Conversely, the implementing agency needs to be open to include a hitherto non-poor household into the program if their household situation has worsened.

The unit of analysis and assistance should be the household: A household is usually defined as a group of people that share living and eating arrangements. Multiple family units sometimes form a single household (say, in polygamous marriages and in extended families with multiple siblings and their families). For social assistance purposes, the preferred unit is generally the household, whether or not the constituent family units pool income. There is good experience from a number of countries with providing benefits to the women/mothers of the household.

Transparency is key to good performance, and in particular, it is important to examine complaints received from the population. To monitor such complaints, an institutional mechanism to handle complaints must be in place before programs are implemented. The persons involved in the selection of beneficiaries and administering of programs would arguably not be the right person to handle complaints. Another way to also enhance transparency is to post lists of beneficiaries in public places on the islands.

Emerging technologies hold promise to simplify and fool-proof benefit delivery. Smart cards (with or without chips) can help identify beneficiaries, ensure benefits are claimed only by eligible beneficiaries, and automate financial management functions, when combined with a good central data base of beneficiaries and flow of funds. Smart technologies are especially promising since Maldives has very good access to electricity and internet and high literacy.

Public information campaigns will be required to inform the public of the new programs. Except in a large emergency situation like the tsunami, it is relatively easy to transmit information in Maldives, thanks to the availability of television, radio, and widespread use of cell phones. However, when a new program is being introduced, or an old program is being re-designed or re-targeted, it is important to communicate the changes at island meetings. In this respect Island Chiefs have an important role to play.

Monitoring and Evaluation

M&E should be built in from the start of the program to assess program performance, administration and alert the government to implementation problems. Evaluation should help the government determine how well programs are meeting their objectives of reducing poverty and vulnerability, and make reforms to programs as needed. It is a good practice to continuously make changes to programs rather than relying on one-off design solutions that may or may not yield the best results. Strategies for evaluation could focus on (i) assessing impact using a before-after approach where poverty/vulnerability before and after program implementation is assessed; (ii) a control group approach where gradual program rollout is used to create a control group of households that are similar to the early beneficiaries but who did not benefit initially due to the phased rollout; (iii) inclusion of detailed questions on benefits received from each of social assistance programs in future household surveys (that is, future VPA or similar surveys), and (iv) any of the above could be supplemented with a participatory evaluation of beneficiaries and non-beneficiaries. This would help officials receive feedback on program administration that should contribute to changes in programs or implementation procedures as needed to enhance efficiency of administration.

Monitoring requires that a computerized database is maintained for all safety net programs as well as the demogrant described in Chapter 2. Dedicated personnel at the Ministry of Higher Education, Employment and Social Security could be responsible for maintaining the records of beneficiaries, analyzing the data and publishing basic statistics. Basic database software and hardware required would be purchased. Using unique identification numbers for all citizens of Maldives, a record would be created for a new beneficiary containing relevant data on age, sex, household size and composition, location and other relevant characteristics. A systematic process for reporting deaths and births in the beneficiary households would be developed. Updates, including exit from the program, would be submitted periodically by local authorities. Eventually, the database would facilitate periodic auditing and random spot-checks on beneficiaries.[38]

CONCLUSIONS

This chapter reviewed the existing set of social assistance programs in the Maldives, identified the main issues in current safety net programs, delineated the options for reform, and discussed some issues in targeting and implementation. The following conclusions emerge:

- **Maldives implements a large number of safety net program**s ranging from a cash benefit targeted to the ultra poor, health benefits against catastrophic shocks, disability, as well as education vouchers. As noted above, the Government is also considering an old age benefit to help alleviate poverty for the elderly
- **However, the programs do not meet their main objectives of protecting the poor.** The programs are ad hoc and overlapping, lack an underlying strategic framework, some critical vulnerable groups are omitted, and some benefits are disbursed to individuals based on unverifiable subjective judgments, and appear to be under-funded. (That said, it is important to note that adequate funding, without accompanying reforms in targeting efficiency will not be sufficient to ensure the benefits help alleviate poverty.)
- **The distribution of publicly funded programs appears to be inequitable** because substantive shares of current program benefits accrue to the best-off third of the population. Even private transfers, when analyzed as a whole, seem more or less equal across income groups, and not distributionally pro-poor.
- **While rapid economic growth has been and will continue to be the main vehicle for poverty reduction, the GoM also would like to protect those least likely to benefit from growth, and those vulnerable to shocks**. The Government is therefore interested in an effective safety net program to protect the chronically and transitorily poor households from sudden shortfalls in income and consumption induced by various shocks. Safety nets can also help address chronic poverty, improve human capital of the poor, cope with a variety of vulnerabilities (stemming, e.g., from disability, medical emergencies, macroeconomic shocks, and natural disasters), and provide protection of the poor in case of difficult economic reforms.

- **A number of reform options have been proposed for the consideration of the government**. The government may consider a **universal umbrella poverty targeted benefit**, which folds in most of the existing benefits (and makes away with ad hoc petitioning) and provides a single transfer to the very poor (identified and targeted as below). The benefit can be flat lump sum, or, as recommended, can have two parts (a fixed ‘family allowance’ and a variable ‘child allowance’ per child, up to some threshold) to allow flexibility in addressing household vulnerability. Benefits could be increased with textbook vouchers for poor students and also to help poor families undergoing a catastrophic health shock to pay for medical treatment abroad or in Maldives (for the nonpoor, it is proposed to at least introduce user fee under the existing program).

[38] The implementation of a pension test as described in Chapter 2 would be facilitated if the database was compatible and easily compared with individual records from the pension office of the contributory pension scheme for civil servants.

- **For specific vulnerable groups such as the disabled and the poor among the tsunami victims,** rather than establishing separate programs or benefits for these groups, **it is proposed that they be included in the umbrella poverty program** to the extent possible. Eligibility requirements could be less strict for those groups – for example, the government could decide that the slightly poor among the disabled and the tsunami victims be eligible, while for others, only the more severely poor are accepted into the umbrella program.
- **A threshold benefit level under the umbrella poverty program will need to be identified** so that work incentives are not compromised, and fiscal costs are sustainable (Rf. 500-800 per month per household would seem an appropriate range). The benefit should be indexed to inflation to ensure that protection is not eroded over time.
- **It will be important to target benefits effectively to the poor**. In particular, the chapter explored the potential of using a proxy means test in combination with community-based targeting. Based on the findings of selected simulations, the study recommends a combination of geographic targeting and community-based identification of beneficiaries aided by guidelines that emphasize household characteristics potentially associated with vulnerability, including the absence of able-bodied household members.
- **The costs of various benefit options and their interactions will need to be assessed prior to the final design and implementation**. Depending on the option chosen by the government (especially the size of benefits and the size of the population to be covered), the fiscal cost of the umbrella poverty benefit could be in the range of 0.6-0.8 percent of annual GDP (assuming some 6,000 beneficiaries, or 10 percent of all households, more than half of all poor). This is in addition to the cost of the demogrant, estimated at 0.7 percent of GDP. These estimates will need refining as the details of the program are finalized. Reforms should be phased in once fiscal resources become available, presumably once the impact of the tsunami has faded.
- Finally, **implementation issues need careful attention**: It is important to ensure proper identification and targeting of the poor, and responsibilities for verifying, monitoring and updating records need to be decided. An agency to coordinate implementation will also need to be decided, and this agency will need significant capacity building. New programs and systems should always be piloted before being scaled up to cover the entire country.
- Programs should be designed with adequate monitoring and evaluation to ensure that policy makers are aware of their impact and programs can be adjusted to improve their performance.

References

Baulch and Hoddinott (2000) "Economic Mobility and Poverty Dynamics in Developing Countries", Journal of Development Studies v36, n6 (August 2000): 1-24.

Davis, E.P. (2000) "Portfolio Restrictions of Life Insurance and Pension Funds", mimeo.

Holzmann, Rober, Richard Hinz, et all. 2005. "Old Age Income Support in the 21st Century". World Bank. Washington, DC.

Kingdon, Geeta and John Knight (2000) "Are searching and non-searching unemployment distinct states when unemployment is high? The case of South Africa". Center for the Study of African Economies, University of Oxford.

MDNP (Ministry of Planning and National Development). 2004. "Household Income and Expenditure Survey 20002/03".

———. *Statistical Yearbook*, various issues.

———. *National accounts*, various years

———. *Government budgets,* various years

———. *Population Census, 1990, 1995 and 2000.*

———. *Supply and Use Table 1997.*

Ministry of Planning and National Development (2003), Statistical Yearbook of Maldives 2003.

MoH (Ministry of Health), *Health Report 1999 and 2002.*

———. *Maternal Death Review Reports 1997-2001.*

———. *Vital Registration Data 2004.*

MoE (Ministry of Education), *Educational Statistics*, various issues.

———. *Administrative records*, various years

MPND (Ministry of Planning and National Development) and UNDP (United Nations Development Programme. 1999. "Republic of Maldives: 1998 Vulnerability and Poverty Assessment". Stara Design Team, Singapore.

Murgai, Rinku. 2004. "Poverty Measurement and Poverty Profile: Estimates Based on the 2002/03 Household Expenditure Survey". World Bank, Washington, DC. (unpublished manuscript).

Reisen, H. (1997) "Liberalizing Foreign Investments by Pension Funds: Positive and Normative Aspects", World Development, Vol. 25, no. 7.

Srinivas, P., J. Yermo and E. Whitehouse (2000) "Regulating Private Pension Funds' Structure, Performance and Investments: A cross country comparison", World Bank Pension Reform Primer series, www.worldbank.org/pensions.

Subbarao, K., and others. 1997. Social Assistance Programs and Poverty Reduction: Lessons from Cross-Country Experience. World Bank, Directions in Development. Washington, D.C

UN Theme Group on HIV/AIDS. "A Situational Assessment of HIV/AIDS in the Maldives for the year 2000."

US Census Bureau, IDB population pyramids: http://www.census.gov/ipc/www/idbpyr.html.

World Bank-Asian Development Bank-UN System. 2005. "Joint Needs Assessment on the Tsunami Impact and Recovery for the Republic of the Maldives". Washington, DC: World Bank.

World Bank. 2005. “Post-Tsunami Recovery and Reconstruction Project”. Washington, DC: World Bank.

———. 2004. “Maldives Country Economic Update: Sustaining Robust Development”. Washington, DC: World Bank.

———. 2004. “Integrated Human Development Project”. Washington, DC: World Bank.

WB/ADB/UN (2005) “Tsunami: impact and recovery. Joint Needs Assessment”.

ANNEX 1: DATA SOURCES

The analysis in this report draws upon three household surveys conducted at different points in time (see Table 18 for details of sample sizes):

- The 1997/1998 Vulnerability and Poverty Survey (VPA-1)
- The 2002/2003 Household Income and Expenditure Survey (HIES)
- The 2004 Vulnerability and Poverty Survey (VPA-2)

Table 18: Data Sources and sample sizes

	Maldives	Male	Atolls
VPA-1	2597	311	2286
HIES	834	246	588
VPA-2	2728	307	2421

The VPA-2 data was collected in June and July of 2004, some six months prior to the tsunami, partly financed with World Bank assistance. VPA-2 gives a baseline for analyzing pre-tsunami household welfare. The government has plans to conduct a post-tsunami nationally representative household survey, to assess household level impacts of the natural disaster. If carried out, Maldives will have comparable survey data from before and after the tsunami, and be in an excellent position for studying the impacts of a major natural disaster. For the time being, however, VPA-2 is the latest survey data available.

A question arises: Are pre-tsunami data such as VPA-2 useful for understanding poverty and vulnerability and designing safety net reform? At the time of writing the answer seems to be yes, by and large: the economic recovery is progressing well; people are out fishing or working in the tourist resorts; many islands were not affected severely; those who were poor or vulnerable before the tsunami are likely to remain so. However, the tsunami created new vulnerable groups, i.e. those who lost their assets (in kind or cash) or livelihoods. Especially hard affected are families that lost their house and are still suffering from lack of permanent housing; the elderly (having sometimes lost lifetime savings held in cash), people with disabilities, pregnant women and small children and their mothers. While jobs appear to recover relatively quickly, those livelihoods that depend on physical assets such as fishing vessels, perennial crops, fish processing equipment, or other tools will require public assistance to restore to the pre-tsunami situation.

The VPA surveys contain modules on household demographics, occupation, sources of income, health, education, housing amenities, assets, transfers, loans, expenditures, and distance to facilities. The surveys enable one to understand the transitions in and out of poverty, and the characteristics of poor and non-poor households. The recent VPA-2 survey will also serve as a valuable baseline for the situation prevailing immediately prior to the tsunami.

The comparison of poverty trends over time utilizes mostly VPA-1 and VPA-2. These surveys have a much larger sample size than HIES, and are therefore considered more reliable. Moreover, some households, though few in number, have been surveyed in both VPA-1 and VPA-2 which enabled us to construct a panel and trace transitions in and out of poverty during this period, as well as the characteristics of the respective households.

All three Maldivian surveys measured consumption in a broadly comparable manner. However, in the VPA-1 survey, the expenditure module had fewer food items pre-printed, and households were instead asked to fill in items based on recall, whereas VPA-2 contained a longer list of pre-printed food items. This could potentially cause some (upward) bias when comparing changes in average household expenditures over time (government officials familiar with survey implementation of both VPA-1 and VPA-2 however do not see this as a major concern).

Another issue when comparing poverty over time is inflation. As over the period 1997-2004 the inflation rate (measured by the Consumer Price Index) in the Maldives was virtually zero, a choice was made to use nominal expenditures as the provisional welfare measure, in line with other researchers and Government of Maldives working on the same data.

Due to the small change over time and across regions, no indexation of price differentiation was adopted. While conceptually it is the right thing to do, the empirical reality is such that the results do not change much by such adjustments.[39] Rent is excluded from the consumption aggregate used in the analysis as it is only relevant for a very small part of the sample, largely in Male'.[40]

Maldives has no official poverty line. Prior government reports used poverty lines of Rf. 7.5, 10, and 15 per capita per day. World Bank estimates based on HIES using the Cost of Basic Needs Approach suggested Rf. 14.8 as the consumption level at which an average poor household meets its food and non-food needs (Murgai, 2004). This is very close to the upper poverty line used previously by the government (Rf. 15). We therefore chose to use the Rf.15 line to maintain consistency with earlier work. As in the case of the expenditure measure, no inflation adjustment was made to the poverty line in light of zero inflation during the period.

An important limitation of VPA-2 data is that information on transfers is collected only "for the previous month". To the extent many transfers in Maldives are one-off grants determined on a case-by-case basis, and not regular monthly payments, the transfer module misses out the ad hoc transfers received by households during the previous 11 months. Also "government assistance" is not disaggregated into different types of payments that households receive.

[39] Previous attempts to estimate regional price indices based on an average standard consumption basket proved impossible because there appeared to be only a few items that could be included in such a basket that met the criteria of homogeneity of the goods and availability and use throughout the country. Luxury goods and consumer durables were excluded since there is only one shopping centre in the country for these goods. Further, of the remaining items that are homogenous and available and consumed throughout the country, three important food items: wheat flour, rice and sugar are imported and sold throughout the country at a common fixed price.

[40] The small sample of renting households makes it impossible to estimate with any reasonable degree of confidence the imputed value of owner-occupied accommodation.

Annex 2: Determinants of poverty

This annex presents the regression results on the determinants of poverty referred to in Chapter 1. Table 19 presents the results of a probit regression equation where P_i is the probability of being non-poor, and X_i are household characteristics:

$P_i = \alpha_{i\,+}\, \beta X_i + u_i$

Table 19: Poverty Correlates: Probit Regression Results Using VPA1 (1997-98) and VPA2 (2004) Data

	VPA1 headcount	VPA2 headcount
Male'	0.28	0.159
	(8.60)**	(5.89)**
Any Household member migrated in the last 3 years	-0.04	0.004
	(-1.25)	(0.23)
Household head more than 65	-0.088	
	(-2.48)*	
Ratio of elderly (more than 65 yrs) to the size of the household		-0.185
		(-3.80)**
Ratio of children (less than 16) to the size of the household	-0.319	-0.096
	(-5.52)**	(-2.17)*
Ratio of wage earners to the size of the household	0.172	0.195
	(2.74)**	(4.60)**
Ratio of the number of members who had education /size of the household	0.103	0.065
	(2.26)*	(2.04)*
Female household head	-0.059	
	(-2.66)**	
Household head unemployed	-0.036	-0.025
	(-1.08)	(-1.18)
Household contains at least one widow	-0.045	-0.024
	(-1.52)	(-1.23)
Household has a loan to be repaid		0.114
		(5.76)**
Household contains at least one divorcee		-0.018
		(-0.78)
Household head literate in English		0.117
		(5.08)**
Size of the household		-0.012
		(-4.78)**
Observations	2619	2548

Absolute value of z statistics in parentheses
** significant at 5%; ** significant at 1%*
Dependent Variable: 1=Nonpoor, 0=poor
Note: Marginal effects (evaluated at the mean) are shown.

Annex 3: Incidence and average size of assistance and transfers

Table 20: Incidence and average size of assistance and transfers

Consumption tercile	*Government assistance*	*Pension*	*Intra-household remittances*	*Other assistance from family and friends in Maldives*	*Assistance from family and friends from abroad*	*Alimony*	*Other sources*
Incidence of assistance and transfers (in %)							
Low	1.8	2.7	25.5	8.2	0.5	1.4	8.2
Medium	1.5	3.3	23.3	8.9	0.7	1.8	8.9
High	2.4	7.1	17.3	9.7	0.7	0.6	9.7
Total	1.9	4.4	22.0	8.9	0.6	1.3	8.9
Average size of transfers and remittances (for receiving and non-receiving). In Rf.							
Low	19	16	514	117	6	13	117
Medium	16	32	627	108	21	19	108
High	38	61	520	204	6	14	204
Total	24	37	554	143	11	15	143

ANNEX 4: TARGETING OPTIONS

As discussed in Chapter 3, assessing incomes is a difficult task in Maldives, and targeting of social programs has to rely on either observable categories or community identification, or a combination. This annex reports on statistical experiments with two targeting approaches: categorical targeting and a proxy means test. These are discussed below.

CATEGORICAL TARGETING

Four potential groups for targeting assistance are considered: widows and divorcees, the elderly, families with 4+ children, and families with no earning member. These categories of households are distinct and easily identifiable. The group of all poor households is included as benchmark (i.e., assuming perfect targeting, how large a reduction in headcount poverty could be achieved by these cash transfers).

The simulations estimate the reduction in poverty that would result from targeting social assistance to these identified groups. The simulations work with fixed budget constraints—0.5 percent and 1 percent of 2003 GDP, which is divided equally among all the households in the identified groups.[41] We further assume that the policy objective is reduction of poverty not only among specific identified group but also nationally. The results are presented in Table 21 (transfer budget of 0.5% of GDP) and Table 22 (budget of 1% of GDP).

Table 21: Simulation Results with a Fixed Budget Constraint of 0.5% of 2003 GDP

Target group	Initial poverty rate		Poverty rate after simulated transfer	
	In group	National	In group	National
Households with widows and divorcees	17.1	18.4	15.4	17.8
Households with widows and divorcees and elderly	18	18.4	16.5	17.8
All households with 4+ children	26	18.4	21.9	16.8
All households with no earning member	30.2	18.4	20	17.1
All households below the poverty line	100	18.4	71	13.1

Source: Staff simulations based on VPA-2.
Note: 2003 GDP is Rf. 9157 million.

Table 22: Simulation Results with a Fixed Budget Constraint of 1% of 2003 GDP

Target group	Initial poverty rate		Poverty rate after simulated transfer	
	In group	National	In group	National
Households with widows and divorcees	17.1	18.4	12.1	16.7
Households with widows and divorcees and elderly	18	18.4	14.2	16.8
All households with 4+ children	26	18.4	18	15.2
All households with no earning member	30.2	18.4	12.3	16.3
All households below the poverty line	100	18.4	48	8

Source: Staff simulations based on VPA-2.

The tables show the current rate of headcount poverty, in the groups considered and nationally. The next columns show the rate of headcount poverty, in each group and nationally, that would

[41] An equal sized transfer is "given" to all households in the category, regardless of size. The amount of the transfer is calculated so as to exhaust the budget.

result after the hypothetical transfer, assuming no change in households' income in response to the transfer, and assuming (for convenience) that the entire transfer is consumed.

Both simulations suggest that targeting households with 4+ children and households with no earning member would yield the highest reductions in poverty, both group-specific and national. For example, if 1 percent of GDP were to be transferred in equal amounts to all households with four or more children, the poverty rate of this group would decline from 26 to 18 percent, whereas the national poverty rate would fall from 18.4 to 15 percent. If 1 percent of GDP was transferred to all households with no earning member, poverty headcount of this group would fall from 30 to 12 percent, whereas national headcount would fall from 18.4 to 16.3 percent. When interpreting these numbers, one must keep in mind that national poverty always falls less than group poverty because each of the groups exclude many of the poor in Maldives. Also, no categorical targeting achieves anywhere near as good a targeting performance as the benchmark case where the poor are perfectly targeted. It does surprise, though, that even perfect targeting of transfers amounting to 1 percent of GDP only achieves reductions in national poverty from 18.4 to 8 percent; the reason for this is that some of the poor consume well below the poverty line, and would need quite sizeable income transfers to reach a consumption level implied by the poverty line.[42]

These simulations suggest that there is really no easy way to target assistance in Maldives: both poor and non-poor households co-exist in each category. While targeting households with 4+ children and no earning members may achieve better poverty reduction than targeting other categories, a policy of targeting assistance exclusively to specific categories would be inappropriate and undoubtedly lead to serious exclusion errors: too many ultra poor households would be missed by categorical targeting and not receive any assistance.

Considering that categorical targeting could be problematic, we now discuss the feasibility of a proxy means test.

PROXY MEANS TEST

We considered how well a proxy means test in Maldives could identify the poor. A proxy means test is a composite score or formula that for given values of observable household characteristics (demographics, education, housing and so on) estimates the welfare level of the household and based on this determines whether the household qualifies to participate in social programs. Households have an obvious incentive to misreport their characteristics once the purpose of the information being collected is known. Therefore, proxy means tests need to be based on characteristics that can be verified fairly easily in a home visit. In most countries, household size, household demographic composition, land holdings and other assets, housing characteristics, ethnic group, and geographical area are some of the variables that can be useful for targeting.

Evidence from various countries suggests that proxy means tests can be fairly precise and are able to improve targeting substantially relative to untargeted transfers. In Chile, for example, such a formula is routinely used to assess whether households applying for various welfare programs qualify and at what level. Information is collected by social workers who visit the applicants and fill out a questionnaire with information on the variables used in the proxy means testing formula

[42] Median consumption among the poor is Rf. 10.8 per capita per day. One-quarter of the poor consume below Rf. 8.1. The poverty line is Rf. 15 per capita per day.

(Grosh and Baker, 1995). Proxy means tests are also used in many other countries, in Latin America, the Caribbean, Eastern Europe, Middle East, and Asia.

We worked with both VPA-2 and HIES to assess a potential proxy means test for Maldives, taking the following steps:

- A regression is run in which the welfare measure, per capita expenditures, is regressed on a number of household characteristics
- The estimated parameters of the preferred expenditure regression are used to predict the welfare level of all households—the estimated regression parameters essentially comprise the proxy means testing formula.
- The predicted welfare level is compared to a cutoff point (in this case, the bottom 20% of households) to determine if the household is eligible for social assistance.
- The targeting efficiency of the proxy means testing formula is evaluated—using the same survey data—by comparing households deemed eligible for assistance according to the formula and households with actual welfare below the cutoff. A targeting success is when a household is placed on the same side of the welfare cutoff by both the formula and the survey data.

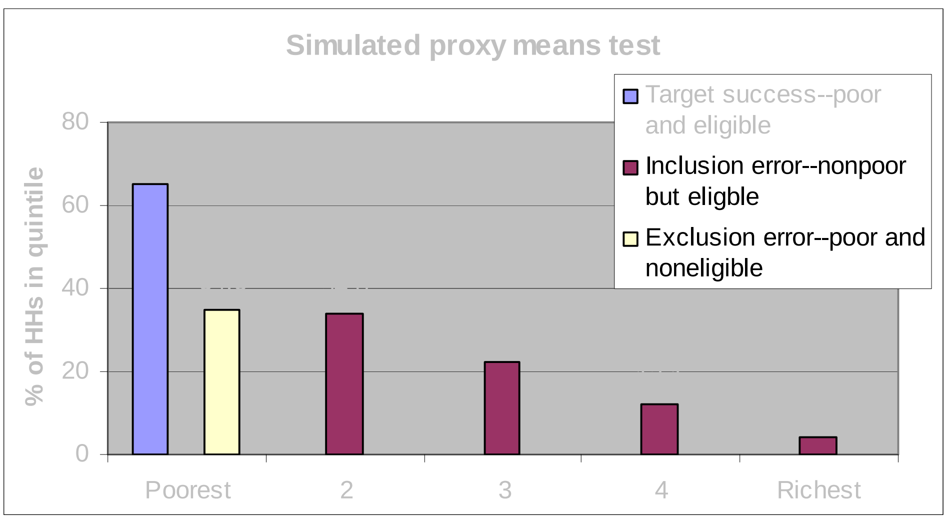
Targeting errors occur when formula and observed data disagree on which side of the cutoff to place a household. There are two kinds of targeting error. Households that are predicted non-poor by the formula but whose actual survey welfare is below the cutoff are considered to be undercovered. Households predicted eligible for assistance by the formula but actually living above the cutoff are said to represent leakage. The calculation of undercover age and leakage rates is illustrated in Table 23. The rate of under coverage is calculated by dividing the number of cases of Type I error by the total number who should actually be receiving benefits [e_1/n_1]. The rate of leakage is calculated by dividing the number of Type II errors by the number of persons served by the program [e_2/m_1].

Table 23: Illustration of Type I and II targeting errors

	Target group	*Non-target group*	*Total*
Eligible (as predicted by formula)	Targeting success (s_1)	Type II error (e_2)	m_1
Ineligible (as predicted by formula)	Type I error (e_1)	Targeting success (s_2)	m_2
Total	n_1	n_2	n

Results are disappointing: a formula based on observable characteristics cannot predict very accurately the 20 percent poorest households. Variables used include household size; number of children and old persons in the household; size, type and rental costs of house; type of job; education; assets and consumer durables; whether household receives a pension; and whether household lives in Male'.[43] Targeting results are shown in Figure 18 (for HIES data).

Figure 18: Targeting of a simulated proxy means test



Source: Staff simulations based on HIES.

The simulated formula could correctly predict around two-thirds of households in the bottom quintile. The formula erroneously include more than one-third of households in the second quintile, and more than one-fifth of households in the thirds quintile among the eligible. This is a fairly high rate of error. Moreover, analysis conducted using VPA-2 resulted in worse targeting performance.

[43] We experimented with both HIES and VPA2, and also ran the regressions separately for Male' and atolls.