

Nepal

Technical Note

**Affordable and not an illusion.
Costing of basic social protection benefits
for Nepal 2007-2034**

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First published 2007

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ILO / Social Security Department

Nepal:

Technical note

Affordable and not an illusion. Costing of basic social protection benefits for Nepal 2007-2034

ILO/RP/Nepal/R.7

Geneva, International Labour Office, 2007

ISBN: 978-92-2-120351-3 (print)

ISBN: 978-92-2-120352-0 (web pdf)

ILO Cataloguing in Publication Data

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Printed by the International Labour Office, Geneva, Switzerland

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Abbreviations and acronyms

ADB	Asian Development Bank
CBS	Central Bureau of Statistics
DfID	Department for International Development of the United Kingdom
GDP	Gross Domestic Product
GTZ	German Agency for Technical Cooperation (<i>Deutsche Gesellschaft für Technische Zusammenarbeit</i>)
ILO	International Labour Office
IMF	International Monetary Fund
LCU	Local Currency Unit
MDG	Millennium Development Goal
NLSS	Nepal Living Standards Survey
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Paper
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNICEF ROSA	United Nations Children's Fund Regional Office for South Asia
US\$	United States dollar
WHO	World Health Organization
WHOSIS	World Health Organization Statistical Information System

Acknowledgements

The preparation of the report stemmed from interest on behalf of UNICEF Nepal in proposals to strengthen the provision of cash transfers, which might be presented as a “Peace dividend” benefiting the people of Nepal. In the light of previous work conducted by the Social Security Department of the ILO, technical assistance for costing estimates in relation to such benefits was requested. The authors (Karuna Pal, Griet Cattaert, John Woodall and Krzysztof Hagemeyer) would like to express particular appreciation to Ms. Gabriele Köhler (UNICEF ROSA), who has provided extensive advice on some of these proposals, for sharing drafts of her forthcoming report and comments. We would also like to gratefully acknowledge comments and support by Mr. Michael Cichon and Mr. Florian Léger. Appreciation is also expressed to Ms. Ana Mendez for administrative support provided.

Executive summary

Purpose, scope, methodology of report

Nepal has undergone a decade of political instability which has taken its toll on the economic and social development of the country. Following the conclusion of the Comprehensive Peace Treaty in November 2006 and the adoption of the interim new Constitution in January 2007, the hope is that the country has now entered into a phase of durable and stable political environment which will in turn permit the country to concentrate its efforts on its economic and social development.

Nepal's Poverty Reduction Strategy (PRSP) and Tenth Plan 2002-2007 laid down four strategic pillars to which the Government of Nepal aimed to focus its efforts. These aimed at improvements in social sectors, namely through specific "improvements in access and quality of infrastructure, social and economic services in the rural areas", "targeted programmes for social and economic inclusion of the poor and the marginalized communities." (IMF, 2006b). These attest to the importance placed by the government on the development and improvement of social service provision to its citizens. There have been improvements in key social indicators such as the reduction of the poverty headcount from a level of 41.8 per cent in 1995/96 to a level of 30.85 per cent in 2003/04; the reduction of maternal mortality from a level of 850 deaths per 100,000 live births (in 1991) to a level of 740 (in 2000); an increase in the net enrolment at primary school from a level of 65.0 (in 1999) to a level of 78 (in 2003). However, these levels need further improvements.

The preparation of the report stemmed from interest on behalf of UNICEF Nepal in proposals to strengthen the provision of cash transfers, which might be presented as "Quick-impact peace dividend interventions"¹ benefiting the people of Nepal. The aim of the proposal is to lay down a set of costed social security measures which could be made available to the people of Nepal with a view to provide some economic and social stability to Nepalese in the wake of a return to peace. This report builds on a previous ILO report² which presented a costing of a basic social protection benefit package in five Asian countries (Bangladesh, India, Nepal, Pakistan and Vietnam) for the period 2006 to 2034. The 2006 report demonstrated that a set of basic social protection measures – access to basic health care, universal old-age and invalidity benefits, and universal child benefits – was feasible and affordable for those countries within a reasonable strategic framework.

The present study provides an estimate on the feasibility of providing a set of basic social protection interventions in Nepal with an emphasis on child related benefits. The basic social protection measures which are proposed here are non-contributory in nature. The study does not aim to look into existing formal sector social protection schemes. A more detailed description of the existing social protection mechanisms has been provided in Khatiwada (2003 mimeo) which notes that while formal sector schemes covering civil servants and private sector employees exist they cover less than 10 per cent of the work force. We see the non-contributory benefits as an additional basic tier in the overall national social security system.

¹ Working title "Shakti Nepal: Proposal for quick-impact peace dividend interventions", 2nd draft for discussion (prepared by Ms. G. Kohler 18 May 2007).

² See Mizunoya et al. 2006. In the same series see Pal et al, 2005.

Results

Scenario I

The government of Nepal currently provides to its citizens over the age of 75 an old-age allowance, which is universal and unconditional in principle, presently at the rate of Rupees 200 per month (although available at a younger age to destitute widows). Scenario I proposes an extension of this old-age allowance to all citizens over the age of 65. The additional cost of such an extension of the programme which is approximately 0.3 per cent of GDP or 2 per cent of government expenditure seems well within the reach of Nepal.

The package includes apart from a universal old-age and disability pension of Rupees 200 per month (to older persons aged 65 or over and the disabled), a child allowance of Rupees 100 per month for children between 0 and 14 years of age and a birth grant of Rupees 5,336 to be paid to all women who deliver in health facilities; as well as a scaling up of essential health care services and basic education for all children aged 6-11 years of age.

Based on these assumptions, overall costs have been projected over the period to 2034 and are summarized in table E1. The costs, which the estimates show to represent 16 per cent of GDP in 2007, would be expected to decrease to a level of 8 per cent of GDP in 2034. While in absolute amounts, the expenditure would increase over the period, in relative terms as a percentage of GDP it decreases. The estimates have been made on the basis that benefits will be indexed in line with price inflation; most of the reduction in cost as a percentage of GDP is explained by the fact that GDP is assumed to increase at a superior rate.

Table E1. Expenditure by social protection function, Nepal, 2005-2034 (in per cent of GDP)

	2007	2015	2030	2034
Total basic social protection	16.3	14.4	8.4	7.7
Universal old-age and invalidity pensions	0.45	0.39	0.34	0.34
Basic Health care	11.6	7.4	5.1	4.7
Basic education	1.8	2.0	1.6	1.6
Child benefit	2.0	1.5	0.8	0.7
Birth grant	0.1	0.2	0.2	0.2

The main functional expenditure item is health care, reflecting the level of per capita health costs based on estimates by the Commission for Macroeconomics and Health. It is evident that such a level of expenditure (US\$34 per capita) dwarfs the current level of government expenditure (US\$ 4 per capita) (WHO data). An absolute level of expenditure for essential health care based on a world average across all developing countries may not be appropriate in a country with a low level of wages in the public sector like Nepal.

In addition to the old-age and invalidity pensions, child benefits which are set at 50 per cent of the old-age allowance also seem affordable given that with time they will also decrease due to the decreasing proportion of youth in the total population as well as the growth of GDP. It is critical to provide the necessary support to especially the vulnerable families to ensure that children are given the opportunity and the means to attend school, are properly nourished, are not obliged to seek employment to bring income for family survival. It is an investment in the future generations and in the prosperity of the nation.

Maternal mortality in Nepal which stands at 740 deaths per 100,000 live births (2000) is very high. With only 15 per cent of all deliveries taking place in health centres (and only 5 per cent in the poorest quintile), one of the first steps towards reducing deaths at child birth

is encouraging mothers to deliver at health centres through a financial contribution towards the costs they would need to bear (Rupees 5,336 which is approximately US\$ 392 PPP). The total cost of this birth grant, assuming an annual increase of 10 per cent in the numbers of births that would take place in health centres, is very low, approximately 0.1 per cent of GDP.

If current levels of public spending on basic social protection were kept constant, Nepal would be able to finance only a small portion of the total cost through its own resources. The projections suggest that 16 per cent of the total cost could be covered out of domestic resources in 2007, increasing to 47 per cent by 2034. However, if government spending on basic social protection were to be increased to one third of the total public expenditure, Nepal would be able to cover a third of the total costs in 2007, and over 94 per cent of the cost by 2034. The rest would need to come from external financial sources.

It should be noted that the total costs calculated are gross amounts, for the overall package of basic social protection benefits envisaged, including where relevant the (modest) provisions already put in place by the government. Expenditure on other social security provisions (such as on formal sector social security provisions; expenditure on secondary and tertiary education; expenditure on health other than basic health care) would be in addition to the costs calculated by the model. Expenditure on non-basic social protection is estimated to amount to approximately 2.2 per cent of GDP in 2007. Therefore total social expenditure as shown in table E2, which includes basic and non-basic provisions, amounts to 18.5 per cent of GDP in 2007.

Table E2. Total social protection expenditure (basic and non-basic provisions), Scenario I, Nepal, 2007

	2007
Total expenditure on social protection in millions of US\$	1486.4
<i>Basic social protection</i>	1312.4
<i>Other social protection</i>	174.0
Total expenditure on social protection in per cent of GDP	18.5%
<i>Basic social protection</i>	16.3%
<i>Other social protection</i>	2.2%

Scenario II

Scenario II is identical to scenario I with respect to basic education and the birth grant. However under Scenario II the old-age and disability pension and the child benefit are no longer based on the actual old-age allowance but they are linked to the national total poverty line per person of Rupees 7,696 (annual). It is assumed that the poverty gap which needs to be covered is 50 per cent of this threshold and therefore the pension paid which will be provided is Rupees 3,848 per year. This corresponds to approximately Rupees 316 per month. The pension benefits are higher than under scenario I. The child benefits represent 50 per cent of the old-age pension and are paid to all between 0-14 years of age. In addition, basic health care costs were based on national cost estimates and thus much lower than under scenario I. The assumptions for education and the assumptions for the birth grant are similar to the ones under scenario I.

Projected costs represents 7.8 per cent of GDP in 2007 decreasing to a level of 6 per cent of GDP by 2034. The difference with Scenario I can be attributed to the lower health cost (under Scenario I basic health cost represents 11.6 per cent of GDP in 2007 while under scenario II basic health cost represents only 1.4 per cent of GDP). However universal old-age and disability pension and the universal child benefit are more important than under

scenario I, but the relative cost increase (in percentage of GDP) is less important than the relative cost decrease of basic health care.

If the share of government expenditure allocated to basic social protection were to be fixed at 2006 levels, Nepal would be able to cover 33 per cent of the total cost through its own resources in 2007. This ratio will increase to about 60 per cent by 2034. The rest would need to come from external financial sources.

If the Government would allocate one third of their expenditure to basic social protection, Nepal would be able to cover 66 per cent of the total cost by its own resources in 2007, and the entire cost from 2024. The rest would need to come from external financial sources.

The same argument advanced under scenario I concerning the total social expenditure, which includes basic and non-basic provisions holds here too. Therefore total social expenditure, amounts to 10 per cent of GDP in 2007.

Table 5.1. Total social protection expenditure (basic and non-basic provisions), Scenario II, Nepal, 2007

	2007
Total expenditure on social protection in millions of US\$	803.8
<i>Basic social protection</i>	629.8
<i>Other social protection</i>	174.0
Total expenditure on social protection in per cent of GDP	10.0%
<i>Basic social protection</i>	7.8%
<i>Other social protection</i>	2.2%

Scenario III

Scenario III estimates the cost of a more generous old-age and disability pension (Rupees 400 per month or approximately US\$ 1 PPP per day) and a more generous child benefit (Rupees 200 per month or approximately US\$ 0.50 PPP per day) compared to scenario I and II. Even under this option the old-age and invalidity cash transfer represents throughout the projection period less than 1 per cent of GDP annually. The extension of the old-age cash transfer in terms of coverage (to all over the age of 65) and in terms of amounts (an increase by Rupees 200 of the current old-age allowance) would require the government to allocate an additional 0.67 per cent of GDP or 3.9 per cent of government expenditure in 2007.

The universal child benefit is paid to all children aged 0-18 (and not like in the first two scenarios for children aged 0-14) and represents 50 per cent of the old-age and disability pension. The costs in terms of GDP would decrease from a level of 4.8 per cent (in 2007) to a level of 1.8 per cent (in 2034). For the cost of the universal birth grant, the projections were based on a lower total cost due to a lower estimated transport cost. As in scenario I, health care costs are based on per capita estimates of the Commission on Macroeconomics and Health and thus represent the major share of expenditure (more than half in 2007) and costs 11.6 per cent of GDP in 2007 decreasing to 4.7 per cent of GDP in 2034.

Based on these assumptions, the overall cost would be higher than in Scenario I and II: 20 per cent of GDP in 2007 decreasing to a level of 9 per cent of GDP in 2034. As is to be expected the proportion which can be financed through national resources is lower and even under the option that one third of government expenditure is allocated to finance basic social protection only 26 per cent (in 2007) and 78 per cent (in 2034) can be financed from national resources. The rest would need to come from external financial sources.

Scenario IV

Scenario IV is identical to Scenario III with respect to essential health care, old-age and disability pension, and education grant. However the universal child benefit (children aged 0-18) and the birth grant are replaced by targeted benefits to the poorest.

Based on these assumptions, the overall cost would reach 16 per cent of GDP in 2007 decreasing to a level of 8 per cent of GDP in 2034. The cost difference (16 per cent of GDP compared to 20 per cent of GDP) can be attributed to the lower cost of the child benefit (only to children in poor households). The cost decrease of the birth grant is much less important.

It should be noted that various cross-country analyses have demonstrated that targeting may not be the best approach to reach the poorest. Furthermore, targeting requires specific administrative procedures to be put into place and thus involve higher administrative costs. The pros and cons of targeting the poorest in the context of Nepal would need to be studied more carefully and the estimated savings in terms of costs through targeting will have to be weighed with respect to the its foreseen coverage and impact.

Conclusions

It is a well recognized fact that poverty is multi-faceted. It manifests itself not only in the form of lack of income security on the one side but also in the form of a lack of access to clean water, basic services of health and education amongst others. And all these elements are firmly interconnected. Basic social security measures in the form of access to health care and income security during old-age, income support for families with children are an essential component in national poverty reduction programmes. A recent ILO report (Townsend, 2007) reviewed the situation of social security in national development in the OECD countries and concluded that there is a strong correlation between high spending on public services and social security and lower levels of poverty and inequality and that the early-industrialized countries historically developed social security schemes early on and allocated high levels of spending on it.

With the recent positive political developments in Nepal, the country has now the opportunity to concentrate and focus its resources on what it now considers as priorities for its economic and social development. Within this context, attention has been drawn to the need for a modern approach to labour market regulation and development. The ILO stands ready to assist the government in the consideration of labour market reforms (study by Kyloh, 2007 internal document, forthcoming), as a part of which contingent reforms to relevant social security provisions would also be considered. The design of future social security provisions is a matter of national social policy taking into account priority areas of improvement and financial and fiscal feasibility.

Building on the previous ILO report (Mizunoya et al, 2006) and a request mediated by UNICEF ROSA, the present report presents a costing of various social security provisions to assist national policy makers and the international donor community in the decision making process.

The present technical report shows that a basic set of non-contributory universal social security provisions is fiscally feasible even for Nepal. Building on the existing commitment of the Government of Nepal, which has been providing over the last decade an old-age allowance for the elderly over 75, scenario I proposed an extension of the programme to all the elderly over the age of 65. The resulting additional cost of 0.3 per cent of GDP or 2 per cent of government expenditure seems well within the reach of Nepal. An additional child benefit linked to the old-age allowance and birth grants to

encourage women to deliver in health centres are also well within the means of the Government. The costing has shown that while in absolute terms the costs will increase over the next two and a half decades, the relative costs in terms of GDP decrease. Financial support from donors can be limited if the proportion of government expenditure devoted to social security can be increased.

The Social partners and other national stakeholders will need to ascertain what the country should and can afford to implement. Social security is a long-term investment. Short-term ad-hoc interventions while providing support in crisis situations do not provide the safety net which vulnerable segments of the population require. The rest is a matter now of national commitment and priority.

1. Introduction

Nepal has undergone a decade of political instability which after the conclusion of the Peace Treaty in November 2006, should hopefully lead to a durable and stable political environment. However, a conflict situation which has lasted over a decade, takes a toll on human, social and economic development. According to the Internal Displacement Monitoring Centre (IDMC, 2006) during the conflict period up to 200,000 people have been internally displaced from the rural areas to urban centres leading to them living in situations of economic and social insecurity and poverty and placing heavy burden on the social infrastructures in the urban centres. Amongst the segments of the population most adversely effected by such situation of crisis are the children and women. With the younger members of family moving to the urban centres and no longer providing economic support to the older members of the family, it is the elderly who also in these circumstances are left to fend for themselves. In its report on a common appeal for support, the United Nations (UN, 2007 pp.1) emphasizes the need to put into place crucial effective measures which tackle the issues of food security, health, displacement, disaster preparedness and protection (specifically child protection).

This is where well designed safety nets can provide the much needed support to vulnerable segments of the population in order to avoid that they get trapped in the spiral of poverty and social exclusion. In its 2005 report (ILO, 2005), social protection was identified by the ILO as one of the three key elements “of a secure social safety net for those affected by crisis”. Social protection through basic pensions, basic health care and basic education are key to alleviating and preventing poverty and can help mitigate the adverse effects of chronic poverty (ILO 2001; 2002). Following an analysis of the development of social security and its implication on poverty reduction in OECD countries, a recent ILO report (Townsend, 2007) notes that “... social security schemes involving entire populations and categories of the population like young children and disabled people in developing countries, i.e. social insurance and tax-financed “universal” group schemes, deserve priority, even if for reasons of limited resources they have to be phased in by stages...”.

Well designed social security provisions are a necessary component of measures put in place to attain the targets set by the international community in the majority of the Millennium Development Goals. The UNDP in its 2006 report on the assessment of needs for Nepal in order to achieve the MDG targets, indicated that more than US\$ 6.3 billion were needed for reducing hunger, improving education and developing infrastructure (UNDP, 2006).

With the government having embarked on a long awaited peace process, the healing process for those people who were the direct victims of the social unrest should be a priority. Various initiatives from the international community have been or are being put forth such as for example the Common appeal for support from the United Nations (UN, 2007) and the proposal for Quick-impact “peace dividend interventions” by UNICEF (forthcoming). It is in the context of the latter proposal that UNICEF requested the technical assistance of the ILO in mid-May 2007. The present technical note provides a set of costed social protection measures which the Government of Nepal may wish to consider. The decision of which social protection mechanisms will be extended or put into place is a matter of national social policy and the availability of the necessary fiscal space in the national budget.

The ILO’s recent social security policy paper (ILO, 2006, pp.38), makes the case for national social security systems which are flexible in order to adapt to the state of economic development and yet pursue certain key objectives of universality, poverty alleviation, the containment of social insecurity through social rights, long-term growth promotion, a fair distribution of income and non-discrimination. With a GNI of less than

US\$ 900, Nepal falls into the group of low-income countries, for which a possible coherent package is suggested in the following framework:

Table 1.1. Social security at different stages of economic development

Low-income countries	GNI per capita (2005), less than US\$900			Possible range of public social spending as % of GDP
	Children/adolescents	Active age population	Old age	
Access to health care	Universal access based on pluralistic financing structures; if necessary supported by international financing, separate subsystems for formal and informal sector possible			3-5
Access to education/training	Universal access, supported by cash transfers	Access to employment services		2-4
Income security	Orphans benefits; child/family benefits, universal or conditional on school attendance	Maternity protection; universal invalidity and survivor provisions; self-targeted public employment schemes assisted by targeted cash transfers if feasible	Universal basic pensions with national and international financing; additional social insurance for formal sector if possible	2-3

Source: ILO, 2006.

Making national resources available should also be an issue of national priority in order to ensure that the social protection measures put into place are fiscally sound and viable in the long-term. Also social protection measures are long-term measures and require a commitment over time. The international donor community will need to be forthcoming to make available financial aid to the Government during a defined period of time. In the longer-term the objective should be of course that countries should aspire to financial self-sufficiency.

2. The demographic context

In 2001, according to the census the population of Nepal was over 23 million. Based on the United Nations' population projections from World Population Prospects 2002 (medium variant) (United Nations 2004b) the population of Nepal is expected to reach over 50 million by 2050. Table 2.1 provides the share of certain age-groups in the population and dependency ratios (defined as the number of children and/or elderly per working-age population). While the group of children (0-14) shows an annual average rate of increase of only 0.5 per cent over the projection period, the proportion of this group in the total population decreases from a level of 38.8 per cent in 2007 to 28.2 per cent in 2034.³ Meanwhile, the group of the elderly over the age of 65 years over the projection period shows an annual average rate of increase of 3.3 per cent and the proportion that this group represents in the population increases from a level of 3.8 per cent in 2007 to a level of 5.9 per cent in 2034.

Thus, the children dependency ratio will decrease significantly while the elderly dependency ratio will increase slightly over the projection period.

Table 2.1. Proportion of population in selected age groups and dependency ratios, Nepal, 2005-2034 (in per cent of the total population)

Age group	Proportion of population			Dependency ratios		
	2007	2015	2034	2007	2015	2034
0-4	13.9	12.2	9.4	0.24	0.20	0.14
5-14	24.9	23.4	18.7	0.43	0.39	0.28
0-14	38.8	35.6	28.2	0.68	0.59	0.43
15-64	57.3	60.2	65.9			
65 and older	3.8	4.2	5.9	0.07	0.07	0.09
75 and older	1.1	1.2	1.8	0.02	0.02	0.03

Source: United Nations 2004b. World Population Prospects: The 2002 Revision, New York: United Nations.

³ It is understood that recent estimates made by UNFPA/Nepal may show a rather more detailed picture.

3. The socio-economic context

3.1. The economic environment

The economy grew by an annual average growth rate of 3.75 per cent between 1970-2003 and well below some of its South Asian neighbors due to the political instability and conflict situation (IMF, 2006e). Between 2000 and 2007, the economy grew by 3.02 per cent with a contraction of the economy in 2001 by 0.7 per cent. However, following the recent turn of events which have led to the Peace Treaty in 2006, the fiscal year budget of 2007 has aimed a GDP growth rate of 5 per cent (ADB, 2006).

As a consequence of improved economic growth the first quarter of fiscal year 2007 recorded a revenue surplus due to growth in national revenue and an increase in foreign grants (ADB, 2006).

3.2. Government revenue and expenditure

Over the past years, Government expenditure on education, health and social security and welfare have been low. Table 3.1 provides an overview over the last six years.

Table 3.1. Government expenditure on education, health and social security and welfare, Nepal 2000-2006 (in per cent of GDP and per cent of Government expenditure)

	2000	2001	2002	2003	2004	2005	2006
Education							
<i>In % of GDP</i>	2.5	2.7	3.1	2.9	2.9	3.2	3.2
<i>In % of Government expenditure</i>	15.3	14.9	17.8	17.8	17.6	19.0	18.9
Health							
<i>In % of GDP</i>	0.9	0.9	0.9	0.8	0.8	0.9	1.0
<i>In % of Government expenditure</i>	5.7	4.8	5.3	4.9	4.8	5.2	5.7
Social security and welfare							
<i>In % of GDP</i>	0.5	0.5	0.8	0.9	0.8	0.8	0.8
<i>In % of Government expenditure</i>	3.1	2.8	4.8	5.2	5.1	4.7	4.8

Source: IMF data on consolidated central government expenditure for education, health, and social security and welfare (IMF, 2007). Own calculations.

While, the average annual growth rate of government expenditure in education, health and social security and welfare between 2000 and 2006 have been quite high respectively 12.7 per cent, 9.1 per cent and 17.1 per cent, in respect of GDP these expenditure levels have been relatively low.

According to WHO Health accounts in 2005, total health expenditure including private expenditure represented 5.6 per cent of GDP (of which general government expenditure on health represented 1.5 per cent of GDP and private expenditure represented 4.1 per cent of GDP).

Current public social sector expenditure includes expenditure on items such as formal sector social security provisions; secondary and tertiary education; health other than basic health care. For present purposes it is necessary to estimate the relative proportions in which current expenditure is allocated to these items. Accordingly, it was assumed that in 2006 approximately 10 per cent of public expenditure on social security and welfare was dedicated to basic provisions; approximately 90 per cent of public health expenditure was on basic health provisions; and that approximately 49 per cent of expenditure on education

was on primary education (UNESCO data). This amounts to approximately 2.5 per cent of GDP in 2006 (corresponding to approximately 14.9 per cent of government expenditure) which was spent on social protection provisions which are considered as basic in the present report. This level of Government expenditure was used as the benchmark for the level of government spending during the projection period on basic social protection benefits under option 1 in all the scenarios. This will allow an estimate to be made of external donor financing required. The model calculates therefore the net expenditure on basic social protection required as it is assumed that the current government spending will be reallocated to provide for the benefits described in sections 4 and 5.

On the one hand while the model calculates net basic social protection expenditure, the remaining 2.5 per cent of GDP which were spent on non-basic social protection provisions (such as formal sector social security provisions; expenditure on secondary and tertiary education; expenditure on health other than basic health care) in 2006 are additional expenditures. It is evident that not all social protection expenditure can and should be reallocated to the provision of basic benefits, therefore it should be borne in mind that over and above the costs calculated and presented in the report for the provision of basic social protection approximately an additional 2.5 per cent of GDP is needed to cover non-basic social protection provisions.

3.3. Poverty and health developments

The recent Nepal Poverty Trends report (CBS, 2005 tables 1.2.1 and 1.4.4) shows improvements in the incidence and depth of poverty as measured by the poverty headcount and the poverty gap measurements between 1995-96 and 2003-04. The Poverty headcount declined from 41.8 per cent to 30.8 per cent of the population and the poverty gap of those who were under the national poverty line⁴ declined from 11.75 per cent to 7.5 per cent. The more numerous the number of children in the household the higher the headcount poverty rate. According to the same report, the poverty headcount for households with 3 or more children under the age of six was 54 per cent whereas it was 29.3 per cent in households with 1 child under the age of six.

There have been significant improvements in key social indicators such as the reduction of poverty headcount from a level of 41.8 per cent in 1995/96 to a level of 30.85 per cent in 2003/04; the reduction of maternal mortality from a level of 850 deaths per 100,000 live births (in 1991) to a level of 740 (in 2000); the increase in the net enrolment at primary school from a level of 65.0 (in 1999) to a level of 78 (in 2003). However, while these improvements are to be welcomed these indicators still attest to quite high levels of vulnerability as shown in Table 3.2. The individual who does not have the economic means to ensure that he/she can provide food and shelter to him/herself and the family; the child who is taken out of school because the family needs the income he/she can bring in to survive; the mother whose newborn dies at birth because she does not have the means to go to health centre or has no access to a health centre cannot be consoled by these figures. Behind each of these figures are human beings. There is therefore the need for increased and sustained investments through capital expenditure (building of schools, health centres, etc) and cash transfers (child benefits, pensions, etc). Quick intervention measures may aim at these in priority.

⁴ The poverty line was defined by the CBS using the cost-of-basic-needs method (see CBS, 2005).

Table 3.2. Core social indicators, Nepal, various years

Indicator	Nepal
Life expectancy at birth (years) males (2005)	61.0
Life expectancy at birth (years) females (2005)	61.0
Infant mortality rate(per 1,000 live births) (2005)	56
Under 5 mortality rate (per 1,000 live births) (2005)	74
Children underweight for age (% under age 5) (2001)	43
Newborns with low birth weight (%) (2001)	21
Maternal mortality ratio (per 100 000 live births) adjusted (2000)	740
Net primary enrolment ratio (%) (2001)	78
Human Development Index rank (2004)	138

Source: UNDP Human Development Report 2006 statistics; WHOSIS database.

In the poorest quintile of the population these rates are much higher. In 2004, under 5 mortality was at 130 per 1,000 live births in the poorest 20 per cent of the population and 68 in the richest 20 per cent; and infant mortality was at 86 per 1,000 live births in the poorest quintile and 53 in the highest quintile in 2004 (UNDP, 2006). This shows the necessity of ensuring that any social protection measure which is put into place should reach the poorest quintile of the population where they are most urgently needed. However, the question as to whether these should be means-tested is debatable as there is mounting international evidence that targeting benefits through means testing often leads to the most needy being left out and also is more costly (Coady et al., 2004). According to the World Bank “screening out the poorest through targeting is a bigger problem than including the non-poor; the poorest may actually lose from too much fine-tuning in targeting” (World Bank, 1997).

4. The components of a basic social protection package

The recent ILO report (Mizunoya et al, 2006) costed a set of basic social protection benefits for five Asian countries including Nepal. The study took into account a universal old-age pension for all over the age of 65, a universal invalidity pension, a cash benefit for children, and access to basic health care. The study developed three scenarios, the first one based on international thresholds (a pension in line with US\$1 PPP poverty threshold; per capita health care costs at levels set out by the Commission on Macroeconomics and Health at US\$34 per year on average in low-income countries by 2007, and US\$38 in 2015). The second scenario calculated benefits in line with country specific cost base. The third scenario proposed a cash transfer to the 10 per cent most destitute households of US\$ 13.71 (PPP). The results from the study showed that basic social protection is affordable if there is government commitment and that in the medium term a major part (if not 100 per cent under the second scenario) could be financed out of domestic resources if the share of public spending on basic social protection were to be increased to up to one-fifth of total public budget.

The present technical note addresses a similar benefit package but with a slight variation in the levels of individual benefits and the category of the population targeted for the old-age pension and the child benefits; universal access to primary education and block grants to schools in support of the socially excluded; and a birth grant to women delivering in health centers. Gassmann and Behrendt (2006) have shown that modest old-age pensions and child benefits could reduce food poverty rates by 40 per cent and the poverty gap by half in Senegal and by 30 per cent in Tanzania with more marked effects in households with children and with elderly members. Thus cash transfers are an essential element of poverty reduction strategies.

4.1. Basic universal old-age and disability pensions

According to ILO estimates, only 20 per cent of the world's population benefits from adequate social protection coverage. In large parts of Asia, coverage for old-age income protection is less than 10 per cent of the labour force. In Nepal less than 10 per cent of the labour force is covered for old-age protection through formal provisions (Khatiwada, 2003 mimeo).

It is internationally recognized that universal basic pensions have a strong impact on improving the livelihoods of older persons and could alleviate at least the most severe forms of poverty.⁵ Old-age pensions are now globally acknowledged as an effective poverty alleviation mechanism for the elderly (DfID 2005; HelpAge International 2004). The receipt of the social pension by the elderly, and especially by the poor not only brings in much needed regular income but also provides crucial financial support to vulnerable households including children. Pension recipients redistribute cash income in households, finance school fees and medication, etc (HelpAge International, 2004). In South Africa the trickle down positive effects of old-age pensions have been a reduction of 5 per cent in the number of persons living below the poverty line and demonstrated positive impacts on health and nutrition of children (Save the Children UK et al., 2005).

⁵ Cf. e.g. Barrientos 2002; Barrientos, et al. 2003; Barrientos and Lloyd-Sherlock 2003; Charlton and McKinnon 2001.

The Government of Nepal, realizing the importance and the necessity of providing such a benefit to its elderly citizens put into place in 1995 an old-age allowance program. The program started by providing a universal, unconditional monthly social pension to all persons over the age of 75⁶ of Rupees 100 which was increased in 1999 to Rupees 150 (ie US\$ 0.36 PPP per day), and in 2006 to Rupees 200. The current old-age allowance represents 31 per cent of the national poverty line and corresponds to US\$ 0.48 PPP per day.

Amongst the social pension schemes implemented worldwide the old-age allowance scheme in Nepal imposes the highest qualifying age for benefit receipt. Seven of the thirteen schemes documented impose a qualifying age of 65 or under (Barrientos and Holmes, 2006). According to the UN population estimates (see Table 2.1.) in 2007 the population in Nepal over the age of 65 represents 3.8 per cent of the population while persons 75 years of age and over represent approximately 1.1 per cent of the population. Life expectancy at birth was 61 years in 2005 for males and females alike and healthy life expectancy (HALE) at birth for males was 52 years and for females was 51 years according to WHO Core Health indicators. In view of the above indicators the present report provides a financial and fiscal costing of a benefit provided to all the elderly above the age of 65.

Administration of the benefits of the old-age allowance program in Nepal is done (in principle, and in practice whenever possible) by the municipalities and the village development committees. According to a study based on a survey undertaken among recipients of the social pension (Rajan, 2003), 83 per cent of the eligible elderly were receiving the benefit. At the time of the survey in 2002, the old-age allowance was Rupees 150. The amount of the benefit was considered as sufficient to meet their daily needs by only 40 per cent of the beneficiaries surveyed, whereas approximately 26 per cent considered that the benefit should be doubled and about 16 per cent that it should be tripled.

Based on the current level of the old-age allowance, Scenario I proposes an extension of the programme to all persons above the age of 65. An adequate level of a benefit imperatively needs to relate to specific country parameters be it the country's poverty line or a similar reference in order to pay more attention to national circumstances (Scenario II). This was ascertained from information provided in the recent report on poverty trends in Nepal (CBS, 2005). Taking into account the total poverty line per person per year (2003-04 NLSS) of Rupees 7,696 (increasing in line with inflation) it was assumed that the poverty gap to be filled by the pension was 50 per cent of this absolute level. The total poverty line for 2004 corresponds to US\$ 566 per year PPP (or US\$ 1.6 a day (PPP)) and represented 40 per cent of GDP per capita in 2004. Over the projection period while the actual absolute amount of the poverty line increases due to inflation indexing, its relative level with respect to GDP per capita declines.

Following discussions with UNICEF ROSA, a third scenario (Scenario III) which proposes a benefit of Rupees 400 per month (ie. US\$1 a day (PPP)) was also costed. It was assumed that the 100 per cent of this amount would be paid to beneficiaries. The ILO study on the costing for Asian countries (Mizunoya et al, 2006) provided calculations for the same extreme poverty threshold but further assumed that the pension paid out represented 50 per cent of this threshold thus closing the estimated poverty gap.

A disability pension of 150 Rupees per month is already provided in Nepal to the disabled whose age is over 16 years. Due to a lack of statistical data, in the model it was estimated

⁶ Pension of Rupees 150 per month is available at younger ages (60 onwards) for destitute widows.

that approximately 1 per cent of persons of working-age would be eligible for a disability pension. The pension level projected in the different scenarios reflect those used for the old-age pension.

For the purpose of the costing it is assumed that both old-age and disability pensions will be indexed in line with inflation of prices, so as to ensure the maintenance of their purchasing power. The old-age allowance provided to the elderly in Nepal was last indexed in 2006 (increased to Rupees 200 per month). A cash benefit which is not indexed in the context of an inflationary environment will quickly become meaningless and no longer contribute towards achieving the income security or poverty alleviation goal it set out at the onset to achieve. The form of indexation whether in line with price inflation (which permits to maintain the purchasing power of the benefit) or in line with GDP growth (which permits to benefit from growth in the economy) or a combination of the two (50 per cent of price inflation and 50 per cent of GDP growth) should be decided at the onset. The periodicity of the indexation of benefits could be either annual, or every given number of years, or when the consumer price index growth rate reaches a given level. It should also be decided at the onset. It is critical to guarantee a mechanism for regular indexation of benefits.

As has been ascertained by the calculations, even though the absolute number of persons in the group of the elderly over the age of 65 will grow cash transfers to elderly and the disabled should not place an unmanageable burden on the Government.

4.2. Basic health care

The link between good health, a productive life, economic development and poverty reduction is not contested. Therefore, it is indispensable that the basic social protection package also contains a strong health component. For Nepal, the ILO has estimated the staff related national access deficit as 87 per cent which means that 87 per cent of the population is not receiving the quality of health care that could be provided to them by an adequately staffed network of health professionals (ILO, 2007). According to WHO Health accounts in 2005, total health expenditure including private expenditure represented 5.6 per cent of GDP.

As was done in Mizunoya et al (2006), two scenarios were calculated for estimating health costs. In Scenario I international per capita costs for scaling up priority health interventions in low-income countries set by the Commission on Macroeconomics and Health of US\$34 per year on average in low-income countries by 2007, and US\$38 in 2015 (Commission on Macroeconomics and Health 2001: 55, 165-167)⁷ were used to estimate the cost of providing access to basic health care.⁸

⁷ Amounts are expressed in US\$2002. The respective estimate for least developed countries is US\$34 for 2007 and US\$41 for 2015. For low-middle-income countries, the estimate is US\$36 and US\$40, respectively. The authors note that “[...] at purchasing power parities, [...] the minimum cost of the essential package would probably be above \$80 per person per year” (Commission on Macroeconomics and Health 2001: 120, footnote 79).

⁸ There may be slight difference in the total costs which have been calculated due to the fact that some data have been updated for the present technical study.

In Scenario II the country specific cost base for the projection of health expenditure has been used.⁹ This approximation takes into account the following individual parameters: medical staff ratio to population; wages of medical staff and overhead non-staff costs. It is assumed that 300 medical staff are available per 100,000 population. This corresponds to approximately the estimates of health personnel in Namibia in 1997 (which represents approximately 40 per cent of the level in the United Kingdom) (WHOSIS). The level of Namibia was chosen as since 1990, the Namibian government has set-out a policy framework *Towards Achieving Health for All Namibians* and the government committed itself to providing access to health services for all Namibians by the year 2000.¹⁰ Thus the levels achieved by Namibia should be indicative of regional possibilities and requirements for Universal basic health care provision. Once the number of health staff required to deliver the services has been calculated staff costs were calculated. These were based on average wages of health care staff. Where no separate data on wages in the health sector was available, it was assumed that health staff average wage equal teachers' average wage. Other non-staff health costs are assumed to be 67 per cent of wage cost.

4.3. Basic education

Human capital investment through education is an important component of economic growth. Although the development is significant, the situation where Nepal stands now in terms of educational status is still far from the world status. About 50 per cent of the 6+ year age group population is still illiterate, and about 30 per cent of primary age children are still not enrolled in school. A significant proportion of the children who are enrolled in primary school repeat Grade 1 or drop out of school. Many of these problems pertain to the social and economic situation of the country (UNESCO, 2000).

Table 4.1. Literacy rates, 2004, Nepal

Adult (15+) (in %)			Youth (15-24) (in %)		
Total	M	F	Total	M	F
48.6	42.7	34.9	70.1	80.6	60.1

Source: UNESCO.

The schooling system in Nepal has been divided in four levels: primary (age level 6-11), lower secondary (age level 11-13), secondary (age level 14-15) and higher education. There is no national law in Nepal establishing compulsory schooling, although free education for all is envisaged in Article 17 of the Interim Constitution adopted in 2007.

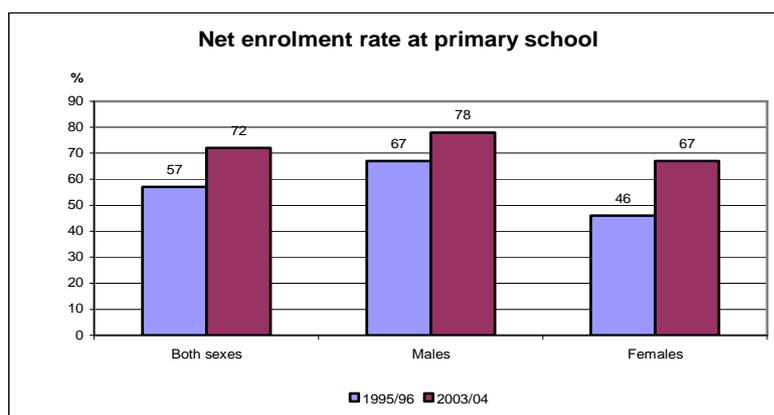
Education in Nepal and primary education in particular has developed significantly since 1971 when the New Education Plan was introduced. Between 1971 and 2001 the number of primary schools increased by nearly three fold (from 10,600 to 26,036). Between 1991 and 2001, on an average more than 900 new primary schools were added each year and the number of primary school teachers has reached nearly 100,000 in 2001. However according to the Nepal Living Standards Survey of 2003/04, approximately 21 per cent of the relevant population never attended school. Among these never-attendees, 33 per cent reported "parents did not want" as the primary reason. It should be noted that absence of nearby schools is a factor for only 4 per cent of never-attendees (CBS, 2004a).

⁹ In this regard the estimates follow the methodology used in the two previous ILO reports (Pal, et al., 2005 and Mizunoya et al., 2006).

¹⁰ Ministry of Health and Social Services, Namibia.

The UNESCO Education for All (EFA) initiative set out to achieve universal primary education by 2015 (UNESCO, 2003). Within the framework of the EFA Initiative, the cost of achieving universal primary education has been based on estimated recurrent unit costs (costs of one year of primary education per child) plus capital expenditure (Delamonica et al, 2001). The recurrent unit cost for Nepal has been estimated at US\$29 (Delamonica et al, 2001 pp.25 unit cost expressed in 1998 US\$) . This represents approximately 13 per cent of GDP per capita. In addition to recurrent expenditure, about 15 per cent of expenditure of primary education is allocated to capital expenditure on average (Delamonica et al, 2001, pp 13-16).

Figure 4.1. Net enrolment rate at primary school, Nepal 1995/96-2003/04



Source: CBS (2004a).

The projection of basic education expenditure has been based on the net enrolment ratio (NER) which measures the proportion of children 6-11 years who are enrolled in primary education. The latest available data was used and it was assumed that the NER would reach a level of 100 per cent by 2015. A significant proportion of children are in fact enrolled in private schools; for the projections it was assumed that this proportion would reach 10 per cent of the children by 2015 (Bruns et al., eds. 2003).

4.4. Child benefit

It is a well acknowledged fact that poverty rates are higher in households with children than in households without (see section 3.3). Children in poor households experience higher mortality rates, higher health related problems and higher illiteracy rates trapping them in the vicious cycle of poverty. Economic vulnerability of these poor households leads to children being required to bring in an income for survival of the household and thus puts these children at the risk of being forced into the worst forms of child labour. The positive effects of social transfer to households with children have been ascertained. In Hungary and in Poland it was estimated that poverty rates for children would have been respectively 85 per cent and 33 per cent higher in the mid-1990s if family allowance schemes had not been providing cash transfers (Samson et al, 2006, pg. 62).

According to the recent Nepal Living Standards Survey (CBS, 2004b pp.53, 62) approximately 26.8 per cent of children in the age group 5 to 9 years were either in employment or not active and thus not attending school. Furthermore, in the age group 10-14 approximately 21.3 per cent of the children did not attend school because they were in employment (approximately 17 per cent) or were not active (5 per cent). A further 33.5 per cent of the children in this age group attended school and were engaged in work. In seeking to identify the reasons why a significant number of children have never attended

school, one of the main motives cited in response to the Nepal Living Standards Survey especially by males was that it was “too expensive”. A child benefit which would aim to get those children who are not in school back into formal education and out of child labour would seem a most urgent social protection measure which the Government of Nepal could take. However, in order to avoid the high administrative costs which would go into targeting a specific group and means-testing and to avoid leaving out those who most need the benefit, a universal child benefit may be most appropriate.

Some developing countries have implemented conditional child benefit schemes which provide cash transfers to households with children such as the Bolsa Escola programme in Brazil and the Progresá programme in Mexico. The latter programme has improved primary and secondary school enrolment rates for children and the nutritional status of 70 per cent of households as well as improved the health status of children under 5 years of age (Barrientos and Holmes, 2006). However, conditional transfer systems necessitate heavy infrastructure, administrative and monitoring requirements and they often end up excluding the poorest (Samson et al, 2006, pg. 62).

As in the ILO study by Mizunoya et al (2006) an unconditional child benefit (in the form of a cash transfer) was included in the basic social protection benefit package. However, by comparison with the 2006 study, the present technical note proposes in Scenario I a level of child benefit equivalent to half of the universal old-age and disability pension benefit.¹¹ It has thus been set at Rupees 100 per month paid to all children between the ages of 0-14. In line with the absolute poverty line, Scenario II sets a benefit level of Rupees 1,924 per year (ie. US\$0.39 (PPP) per day) paid to all children between the ages of 0-14. In Scenario III, the level of the child benefit is of Rupees 200 per month (ie. US\$0.50 per day (PPP)), that is half of the basic old-age and disability pension in Scenario III and paid to all children between the ages of 0-18.

Following discussions with UNICEF ROSA, a fourth scenario (Scenario IV) which proposes a benefit of Rupees 200 per month (ie. US\$0.50 a day (PPP)) paid to all children aged 0-18 living below the poverty line was calculated. The arguments related to the issue of targeting indicated in section 3.3 should be taken into account.

Child benefits in the model have been indexed in line with inflation. The arguments on indexation presented in the section on old-age and invalidity pensions are also valid for child benefits, particularly as the benefit amounts are lower.

4.5. Birth grants

Numerous countries around the world, including many developing countries in Africa and Latin America, offer within the framework of their formal social security provisions family allowances which include a child grant at the birth of a child. In many cases a prenatal allowance is also paid in a specified number of installments and on the condition that the pregnant woman undergoes prescribed medical examinations. The UNDP report (UNDP, 2006) also identified the need for increasing deliveries which are attended by skilled health personnel in order to reduce maternal and child mortality. With respect to attaining the MDG target of reduction of infant mortality, Nepal has been identified as progressing very slowly. The World Health Report 2005 (WHO, 2005) indicates that “...three quarters of all neonatal deaths could be prevented if women were adequately nourished and received appropriate care during pregnancy, childbirth and the postnatal period...”. Maternal mortality in Nepal is amongst the highest in the region as indicated in table 4.2.

¹¹ The assumed relationship between the child benefit and the old-age and disability pension is based on the equivalence scale calculations for Tanzania in Lancaster, et al. 1999.

Table 4.2. Maternal mortality ratio (per 100,000 live births) in selected countries in South Asia, 2000

Indicator	Level
Nepal	740
Bangladesh	380
India	540
Pakistan	500
Sri Lanka	92

Source: WHOSIS database.

UNICEF Nepal and UNICEF ROSA have highlighted the potential value of uprating the value of birth grants to women who deliver in health centres, which are already payable but at low rates. Accordingly, the present report estimates the costs of a birth grant to be provided to women who deliver in health facilities. The Nepal Living Standards Survey (CBS, 2004a, Table 7.8) estimates that on average 15.4 per cent of the deliveries in 2003-04 took place in primary health facilities and hospitals including private hospitals. However, in the 20 per cent poorest quintile of the population only 4.6 per cent of the deliveries took place in primary health facilities and hospitals including private hospitals.

As international evidence proves “both maternal and neonatal mortality are lower in countries where mothers giving birth get skilled professional care, with the equipment, drugs and other supplies needed for effective and timely management of complications” (WHO, 2005, chapter 4). Even though a birth grant to women who deliver in health facilities would be a contribution towards the reduction of maternal and infant mortality, the wider issue of providing medical and financial support to women during the entire pregnancy and following delivery to infants and mothers should also be given priority. In Nepal, the high maternal mortality rate in 2000 of 740 per 100,000 live births and the infant mortality rate of 56 per 1,000 live births in 2005 need to be improved. The Millennium Development Goals place the health of mothers and children at the core of the struggle against poverty and inequality, as a matter of human rights (WHO, 2005). The Nepal Living Standards Survey (CBS, 2004a, pp, 95 and Table 7.9) estimates that on average 57.1 per cent of women who gave live birth during a 36 months period consulted received pre-natal care and 12.9 per cent post-natal care. In the 20 per cent poorest quintile this dropped to 39.3 per cent and 5.8 per cent respectively.

DfID has provided the Government of Nepal with a lump sum of £20 million to turn around Nepal's maternal mortality rate – the National Safe Motherhood Programme which started in 1997. The programme incorporates the innovative Maternity Incentive scheme, which pays women to give birth in a hospital or health centre. Transport costs are high in Nepal, which prevent many women from traveling to a hospital or health center to give birth. All across Nepal, women receive an average 1'000 Rupees (US\$ 12,8), depending on where they live (according to the distance from the hospital they receive 1'500 or 1'000 or 500 Rupees), after the birth of their first and second child. In most cases this is enough to cover transport costs, at least, and possibly contribute to other costs.

According to a recent report on the average costs of normal delivery (Borghi et al, 2006) the average fee for a normal delivery at a facility is 678 Rupees (ie approximately US\$8.70). Women undergoing caesarean section incur significantly higher costs in the facility with an average charge of 5,500 Rupees (ie US\$70.60). When additional charges, opportunity and transport costs were added, the total amount exceeded 5,300 Rupees for a normal birth (ie US\$68.5) and 11,441 Rupees for a caesarean (ie US\$146.80). While there is little difference in facility-based costs between geographical areas, the cost of transport varies widely (from 1,155 Rupees to 3,100 Rupees).

Table 4.3. Average costs of normal delivery, Nepal, 2003

Type of cost	Facility	Cost in Rupees		Cost in US\$	
		Normal delivery	Caesarean	Normal delivery	Caesarean
Facility-based fees	Registration, delivery fee, bed charge, laboratory tests, laundry, food, drugs and medical supplies	678	5'500	8.7	70.57
Transport fees	To and from the facility	2'812	2'812	36.08	36.08
Additional charges	Gifts to staff and medicines and other items purchased by patients together with the value of food and washing materials brought in from outside the facility	1'354	1'469	17.37	18.85
Opportunity cost of time	Valuation of the time of those accompanying the woman to the facility	492	1'660	6.1	21.30
Total cost		5'336	11'441	68.47	146.80

Source: Borghi, J.; Ensor T. et al., 2006.

Accordingly, in scenarios I and II, the cost of providing a birth grant of Rupees 5,336 to all women who deliver in a health facility was calculated, while in scenario IV the benefit was targeted to only the poorest who deliver in a health centre. In scenario III, a lower birth grant of Rupees 3,524 (due to a lower transport cost allowing for the average payment provided by the DfID programme) was provided to all women who deliver in a health centre. With respect to the take-up rate it was assumed that each year there would be an increase of approximately 10 per cent annually in the women delivering in a health center during the next 10 years followed by an increase of 5 per cent annually after that.

4.5. Administrative costs ¹²

The model is based on the assumption that 15 per cent of total cash benefit expenditure is spent on administration of universal cash transfers (old-age and disability pensions and child benefit). This estimate is based on the experience of the basic pensions scheme in Namibia where the costs of reaching the poorer remote rural communities is taken into account (Schleberger 2002). For the targeted cash transfers, administration costs of 33 per cent of benefit expenditure have been assumed in line with the study on Africa (Pal, et al. 2005) in order to account for the higher costs of targeting.

¹² Much of the discussion that follows is based on the previous ILO costing study of African countries Pal, et al. 2005 and of Asian countries Mizunoya, et al 2006.

5. Results¹³

5.1. Scenario I: Base case

5.1.1. Summary of assumptions

Scenario I estimates the costs of a basic social protection benefits package based on the following main assumptions:

- Universal old-age and disability pension of Rupees 200 per month, to older persons aged 65 and over and the disabled (assumed to be 1 per cent of population).
- Basic health care costs based on Commission on Macroeconomics and Health estimates of US\$34 per year on average in low-income countries by 2007, and US\$38 in 2015.
- Universal child benefit at 50 per cent of old-age and disability pension per child (Rupees 100 monthly) for all children aged 0-14;
- Universal access to primary education based on per unit UNESCO estimate; children aged 6-11 years of age; net enrolment ratio in primary education reaching 100 per cent by 2015; 10 per cent of children in primary in private schools by 2015; 15 per cent capital cost.
- Birth grant of Rupees 5,336 paid to all women who deliver in health facilities based on starting assumption that 15 per cent deliver in 2007 in health facility.
- Administration costs of delivering cash benefits equal to 15 per cent of cash benefit expenditure.

Assumptions and main results for Scenario I are found in detailed tables in Annex A.

5.1.2. Results

The total cost of the social protection benefits as proposed in Scenario I represents 16 per cent of GDP in 2007, and it is estimated that this will decrease to a level of 8 per cent of GDP in 2034 as illustrated in Figure 5.1. While in absolute terms the cost of providing basic social security benefits under scenario I increase, in terms relative to GDP the percentage decreases. This is due to several factors of which the most significant is that, while it is assumed that benefits will be indexed in line with prices, real GDP growth is projected at a rate of 2 percentage points over and above working age population growth. Annex table A2 provides detailed results in absolute and in relative terms.

The main item of functional expenditure is basic health care which in 2007 is estimated to cost 11.6 per cent of GDP and represents approximately 71 per cent of total expenditure. While decreasing over the projection period to a level of 4.7 per cent of GDP by 2034 (see above), it still would represent the most important functional expenditure. Thus, an

¹³ With respect to the calculations in Mizunoya et al (2006), some of the benefit assumptions have been modified, new benefits have been included, some economic assumptions have been modified and some of the data have been updated where more recent data were available. Thus the results differ.

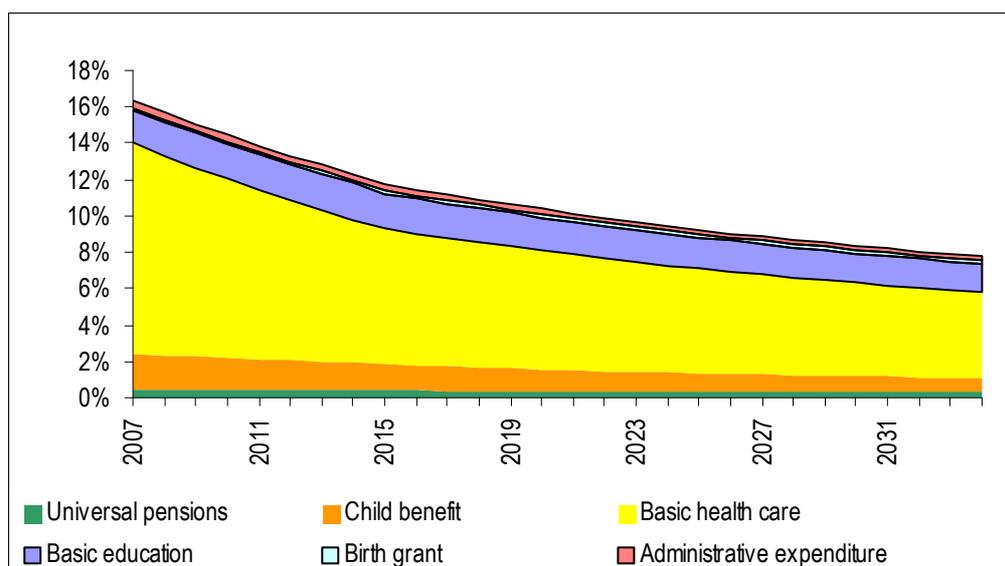
absolute level of expenditure for essential health care based on a world average across all developing countries may not be appropriate in a country with a low level of wages in the public sector like Nepal.

As expected, old age and invalidity expenditure represents between 0.5 per cent of GDP in 2007 and 0.3 per cent of GDP in 2034. This appears to be a very affordable level considering that in terms of government expenditure it represents 2.6 per cent in 2007 decreasing to a level of 1.4 per cent in 2034.

It should be noted that expenditure as calculated in the model is gross expenditure on basic social protection. The government is currently providing old-age allowances to the elderly over the age of 75. Taking into account this fact, the net supplementary expenditure resulting from the extension of the benefit to all over the age of 65 assuming that 100 per cent of the population in that given age group will receive the benefit, was calculated. The current old-age allowance programme costs approximately 0.1 per cent of GDP¹⁴ and the extension of old-age benefits would cost an additional 0.3 percentage points of GDP or an additional 2 per cent of government expenditure.

In the same way general government expenditure on health in 2005 represented 1.5 per cent of GDP.

Figure 5.1. Costs of basic social protection benefits package for Nepal, 2007-2034 (in per cent of GDP)



Given the mounting cross-country evidence concerning the positive effects generated by cash transfers to older members of society on households and especially children (see section 4.1) and that the costing of the benefit shows that it is affordable, the extension of the current scheme to all over the age of 65 is worth seriously considering. Now it is a matter of national social policy which will decide whether this is a priority in the context of the current situation. It is a long-term social and financial commitment yet a commitment which according to the present calculations is fiscally affordable.

¹⁴ Own calculations based on a take-up rate of 100 per cent.

Figure 5.2. Domestic financing of basic social protection benefits package under two options for Nepal, 2007-2034 (in per cent of total costs)

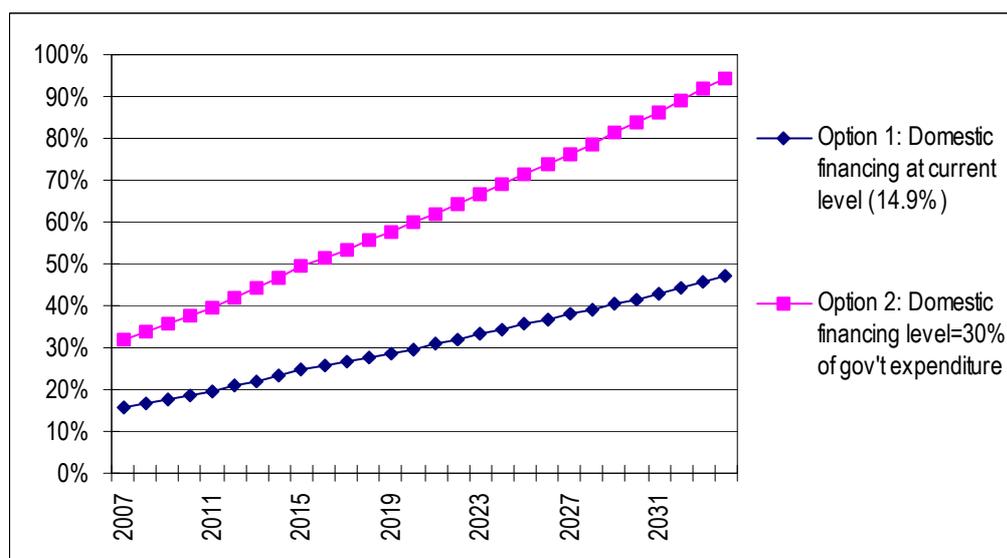


Figure 5.2 illustrates the proportion of the total cost of the benefits proposed in scenario I which could be financed by public resources if:

- the level of public social expenditure (education, health, social security and welfare) with respect to total public expenditure is maintained at its 2006 level of 14.9 per cent (option 1);
- the level of public social expenditure is raised to one third of the total public expenditure (option 2).

Under option 1, Nepal would be able to cover in 2007 approximately 16 per cent of the total cost of the benefits through its own resources. While in absolute amounts the cost of the benefits do increase over the projection period, however the cost in relation to GDP decreases and therefore at the end of the projection period Nepal could cover approximately 47 per cent of the total social cost. Financial support from international donors would be needed. In 2007 this would amount to approximately US\$ 1.1 billion. Under option 2, Nepal would be able to cover a third of the total costs in 2007 and about 95 per cent of the cost at the end of the projection period and therefore the external financing requirements would be less. In 2007 this would amount to approximately US\$ 900 million.

It should be noted that while the total costs calculated are gross amounts, they reflect only expenditure on basic social protection. Therefore, expenditure on other social security provisions (such as on formal sector social security provisions; expenditure on secondary and tertiary education; expenditure on health other than basic health care) would be in addition to the costs calculated by the model. To take these costs on other social security provisions into account and based on current government expenditure on social protection we have assumed that in 2006 approximately 10 per cent of public expenditure on social security and welfare is dedicated to basic provisions; approximately 90 per cent of public health expenditure is on basic health provisions; and that approximately 49 per cent of expenditure on education is on primary education (UNESCO data). This amounts to approximately 2.2 per cent of GDP in 2007 which is spent on non-basic social protection provisions. Therefore total social expenditure as shown in table 5.1, which includes basic and non-basic provisions, amounts to 18.5 per cent of GDP in 2007.

Table 5.1. Total social protection expenditure (basic and non-basic provisions), Scenario I, Nepal, 2007

	2007
Total expenditure on social protection in millions of US\$	1486.4
<i>Basic social protection</i>	1312.4
<i>Other social protection</i>	174.0
Total expenditure on social protection in per cent of GDP	18.5%
<i>Basic social protection</i>	16.3%
<i>Other social protection</i>	2.2%

In conclusion it would be fair to say that while the cost of the total package of basic social protection provisions is very high (16 per cent of GDP in 2007) due to the cost of basic health, the cash transfers on the other hand seem affordable. In effect, the extension of the basic old-age benefits to all over the age of 65, the up rating and payment of a birth grant to all women who deliver in public health centres, and the introduction of a child benefit paid to all children between 0-14 years of age, is estimated to cost approximately 3 per cent of GDP in 2007 declining to a level of approximately 1 per cent by the end of the projection period. The cost of providing these benefits could be entirely financed from public resources if 14 per cent of public expenditure could be earmarked for this purpose in 2007. At the end of the projection period only 5.3 per cent of public spending would be needed to finance these benefits.

5.2. Scenario II

5.2.1. Summary of assumptions

The main assumptions for this scenario are:

- Universal old-age and disability pension of Rupees 3,848 annually (corresponding to 50 per cent of the total poverty line per person), to persons aged 65 and over and the disabled (assumed to be 1 per cent of population).
- Basic health care costs based on ratio of 300 medical staff to 100,000 population; medical staff wages indexed in line with half of productivity and inflation; non-staff overhead costs of 67 per cent of staff costs.
- Universal child benefit at 50 per cent of old-age and disability pension per child (Rupees 1924 annually) for all children aged 0-14;
- Universal access to primary education based on per unit UNESCO estimate; children aged 6-11 years of age; net enrolment ratio in primary education reaching 100 per cent by 2015; 10 per cent of children in primary in private schools by 2015; 15 per cent capital cost.
- Birth grant of Rupees 5,336 paid to all women who deliver in health facilities based on starting assumption that 15 per cent deliver in 2007 in health facility.
- Administration costs of delivering cash benefits equal to 15 per cent of cash benefit expenditure.

The assumptions and the main results are found in the detailed tables in Annex B.

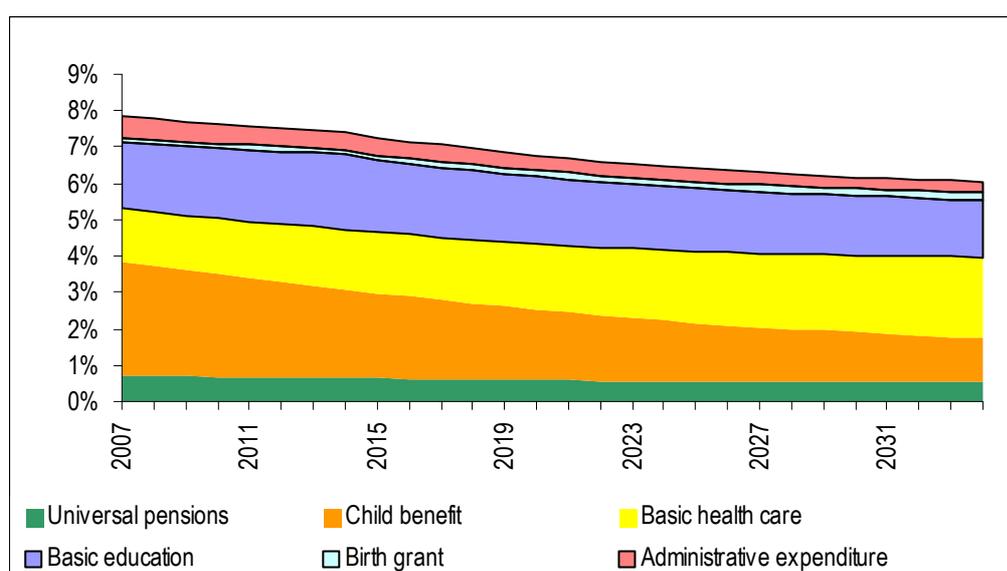
5.2.2. Results

The total cost of the social protection benefits as proposed in Scenario II represents 7.8 per cent of GDP in 2007 decreasing to a level of 6 per cent of GDP in 2034. The main item of functional expenditure is child benefit in 2007 which represents approximately 40 per cent of total expenditure. In 2034 the main item will be basic health care which will represent approximately 37 per cent of total expenditure, while the expenditure to child benefit will decrease to 19 per cent of total expenditure. The projections by the UN Population Division indicate that the proportion of children in the total population is expected to decrease over the projection period. Therefore, child benefit amounts, while still increasing in absolute amounts, register a much lower growth rate than the other benefits and notably health care expenditure which increases in line with total population growth and salaries of medical staff increase in line with GDP growth. More detailed results are provided in Annex Table B6.

With respect to old-age and invalidity pensions and child benefits, linking the benefit levels to a national threshold permits a more adequate coverage of needs. In this scenario the old-age benefit is linked to the national total poverty line (CBS, 2005) which corresponds to a monthly benefit of Rupees 641. It is slightly higher than the current old-age allowance of Rupees 200 paid by the government. However, we have assumed that the poverty gap to be covered represents 50 per cent of this threshold. Nevertheless, the monthly benefit amount of Rupees 321 is still higher than the old-age allowance currently paid by the State. Therefore, expenditure on old age and disability pensions is higher than under scenario I. It would represent around 0.7 per cent of the country's GDP in 2007 decreasing to 0.55 per cent in 2034.

Basic health care, in this scenario based on ratio of 300 medical staff to 100,000 population (wage indexation of medical staff in line with GDP growth), represents only 1.4 per cent in 2007 and 2.2 per cent in 2034 of GDP. This is a very low level (respectively US\$ 4.2 per capita in 2007) compared to the expenditure on health care based on the Commission on Macroeconomics and Health per capita costs used in scenario I (respectively US\$ 34 per capita in 2007). However, as was pointed out in section 3.2, this would not include all expenditure on health. Private expenditure on health represented more than four fifths of the total expenditure on health according to WHO figures.

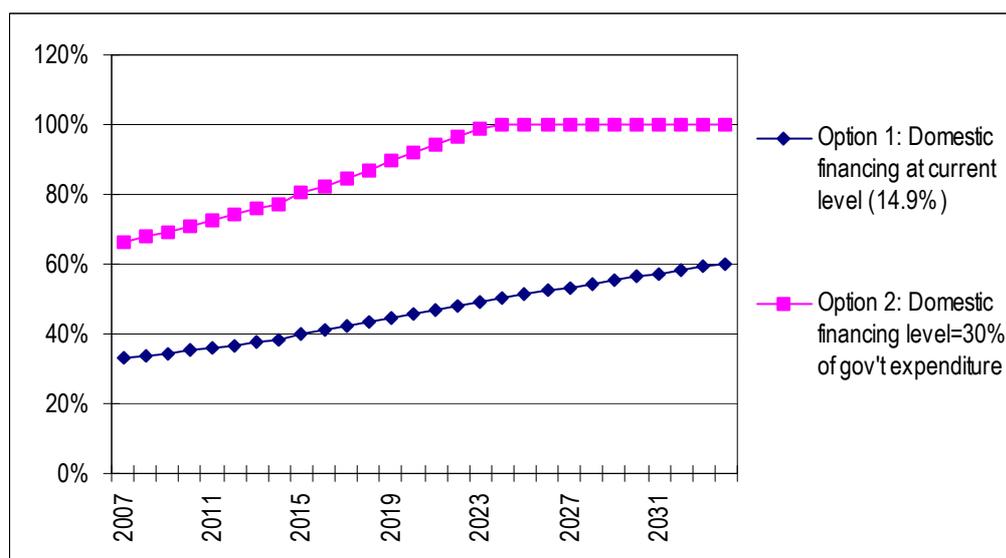
Figure 5.3. Costs of basic social protection benefits package for Nepal, Scenario II, 2007-2034
(in per cent of GDP)



If the level of public social expenditure with respect to total public expenditure is maintained at its 2006 level (option 1 in Figure 5.4), Nepal would be able to cover 33 per cent of the total cost of the benefits through its own resources in 2007. This ratio will subsequently increase to about 60 per cent by 2034.

If the government would allocate one third of their expenditure to basic social protection (option 2 in Figure 5.4) then Nepal would be able to cover in 2007 approximately 66 per cent of the total cost of the benefit through its own resources. The financial support from international donors would be not more than approximately US\$212 million. The Government would be able to finance the entire cost from 2024.

Figure 5.4. Domestic financing of basic social protection benefits package under two options for Nepal, Scenario II, 2007-2034



The same argument advanced under scenario I concerning the total social expenditure, which includes basic and non-basic provisions holds here too. Therefore total social expenditure, amounts to 10 per cent of GDP in 2007.

Table 5.2. Total social protection expenditure (basic and non-basic provisions), Scenario II, Nepal, 2007

	2007
Total expenditure on social protection in millions of US\$	803.8
<i>Basic social protection</i>	629.8
<i>Other social protection</i>	174.0
Total expenditure on social protection in per cent of GDP	10.0%
<i>Basic social protection</i>	7.8%
<i>Other social protection</i>	2.2%

5.3. Scenario III

5.3.1. Summary of assumptions

The main assumptions for this scenario are:

- Universal old-age and disability pension of Rupees 400 per month, to persons aged 65 and over and the disabled (assumed to be 1 per cent of population).

- Basic health care costs based on Commission on Macroeconomics and Health estimates of US\$34 per year on average in low-income countries by 2007, and US\$38 in 2015.
- Universal child benefit at 50 per cent of old-age and disability pension per child (Rupees 200 per month) for all children aged 0-18;
- Block grants for education and child protection services based on per unit UNESCO estimate; children aged 6-11 years of age; net enrolment ratio in primary education reaching 100 per cent by 2015; 10 per cent of children in primary in private schools by 2015; 15 per cent capital cost.
- Birth grant of Rupees 3,524 paid to all women who deliver in health facilities based on starting assumption that 15 per cent deliver in 2007 in health facility.
- Administration costs of delivering cash benefits equal to 15 per cent of cash benefit expenditure.

Assumptions and main results are found in detailed tables in Annex C.

5.3.2. Results

Figure 5.5 represents the cost of the basic social protection benefits package of Scenario III. Total expenditure is estimated at 20 per cent of GDP in 2007, and is projected to decrease to approximately 9 per cent by 2034.

Universal old age and disability pension would require 0.9 to 0.7 per cent of GDP over the entire projection period. The old-age and disability benefit of Rupees 400 represents approximately US\$ 1 PPP per day. It was assumed that this amount would be paid to beneficiaries. The cost of universal child benefit (for all children aged 0-18) estimated at 4.8 per cent of GDP in 2007 is projected to decrease to 1.8 per cent by 2034. The cost of health care is estimated to amount at 11.6 per cent of GDP in 2007, and decrease continuously to a level of 4.7 per cent of GDP by 2034. Basic education would require 1.8 per cent of GDP in 2007, rise to a peak of 2.1 per cent in 2014, and decrease slowly thereafter to a level of 1.6 per cent of GDP by 2034. Birth grants paid to all women is estimated at Rupees 3,524 which is lower than in Scenario I and II because of a lower transport cost (Rupees 1,000 (based on the estimated average transport costs by DfID) instead of Rupees 2,812 (based on a study of Borghi et al (2006)).

Figure 5.5. Cost of basic social protection benefits package for Nepal, Scenario III, 2007-2034
(in per cent of GDP)

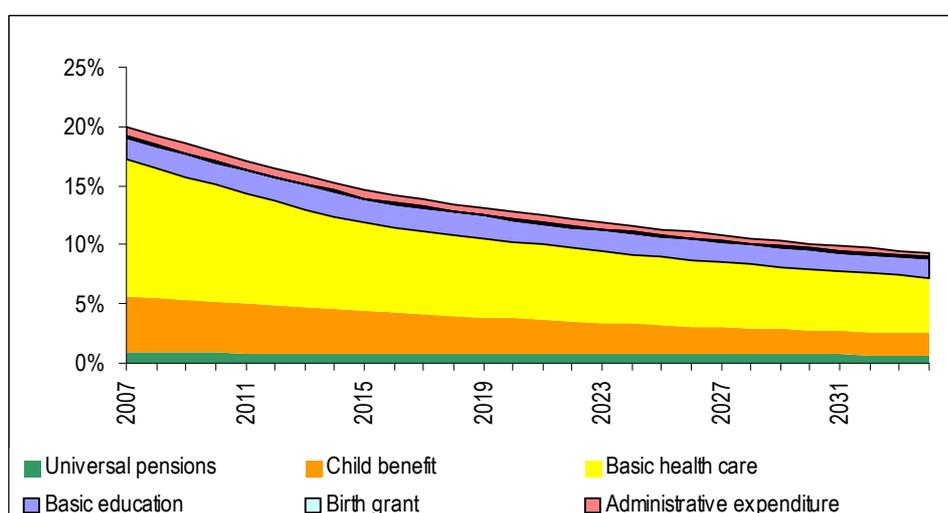
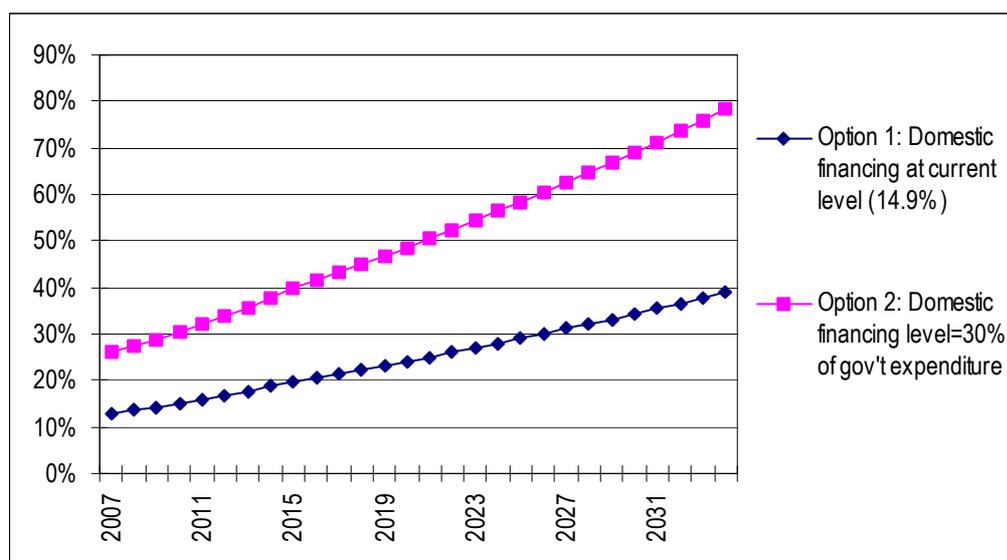


Figure 5.6 represents the capacity of the Government of Nepal to finance basic social protection out of domestic resources from 2007 to 2034. Under option 1, it was assumed that government expenditure on basic social protection would remain at its current level (14.9 per cent of total government expenditure). The Government would be able to finance 12.9 per cent of total basic social protection expenditure in 2007. This ratio would increase to about 38.9 per cent by 2034. Under option 2, it was assumed that the Government of Nepal would allocate 30 per cent of total expenditure to basic social protection. The Government would be able to finance 25.9 per cent in 2007, and this ratio will increase to 78.4 per cent by 2034.

Figure 5.6. Domestic financing of basic social protection benefits package under two options for Nepal, Scenario III, 2007-2034



5.4. Scenario IV

5.4.1. Summary of assumptions

The main assumptions for this scenario, with targeting of child benefits and birth grants, are:

- Universal old-age and disability pension of Rupees 400 per month, to persons aged 65 and over and the disabled (assumed to be 1 per cent of population).
- Basic health care costs based on Commission on Macroeconomics and Health estimates of US\$34 per year on average in low-income countries by 2007, and US\$38 in 2015.
- Universal child benefit at 50 per cent of old-age and disability pension per child (Rupees 200 per month) for all children aged 0-18 living below the poverty line;
- Block grants for education and child protection services based on per unit UNESCO estimate; children aged 6-11 years of age; net enrolment ratio in primary education reaching 100 per cent by 2015; 10 per cent of children in primary in private schools by 2015; 15 per cent capital cost.

- Birth grant of Rupees 5,336 paid to women living below the poverty line who deliver in health facilities based on starting assumption that 5 per cent deliver in 2007 in health facility.
- Administration costs of delivering old-age and disability pensions is 15 per cent and for targeted cash benefits (child benefit and birth grant) equal to 33 per cent of cash benefit expenditure.

Assumptions and main results are found in detailed tables in Annex D.

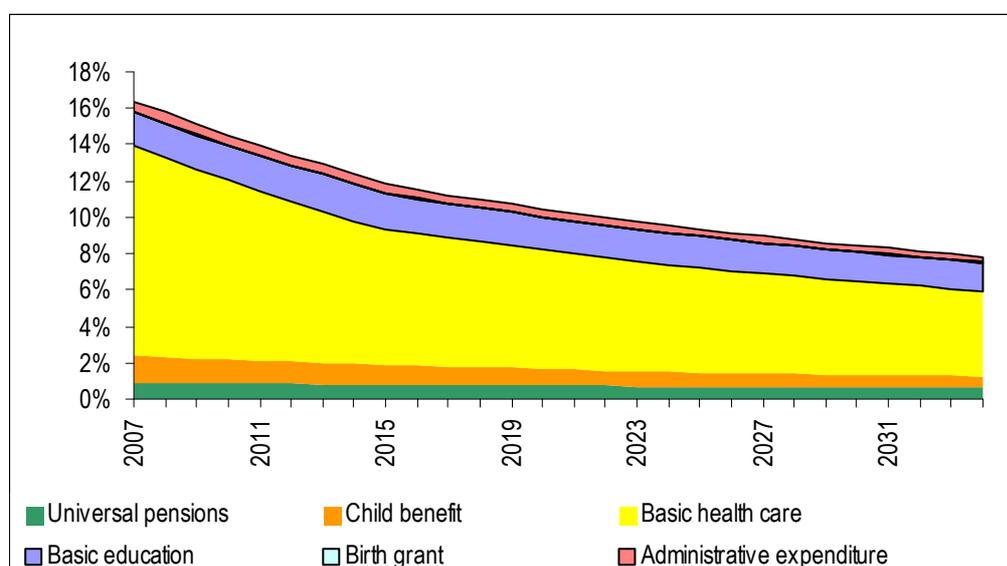
5.4.2. Results

Scenario IV is identical to Scenario III with respect to essential health care, old-age and disability pension, and education grant. However the universal child benefit and the birth grant are replaced by a targeted benefit to the poorest.

The total cost of social protection benefits as proposed in Scenario IV represents 16.4 per cent of GDP in 2007 decreasing to a level of 7.8 per cent of GDP in 2034. Universal old-age and disability pension would require about 0.9 to 0.7 per cent of GDP over the entire projection period. The cost of universal child benefit (for all children aged 0-18 living below the poverty line) estimated at 1.5 per cent of GDP in 2007 is projected to decrease to 0.6 per cent by 2034. This is lower (in 2007 by more than 3 percentage points of GDP) compared to the cost of child benefit in scenario III where all children aged 0-18 receive the child benefit, while in this scenario only children below the poverty line receive the benefit.

A birth grant of Rupees 5,336 is paid to women who deliver in health facilities and who are living below the poverty line. This assumption restricts the number of women receiving the benefit given the assumption that only 5 per cent of poor women deliver in health facilities in 2007. The cost of the birth grant has been estimated to be less than 0.01 per cent of GDP in 2007 and approximately 0.02 per cent of GDP in 2034 (under the assumption that the proportion of births in primary health facilities or hospitals increases each year by 10 per cent between 2007 and 2017 and afterwards by 5 per cent each year. This implies that the proportion of births in health facilities among poor women will increase from 5 per cent in 2007 to 27 per cent in 2034).

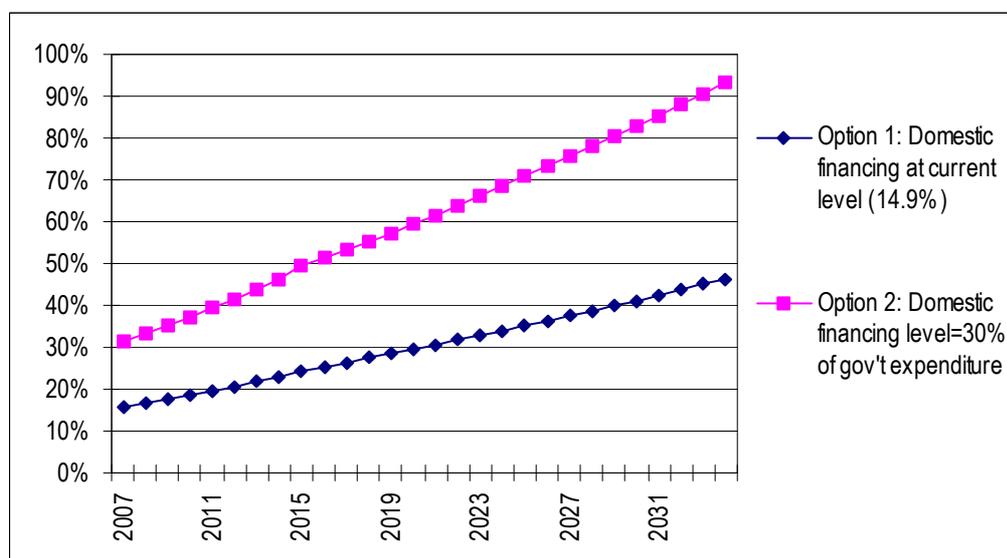
Figure 5.7. Cost of basic social protection benefits package for Nepal, Scenario IV, 2007-2034 (in per cent of GDP)



As has been noted in previous sections of the report, various cross-country analyses have demonstrated that targeting may not be the best approach to reach the poorest. Furthermore, targeting requires specific administrative procedures to be put into place and thus involves higher administrative costs. The pros and cons of targeting the poorest in the context of Nepal would need to be studied more carefully and the estimated savings in terms of costs through targeting will have to be weighed with respect to its foreseen coverage and impact.

Figure 5.8 represents the capacity of the Government of Nepal to finance basic social protection out of domestic resources from 2007 to 2034. Under option 1, it was assumed that government expenditure on basic social protection would remain at the current level (14.9 per cent of total government expenditure), and under option 2, it was assumed that Government would allocate 30 per cent of its total expenditure to basic social protection. Under option 1, it was estimated that the Government would be able to finance 15.7 per cent of total basic social protection in 2007 and that this ratio would increase to 46.4 per cent by 2034. Under option 2, the Government would be able to finance almost one-third of total cost in 2007, and this ratio would increase to 93.4 per cent by 2034.

Figure 5.8. Domestic financing of basic social protection benefits package under two options for Nepal, Scenario IV, 2007-2034



6. Variants

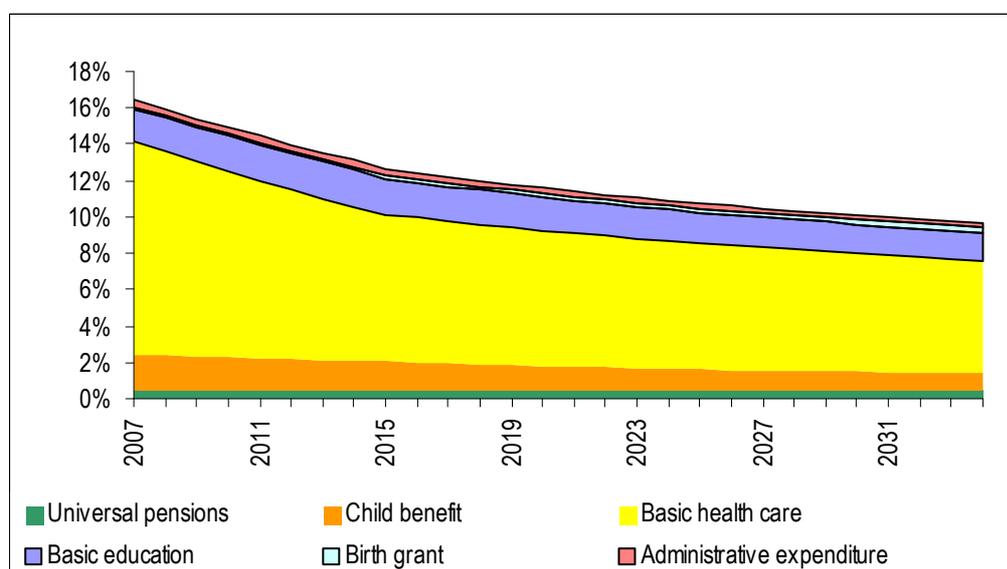
A sensitivity test based on a lower growth rate of GDP has been provided in variant 1. Variants 2, 3 and 4 have been provided based on discussions with UNICEF ROSA in order to assess the financial implications of targeting the child benefits to specific age-groups of children. Additional variants 5, 6 and 7 (corresponding respectively to Scenarios V, VI and VII in the spreadsheet summary of results attached to e-mail of 8th June 2007) have been assessed based on further discussions with UNICEF ROSA in June 2007.

6.1. Variant 1: GDP growth 1 percentage point above working population growth

The sensitivity test is based on scenario I for all parameters not mentioned in the description of the sensitivity test.

As we have seen in the results of the previous section, the cost of the basic benefits package measured in terms of GDP decreases quite rapidly due to the fact that real GDP is assumed to increase by 2 percentage points over and above working age population growth. Therefore, in a first sensitivity test real GDP growth rate is assumed to be 1 percentage point over and above working age population. Thus, compared to scenario I, GDP will grow at a slower average annual rate. Apart from basic education expenditures, where unit costs are based on GDP per capita levels, the rest of the benefit amounts in absolute Local Currency Units terms do not vary. Therefore, relative to lower nominal GDP levels the total cost of the benefit package increases with respect to scenario I. In 2034 total cost will represent 9.7 per cent of GDP, while under scenario I it would represent 7.7 per cent of GDP.

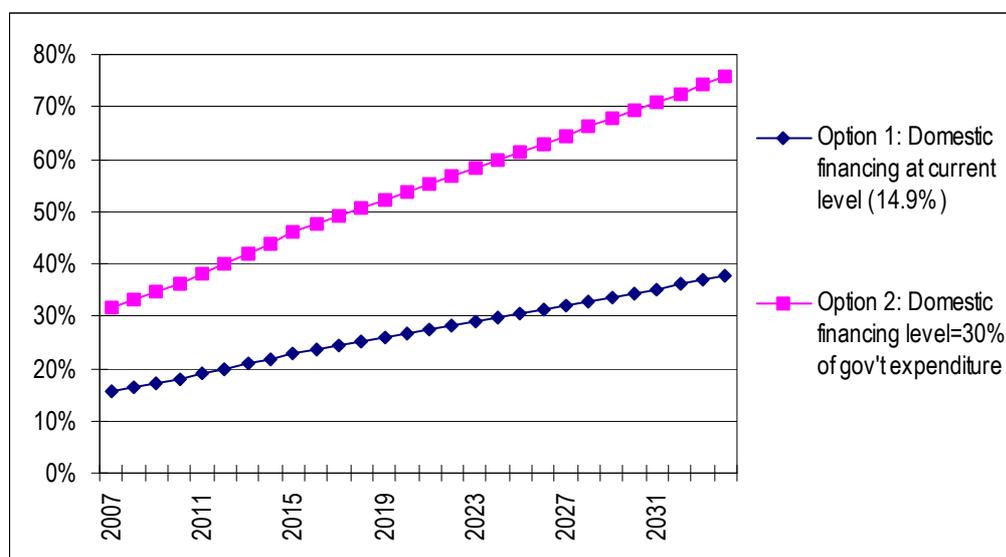
Figure 6.1. Costs of basic social protection benefits package for Nepal, Variant 1, Nepal, 2007-2034



Under this variant, the level of external financial aid required would also be higher. Under option I (government expenditure on basic social protection would remain at the current level), the Government would be able to finance 37 per cent of its total expenditure to basic social protection at the end of the projection period while it would be 47 per cent if GDP would grow 2 per cent above population growth. Under option II (Government would allocate 30 per cent of its total expenditure to basic social protection), the Government

would be able to finance 76 per cent of its total expenditure to basic social protection by 2034 while it would be 95 per cent under scenario I.

Figure 6.2. Domestic financing of basic social protection benefits package under two options for Nepal Variant 1, Nepal, 2007-2034



6.2. Variant 2: Child benefits paid to all children 0-5 years of age

The main modifications of assumptions with respect to scenario I are:

- Universal old-age and disability pension of Rupees 400 per month, to persons aged 65 and over and the disabled (assumed to be 1 per cent of population).
- Universal child benefit at 50 per cent of old-age and disability pension per child (Rupees 200 per month) for all children aged 0-5;

The variant is based on scenario I for all parameters not mentioned in the description of the sensitivity test.

Table 6.1. Expenditure on child benefits to all children 0-5 years of age, Variant 2, Nepal, 2007-2034

Results	2007	2010	2015	2020	2025	2030	2034
Expenditure on child benefits in million US\$	154.8	179.7	226.5	286.2	364.1	459.8	548.6
Expenditure on child benefits in millions of rupees	12,508.8	14,523.7	18,308.5	23,134.6	29,430.9	37,163.6	44,339.7
Expenditure on child benefits in per cent of GDP	1.9%	1.7%	1.4%	1.1%	0.9%	0.8%	0.7%
Expenditure on child benefits in per cent of government expenditure	11.1%	9.4%	7.1%	5.5%	4.3%	3.4%	2.8%
Expenditure on child benefits in per cent of government revenue	13.3%	10.4%	7.1%	5.5%	4.3%	3.4%	2.8%

The total cost of child benefits paid only to children 0-5 years of age (including administrative costs) represents 1.9 per cent of GDP in 2007 decreasing to a level of 0.7 per cent of GDP by 2034. As shown in table 2.1, the proportion of children of this age group in total population is decreasing over the projection period as forecast by UN population projections. Furthermore, it is assumed that child benefits will be indexed in

line with prices. Therefore, child benefit amounts while still increasing in absolute amounts, register a lower growth rate measured with respect to GDP.

6.3. Variant 3: Child benefits paid to children 0-5 years of age living under the poverty line

The main modifications of assumptions with respect to scenario I are:

- Universal old-age and disability pension of Rupees 400 per month, to persons aged 65 and over and the disabled (assumed to be 1 per cent of population).
- Universal child benefit at 50 per cent of old-age and disability pension per child (Rupees 200 per month) for all children aged 0-5 living under the poverty line;

The variant is based on scenario I for all parameters not mentioned in the description.

Table 6.2. Expenditure on child benefits to poor children 0-5 years of age, Variant 3, Nepal, 2007-2034

Results	2007	2010	2015	2020	2025	2030	2034
Expenditure on child benefits in million US\$	55.2	64.1	80.8	102.1	129.9	164.1	195.7
Expenditure on child benefits in millions of rupees	4,463.0	5,181.9	6,532.2	8,254.1	10,500.6	13,259.5	15,819.8
Expenditure on child benefits in per cent of GDP	0.7%	0.6%	0.5%	0.4%	0.3%	0.3%	0.2%
Expenditure on child benefits in per cent of government expenditure	4.0%	3.4%	2.5%	1.9%	1.5%	1.2%	1.0%
Expenditure on child benefits in per cent of government revenue	4.8%	3.7%	2.5%	1.9%	1.5%	1.2%	1.0%

The total cost in absolute Rupees amounts (including administrative costs) represents approximately one-third of the costs which the government would incur if all children in the age group were provided with a benefit. However, as discussed earlier targeting may not produce the results which were anticipated at the onset. In this case the administrative costs of delivering a targeted benefit is assumed at 33 per cent of benefit expenditure (instead of 15 per cent for non-targeted benefits).

6.4. Variant 4: Child benefits paid to children 0-14 years of age living under the poverty line

The main modifications of assumptions with respect to scenario I are:

- Universal old-age and disability pension of Rupees 400 per month, to persons aged 65 and over and the disabled (assumed to be 1 per cent of population).
- Universal child benefit at 50 per cent of old-age and disability pension per child (Rupees 200 per month) for all children aged 0-14 living under the poverty line;

The variant is based on scenario I for all parameters not mentioned in the description.

Table 6.3. Expenditure on child benefits to poor children 0-14 years of age, Variant 4, Nepal, 2007-2034

Results	2007	2010	2015	2020	2025	2030	2034
Expenditure on child benefits in million US\$	129.8	153.0	197.3	250.9	318.0	403.3	485.5
Expenditure on child benefits in millions of rupees	10,487.8	12,363.3	15,949.3	20,279.3	25,704.5	32,594.8	39,241.2
Expenditure on child benefits in per cent of GDP	1.6%	1.5%	1.2%	1.0%	0.8%	0.7%	0.6%
Expenditure on child benefits in per cent of government expenditure	9.3%	8.0%	6.2%	4.8%	3.7%	3.0%	2.5%
Expenditure on child benefits in per cent of government revenue	11.2%	8.8%	6.2%	4.8%	3.7%	3.0%	2.5%

Once again the same arguments as those indicated under section 6.3 above are applicable.

6.5. Variant 5: Old-age benefit paid to 70 and over and child benefits paid to children 0-5 years

The main modifications of assumptions with respect to scenario I are:

- Universal old-age and disability pension of Rupees 250 per month, to persons aged 70 and over and the disabled (assumed to be 1 per cent of population);
- Universal child benefit of Rupees 200 per month for all children aged 0-5;
- Birth grant of Rupees 2000 paid to all women who deliver in health facilities based on starting assumption that 15 per cent deliver in 2007 in health facility.

The variant is based on scenario I for all parameters not mentioned in the description of the variant.

In this variant it has been proposed that the level of the universal old age pension would be higher than the sum currently being paid by the government and that it would be paid to those above the age of 70 (and not 75 as currently). The costs in terms of GDP in 2007 would reach approximately 0.22 per cent of GDP decreasing slightly to a level of 0.17 per cent of GDP by 2034. The cost of a child benefit would be 1.7 per cent of GDP in 2007 and decrease to a level of 0.6 per cent of GDP by 2034. The birth grant at a level of Rupees 2000 per birth in health centre would cost 0.04 per cent of GDP in 2007 and increase to 0.08 per cent of GDP in 2034. Table 6.4 provides a summary of the results.

Table 6.4. Basic social protection expenditure variant 5, Nepal, 2007-2034

	2007	2015	2030	2034
Total basic social protection				
<i>In millions of Rupees</i>	101731.2	146516.6	369218.0	468904.6
<i>In millions of US\$</i>	1258.7	1812.8	4568.3	5801.7
<i>In per cent of GDP</i>	15.6	11.1	7.8	7.2
<i>In per cent of government expenditure</i>	90.4	57.0	33.6	29.6
Universal old-age and invalidity pensions				
<i>In millions of Rupees</i>	1457.1	2635.4	7900.4	10794.6
<i>In millions of US\$</i>	18.0	32.6	97.8	133.6
<i>In per cent of GDP</i>	0.22	0.20	0.17	0.17
<i>In per cent of government expenditure</i>	1.3	1.0	0.7	0.7
Basic Health care				
<i>In millions of Rupees</i>	75370.6	98314.2	242147.1	304761.5
<i>In millions of US\$</i>	932.5	1216.4	2996.1	3770.8
<i>In per cent of GDP</i>	11.6	7.4	5.1	4.7
<i>In per cent of government expenditure</i>	67.0	38.3	22.0	19.3
Basic education				
<i>In millions of Rupees</i>	11881.6	25968.3	76840.6	101618.5
<i>In millions of US\$</i>	147.0	321.3	950.7	1257.3
<i>In per cent of GDP</i>	1.8	2.0	1.6	1.6
<i>In per cent of government expenditure</i>	10.6	10.1	7.0	6.4
Child benefit				
<i>In millions of Rupees</i>	10877.2	15920.5	32316.2	38556.3
<i>In millions of US\$</i>	134.6	197.0	399.8	477.1
<i>In per cent of GDP</i>	1.7	1.2	0.7	0.6
<i>In per cent of government expenditure</i>	9.7	6.2	2.9	2.4
Birth grant				
<i>In millions of Rupees</i>	256.2	778.2	3462.1	5018.3
<i>In millions of US\$</i>	3.2	9.6	42.8	62.1
<i>In per cent of GDP</i>	0.04	0.06	0.07	0.08
<i>In per cent of government expenditure</i>	0.2	0.3	0.3	0.3
Administrative costs				
<i>In millions of Rupees</i>	1888.6	2900.1	6551.8	8155.4
<i>In millions of US\$</i>	23.4	35.9	81.1	100.9
<i>In per cent of GDP</i>	0.3	0.2	0.1	0.1
<i>In per cent of government expenditure</i>	1.7	1.1	0.6	0.5

6.6. Variant 6: Child benefits paid to children 0-5 years (cost limited to 0.5 per cent of GDP) and Birth grant according to DfID model

The main modifications of assumptions with respect to scenario I are:

- Universal old-age and disability pension of Rupees 250 per month, to persons aged 70 and over and the disabled (assumed to be 1 per cent of population);

-
- Universal child benefit for all children aged 0-5, total cost not to exceed 0.5 per cent of GDP;
 - Birth grant based on the DfID model (ie reimbursement of transport costs) paid to all women who deliver in health facilities based on starting assumption that 15 per cent deliver in 2007 in health facility.

The variant is based on scenario I for all parameters not mentioned in the above description of the variant. In this variant it has been proposed that the cost of universal child benefit paid to all children 0-5 years of age was not to exceed 0.5 per cent of GDP. By inspection of previous figures, it is evident that the level of benefit affordable on this basis is approximately Rupees 60 per month. Accordingly, the cost projections are based on an initial benefit level in 2007 of Rupees 60 per month. While the benefit cost in absolute amounts increases annually due to the increase in number of children and due to indexation in line with price inflation annually, the total costs in relation to GDP decrease over the projection period as GDP is assumed to increase faster. The cost in terms of GDP in 2007 stands at a level of 0.5 per cent of GDP and decreases to a level of 0.2 per cent of GDP by 2034 and represents 3 per cent of government expenditure in 2007 and 0.8 per cent in 2034. It should be noted that the administrative expenses for delivering the benefit have not been included. It is assumed that these would represent a further US\$ 6 million in 2007 adding thus 0.08 percentage points to the cost of the benefit in terms of GDP.

Based on the DfID model of birth grants (see description in Section 4.5 of the main report), it was assumed that the level of expenditure on this allowance should not exceed US\$ 2 million in 2007. On this basis, taking into account this level and the assumed number of annual births which take place in medical facilities (ie assumed at 15 per cent of births in 2007 and increasing annually), the affordable initial level of the birth grant is estimated at approximately Rupees 1262. This costs approximately 0.02 per cent of GDP in 2007 and increases to a level of 0.05 per cent of GDP by 2034. The main reasons for this increase are that on the one hand the number of grants increases as we assume an annual increase in the number of births which would take place in medical centres; and on the other hand the level of the grant is annually indexed in line with price inflation. While in absolute dollar terms the expenditure increases from US\$ 2 million in 2007 to US\$ 39.2 million, this still represents under 0.2 per cent of government expenditure and under 0.1 per cent of GDP at its highest during the projection period (ie in 2034). Table 6.5 shows details of the cost estimates.

Table 6.5. Basic social protection expenditure variant 6, Nepal, 2007-2034

	2007	2015	2030	2034
Total basic social protection				
<i>In millions of Rupees</i>	92866.4	133370.4	341734.4	435737.3
<i>In millions of US\$</i>	1149.0	1650.2	4228.2	5391.3
<i>In per cent of GDP</i>	14.3	10.1	7.2	6.7
<i>In per cent of government expenditure</i>	82.5	51.9	31.1	27.5
Universal old-age and invalidity pensions				
<i>In millions of Rupees</i>	1457.1	2635.4	7900.4	10794.6
<i>In millions of US\$</i>	18.0	32.6	97.8	133.6
<i>In per cent of GDP</i>	0.22	0.20	0.17	0.17
<i>In per cent of government expenditure</i>	1.3	1.0	0.7	0.7
Basic Health care				
<i>In millions of Rupees</i>	75370.6	98314.2	242147.1	304761.5
<i>In millions of US\$</i>	932.5	1216.4	2996.1	3770.8
<i>In per cent of GDP</i>	11.6	7.4	5.1	4.7
<i>In per cent of government expenditure</i>	67.0	38.3	22.0	19.3
Basic education				
<i>In millions of Rupees</i>	11881.6	25968.3	76840.6	101618.5
<i>In millions of US\$</i>	147.0	321.3	950.7	1257.3
<i>In per cent of GDP</i>	1.8	2.0	1.6	1.6
<i>In per cent of government expenditure</i>	10.6	10.1	7.0	6.4
Child benefit				
<i>In millions of Rupees</i>	3263.2	4776.1	9694.8	11566.9
<i>In millions of US\$</i>	40.4	59.1	120.0	143.1
<i>In per cent of GDP</i>	0.5	0.4	0.2	0.2
<i>In per cent of government expenditure</i>	2.9	1.9	0.9	0.7
Birth grant				
<i>In millions of Rupees</i>	161.6	491.0	2184.6	3166.6
<i>In millions of US\$</i>	2.0	6.1	27.0	39.2
<i>In per cent of GDP</i>	0.02	0.04	0.05	0.05
<i>In per cent of government expenditure</i>	0.1	0.2	0.2	0.2
Administrative costs				
<i>In millions of Rupees</i>	732.3	1185.4	2967.0	3829.2
<i>In millions of US\$</i>	9.1	14.7	36.7	47.4
<i>In per cent of GDP</i>	0.1	0.1	0.1	0.1
<i>In per cent of government expenditure</i>	0.7	0.5	0.3	0.2

6.7. Variant 7: Benefit to all adult women (cost limited to 0.5 per cent of GDP)

The main modifications of assumptions with respect to scenario I are:

- Universal old-age and disability pension of Rupees 250 per month, to persons aged 70 and over and the disabled (assumed to be 1 per cent of population);

- Universal child benefit for all children aged 0-5 not to exceed 0.5 per cent of GDP;
- The birth grant is replaced by a grant to all adult women.

The variant is based on scenario I for all parameters not mentioned in the description of the variant.

For the proposed unconditional and universal benefit to all adult women, it was assumed that adult women ages 15 to 69 would receive the benefit. As of the age of 70 the “standard” old-age pension benefit would be paid. Assuming that the total cost should not exceed 0.5 per cent of GDP, it is estimated that the affordable level of the benefit for 2007 amounts to about Rupees 35 per month (ie Rupees 420 per year). Administrative costs at a level of 15 per cent of benefit expenditure are assumed. Table 6.6 provides the cost overview of such a benefit. Starting at a cost of 0.5 per cent of GDP in 2007 the costs decrease to a level of 0.3 per cent of GDP in 2034. Administrative costs add another 0.08 percentage point of GDP in 2007 and 0.05 percentage points of GDP in 2034 in 2034.

Table 6.6. Variant 7, Nepal, 2007-2034

Main assumptions	2007	2010	2015	2020	2025	2030	2034
Grant for all adult women (15-69 years of age)							
Expenditure in million US\$	41.3	50.9	72.0	101.1	140.6	193.0	246.6
Expenditure in millions of rupees	3,336.4	4,114.9	5,818.9	8,170.6	11,361.9	15,601.3	19,926.9
Expenditure in per cent of GDP	0.51%	0.48%	0.44%	0.40%	0.36%	0.33%	0.31%
Expenditure in per cent of government expenditure	3.0%	2.7%	2.3%	1.9%	1.6%	1.4%	1.3%
Expenditure in per cent of government revenue	3.6%	2.9%	2.3%	1.9%	1.6%	1.4%	1.3%
Administrative expenditure (in millions of Rupees)	500.5	617.2	872.8	1225.6	1704.3	2340.2	2989.0
Administrative expenditure (in % of GDP)	0.08%	0.07%	0.07%	0.06%	0.05%	0.05%	0.05%

7. Conclusions

It is a well recognized fact that poverty is multi-faceted. It manifests itself not only in the form of lack of income security on the one side but also in the form of a lack of access to clean water, basic services of health and education amongst others. And all these elements are firmly interconnected. Basic social security measures in the form of access to health care and income security during old-age, income support for families with children are an essential component in national poverty reduction programmes. A recent ILO report (Townsend, 2007) reviewed the situation of social security in national development in the OECD countries and concluded that there is a strong correlation between high spending on public services and social security and lower levels of poverty and inequality and that the early-industrialised countries historically developed social security schemes early on and allocated high levels of spending on it.

With the recent positive political developments in Nepal, the country has now the opportunity to concentrate and focus its resources on what it now considers as priorities for its economic and social development. Within this context, attention has been drawn to the need for a modern approach to labour market regulation and development. The ILO stands ready to assist the government in the consideration of labour market reforms (study by Kyloh, 2007 internal document, forthcoming), as a part of which contingent reforms to relevant social security provisions would also be considered. The design of future social security provisions is a matter of national social policy taking into account priority areas of improvement and financial and fiscal feasibility.

The various scenarios which have been studied in the present report show that a basic set of non-contributory universal social security provisions is fiscally feasible even for Nepal. The suggestions for cash and other basic social benefits extend provisions which have, in fact, already been initiated by the government. There are, inevitably, difficulties in distinguishing between potential “new” expenditure and existing commitments. In broad terms the estimates set out in this report aim to show the overall expenditures needed for the proposed levels of basic social provisions.

Therefore, building on the existing commitment of the Government of Nepal, which has been providing over the last decade an old-age allowance for the elderly over 75, scenario I proposed an extension of the programme to all the elderly over the age of 65. The resulting additional cost of 0.3 per cent of GDP or 2 per cent of government expenditure seems well within the reach of Nepal. Table 7.1 shows the cost of the non-contributory cash transfers to the elderly and the disabled and to children as calculated in the four scenarios.

Table 7.1. Comparative table of basic social protection benefits for the four scenarios, Nepal, 2007-2034
(in per cent of GDP)

	2007	2010	2020	2030	2034
Old-age and invalidity					
<i>Scenario I: 200 Rupees per month</i>	0.45	0.43	0.37	0.34	0.34
<i>Scenario II: 3848 Rupees per year (50% of poverty line)</i>	0.72	0.68	0.59	0.55	0.55
<i>Scenario III: 400 Rupees per month</i>	0.89	0.85	0.74	0.69	0.68
<i>Scenario IV: 400 Rupees per month</i>	0.89	0.85	0.74	0.69	0.68
Child benefit					
<i>Scenario I: 100 Rupees per month (all 0-14 in age)</i>	2.0	1.8	1.2	0.8	0.7
<i>Scenario II: 1924 Rupees per year (all 0-14 in age)</i>	3.1	2.8	1.9	1.4	1.2
<i>Scenario III: 200 Rupees per month (all 0-18 in age)</i>	4.8	4.3	3.0	2.1	1.8
<i>Scenario IV (targeted to poor 0-18 in age): 200 Rupees per month</i>	1.5	1.3	0.9	0.7	0.6
Birth grant					
<i>Scenario I: 5,336 Rupees per birth in health centre (coverage all women)</i>	0.1	0.1	0.2	0.2	0.2
<i>Scenario II: 5,336 Rupees per birth in health centre (coverage all women)</i>	0.1	0.1	0.2	0.2	0.2
<i>Scenario III: 3,524 Rupees per birth in health centre (coverage all women)</i>	0.1	0.1	0.1	0.1	0.1
<i>Scenario IV: 5,336 Rupees per birth in health centre (coverage only poor women)</i>	4.8	4.3	3.0	2.1	1.8
<i>Scenario IV (targeted to poor 0-18 in age): 200 Rupees per month</i>	0.01	0.01	0.01	0.01	0.01
Access to primary education					
<i>Scenario I: coverage children 6-11 years of age (UNESCO per capita cost)</i>	1.8	2.0	1.8	1.6	1.6
<i>Scenario II: coverage children 6-11 years of age (UNESCO per capita cost)</i>	1.8	2.0	1.8	1.6	1.6
<i>Scenario III: coverage children 6-11 years of age (UNESCO per capita cost)</i>	1.8	2.0	1.8	1.6	1.6
<i>Scenario IV: coverage children 6-11 years of age (UNESCO per capita cost)</i>	1.8	2.0	1.8	1.6	1.6
Access to basic health care					
<i>Scenario I: Universal coverage (CMH per capita cost)</i>	11.6	9.8	6.5	5.1	4.7
<i>Scenario II: Universal coverage (national cost base)</i>	1.4	1.5	1.8	2.1	2.2
<i>Scenario III: Universal coverage (CMH per capita cost)</i>	11.6	9.8	6.5	5.1	4.7
<i>Scenario IV: Universal coverage (CMH per capita cost)</i>	11.6	9.8	6.5	5.1	4.7

Given the mounting cross-country evidence concerning the positive effects generated by cash transfers to older members of society on households and especially children (see section 4.1) and that the costing of the benefit shows that it is affordable, the extension of the current scheme to all over the age of 65 is worth seriously considering. An additional child benefit linked to the old-age allowance and birth grants to encourage women to deliver in health centres with the aim to also contribute towards bringing down infant and maternal mortality rates in Nepal are also well within the means of the Government.

Investment in basic education is an investment in the development of human capital. The necessity to ensure that every child has access to primary education and that each child is able to develop in the most appropriate environment possible. Good health plays a key role also in the development of human capital. Ensuring that access to basic health care is provided as from birth to the child and prenatal care to expectant mothers should therefore also be a priority. While the Commission for Macroeconomics and Health has estimated a level of per capita expenditure required to scale up priority health care interventions in low-income countries at US\$ 34 (in 2007) and increasing to US\$ 38 (by 2015), in the light of the current level of government expenditure of approximately US\$ 4 per capita (WHO data) any proposal to reach the suggested levels of per capita expenditure would clearly be ambitious. An absolute level of expenditure for essential health care based on a world average across all developing countries may not be appropriate in a country with a low level of wages in the public sector like Nepal. Thus, taking into account cost figures based on national estimates (scenario II) levels of expenditure closer to current government expenditure levels were obtained. Furthermore, out-of-pocket private expenditure on health care represents over 60 per cent of total health expenditure. It is suggested that out-of-pocket payments represent an inefficient and inequitable way of financing health care spending, placing a large part of the burden on the poor and associated with a high risk of household impoverishment through catastrophic costs (ILO, 2007, pp 7). Thus, taking into account that in 2005 according to WHO health accounts, total health expenditure including private expenditure represented 5.6 per cent of GDP, and given the present constraints to public finances, this may suggest a redistribution of existing public resources.

In developing an on-going social protection strategy, the principles of social insurance for health financing may be of interest to the Government. Just like other low and middle income countries have done in the recent past (Ghana in 2003, Thailand in 2001) the introduction of a national health insurance system, in the shorter or longer term, with a gradual increase in coverage and scope would ensure “the use of pluralistic financing mechanisms for achieving universal coverage, promoting equity and supporting global international efforts to alleviate poverty and improve health” (ILO, 2007).

The “model” of basic social provision set out here includes several components, the cost estimates for which reflect an idealistic assumption that implementation can be more or less immediate. While, the payment of new or increased cash benefits could, certainly, be put in place immediately, the development of improved provisions in, for example, health and education must be a much slower process. While we have, in making the estimates, tried to keep in mind the broad implications in terms of finance, administration, or social need of this observation, it is not within the scope of this rapid study to quantify many of these aspects in greater detail.

Now it is a matter of national social policy which will decide whether this is a priority in the context of the current situation. It is a long-term social and financial commitment yet a commitment which according to the present calculations is fiscally affordable. The costing has shown that while in absolute terms the costs will increase over the next two and a half decades, the relative costs in terms of GDP should decrease. Financial support from donors can be limited if the proportion of government expenditure devoted to social security can be increased.

The Social partners and other national stakeholders will need to ascertain what the country should and can afford to implement. Social security is a long-term investment. Short-term punctual interventions while providing support in crisis situations do not provide the safety net which vulnerable segments of the population require. The rest is a matter now of national commitment and priority.

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Annex A. Scenario I

Table A1. Scenario I main assumptions: Nepal

Main assumptions	2007	2010	2015	2020	2025	2030	2034
Population							
Total population	27'427'932	29'147'788	32'011'251	34'901'353	37'831'381	40'740'028	42'996'889
of which 0-4	3'819'371	3'873'099	3'900'880	3'957'557	4'042'610	4'088'445	4'081'755
of which 5-14	6'831'013	7'128'758	7'488'339	7'662'911	7'776'846	7'938'522	8'060'088
of which 15-64	15'725'624	16'995'096	19'282'754	21'724'645	24'195'643	26'523'157	28'319'998
of which 65+	1'051'924	1'150'835	1'339'278	1'556'240	1'816'282	2'189'904	2'535'048
Economy							
Real GDP growth	4.64%	4.61%	4.51%	4.33%	4.05%	3.75%	3.59%
Rate of inflation	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Productivity change	2.32%	2.31%	2.26%	2.17%	2.02%	1.88%	1.80%
Percentage of invalids in working-age population	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Exchange rate (LCU/US\$)	80.82	80.82	80.82	80.82	80.82	80.82	80.82
PPP\$ Exchange rate	13.60	13.60	13.60	13.60	13.60	13.60	13.60
Government revenue as a proportion of GDP	14.44%	16.45%	19.40%	20.71%	22.02%	23.33%	24.38%
Increase of government revenue in addition to GDP growth	5.33%	4.65%	1.50%	1.40%	1.31%	1.23%	1.18%
Pensions							
	Pension amount is in PPP\$			Pension amount is calculated as a defined amount in Rupees			
Ratio of universal pensions to GDP per capita							
Maximum universal pension per day (in US\$ or PPP\$)	0.48	0.55	0.69	0.86	1.07	1.33	1.59
Universal pension in Rupees (per day)	6.58	7.50	9.35	11.65	14.52	18.10	21.58
Health care							
	Expenditure calculated using option based on the Commission for Macroeconomics and Health of the WHO estimate						
Ratio of wages in health care to teachers' wages							
Staff/population ratio in health care (per 100,000 pop)							
Health expenditure factor							
Per capita minimum health care basket (CMH / WHO) option (US\$)	34.00	35.50	38.00	47.35	59.01	73.54	87.70
Education							
	Expenditure calculated using UNICEF per unit cost estimate			Age group: 6 to 11 years of age			
Ratio of UNICEF per unit cost estimate (in % of GDP per capita)	13%	13%	13%	13%	13%	13%	13%
Net enrolment ratio in the age group (%)	87%	94%	100%	100%	100%	100%	100%
Ratio of teachers wage to GDP per capita							
Number of pupils per teacher	40	40	40	40	40	40	40
Overhead factor							
Child benefit							
	Benefit amount is in PPP\$		Benefit amount is calculated as a defined amount in Rupee		Beneficiaries: all children in age 0-14		
Child benefit as a proportion of GDP per capita (%)	5.1%	4.7%	4.1%	3.6%	3.2%	2.9%	2.6%
Child benefit as a US\$ a day amount	0.24	0.28	0.34	0.43	0.53	0.67	0.79
Child benefit in rupees per day amount	3.29	3.75	4.68	5.83	7.26	9.05	10.79
Proportion of children in age bracket receiving a child benefit	100%	100%	100%	100%	100%	100%	100%
Birth grant							
	Birth grant in US\$ PPP			Beneficiaries: all women in age bracket who give birth			
Proportion of births in private health facility/ Hospital (%)	15%	20%	33%	46%	59%	75%	92%
Birth grant in US\$	392	448	558	695	867	1080	1288
Birth grant in Rupees	5336	6089	7588	9456	11784	14686	17513
Proportion of women who give birth receiving a birth grant (%)	15%	20%	33%	46%	59%	75%	92%
Administrative expenditure in % of cash benefit expenditure							
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Option							
Proportion of government expenditure allocated to basic social protection	30%	30%	30%	30%	30%	30%	30%

Table A2. Scenario I results: Nepal

Results	2007	2010	2015	2020	2025	2030	2034
Total expenditure on basic benefit package in million US\$	646.9	1,312.4	1,518.9	1,918.2	2,628.4	3,582.4	6,214.9
Universal pensions		35.9	44.8	64.7	93.3	135.0	274.7
Basic health care		932.5	1,034.7	1,216.4	1,652.8	2,232.5	3,770.8
Basic education		147.0	203.7	321.3	464.5	665.6	1,257.3
Child benefit		158.1	186.4	240.5	305.8	387.6	591.7
Birth grant		8.5	12.8	25.7	45.4	72.5	114.3
Administrative expenditure		30.4	36.6	49.6	66.7	89.3	154.8
Total expenditure on basic benefit package in million rupees	0.0	106,073.1	122,763.4	155,034.9	212,431.8	289,541.0	502,298.4
Universal pensions		2,902.0	3,617.4	5,229.1	7,543.1	10,909.4	22,198.8
Basic health care		75,370.6	83,630.3	98,314.2	133,578.7	180,438.3	304,761.5
Basic education		11,881.6	16,460.9	25,968.3	37,542.8	53,798.3	101,618.5
Child benefit		12,780.5	15,065.9	19,435.9	24,712.5	31,323.6	47,819.6
Birth grant		683.5	1,031.7	2,076.1	3,666.3	5,857.8	13,388.9
Administrative expenditure		2,454.9	2,957.2	4,011.2	5,388.3	7,213.6	12,511.1
Total expenditure on basic benefit package in % of GDP	10.2%	16.3%	14.4%	11.7%	10.4%	9.2%	7.7%
Universal pensions		0.45%	0.43%	0.39%	0.37%	0.35%	0.34%
Basic health care		11.6%	9.8%	7.4%	6.5%	5.8%	4.7%
Basic education		1.8%	1.9%	2.0%	1.8%	1.7%	1.6%
Child benefit		2.0%	1.8%	1.5%	1.2%	1.0%	0.7%
Birth grant		0.11%	0.12%	0.16%	0.18%	0.19%	0.21%
Administrative expenditure		0.4%	0.3%	0.3%	0.3%	0.2%	0.2%
Total expenditure on basic benefit package in % of government expenditure	61.6%	94.2%	79.8%	60.4%	50.1%	42.0%	31.7%
Universal pensions		2.6%	2.4%	2.0%	1.8%	1.6%	1.4%
Basic health care		67.0%	54.4%	38.3%	31.5%	26.2%	19.3%
Basic education		10.6%	10.7%	10.1%	8.9%	7.8%	6.4%
Child benefit		11.4%	9.8%	7.6%	5.8%	4.5%	3.0%
Birth grant		0.6%	0.7%	0.8%	0.9%	0.8%	0.8%
Administrative expenditure		2.2%	1.9%	1.6%	1.3%	1.0%	0.8%
Total expenditure on basic benefit package in % of government revenue	81.9%	112.9%	87.8%	60.4%	50.1%	42.0%	31.7%
Universal pensions		3.1%	2.6%	2.0%	1.8%	1.6%	1.4%
Basic health care		80.2%	59.8%	38.3%	31.5%	26.2%	19.3%
Basic education		12.6%	11.8%	10.1%	8.9%	7.8%	6.4%
Child benefit		13.6%	10.8%	7.6%	5.8%	4.5%	3.0%
Birth grant		0.7%	0.7%	0.8%	0.9%	0.8%	0.8%
Administrative expenditure		2.6%	2.1%	1.6%	1.3%	1.0%	0.8%
Option 1: Proportion of government expenditure allocated to basic social protection (2006 level)	13.5%	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%
Government financing in % of GDP		2.6%	2.7%	2.9%	3.1%	3.3%	3.6%
Government financing (in million US\$)		207.6	283.6	473.6	781.9	1,271.4	2,917.2
External financing required (in million US\$)		1,104.9	1,235.4	1,444.6	1,846.5	2,311.1	3,297.7
Option 2: Proportion of government expenditure allocated to basic social protection (alternative scenario)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Government financing in % of GDP		5.2%	5.4%	5.8%	6.2%	6.6%	7.3%
Government financing (in million US\$)		417.9	570.9	953.4	1,574.2	2,559.6	5,872.8
External financing required (in million US\$)		894.6	948.1	964.8	1,054.2	1,022.9	342.1

Share of domestic financing under Option 1

15.8% 18.7% 24.7% 29.7% 35.5% 41.6% 46.9%

Share of domestic financing under Option 2

31.8% 37.6% 49.7% 59.9% 71.4% 83.8% 94.5%

Results	2007	2010	2015	2020	2025	2030	2034
Total expenditure on social protection in million US\$	1,486.4	1,735.0	2,229.8	3,078.0	4,230.2	5,813.1	7,476.0
Basic social protection		1,312.4	1,518.9	1,918.2	2,628.4	3,582.4	6,214.9
Other social protection		174.0	216.1	311.6	449.6	647.8	1,261.1
Total expenditure on social protection in percent of GDP	18.5%	16.5%	13.6%	12.1%	10.9%	10.0%	9.3%
Basic social protection		16.3%	14.4%	11.7%	10.4%	9.2%	7.7%
Other social protection		2.2%	2.1%	1.9%	1.8%	1.7%	1.6%

Annex B. Scenario II

Table B1. Scenario II assumptions: Nepal

Main assumptions	2007	2010	2015	2020	2025	2030	2034
Population							
Total population	27'427'932	29'147'788	32'011'251	34'901'353	37'831'381	40'740'028	42'996'889
of which 0-4	3'819'371	3'873'099	3'900'880	3'957'557	4'042'610	4'088'445	4'081'755
of which 5-14	6'831'013	7'128'758	7'488'339	7'662'911	7'776'846	7'938'522	8'060'088
of which 15-64	15'725'624	16'995'096	19'282'754	21'724'645	24'195'643	26'523'157	28'319'998
of which 65+	1'051'924	1'150'835	1'339'278	1'556'240	1'816'282	2'189'904	2'535'048
Economy							
Real GDP growth	4.64%	4.61%	4.51%	4.33%	4.05%	3.75%	3.59%
Rate of inflation	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Productivity change	2.32%	2.31%	2.26%	2.17%	2.02%	1.88%	1.80%
Percentage of invalids in working-age population	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Exchange rate (LCU/US\$)	80.82	80.82	80.82	80.82	80.82	80.82	80.82
PPP\$ Exchange rate	13.60	13.60	13.60	13.60	13.60	13.60	13.60
Government revenue as a proportion of GDP	14.44%	16.45%	19.40%	20.71%	22.02%	23.33%	24.38%
Increase of government revenue in addition to GDP growth	5.33%	4.65%	1.50%	1.40%	1.31%	1.23%	1.18%
Pensions							
Ratio of universal pensions to GDP per capita	Pension amount is in PPP\$		Pension amount is calculated as a defined amount in Rupees				
Maximum universal pension per day (in US\$ or PPP\$)	0.78	0.88	1.10	1.37	1.71	2.13	2.54
Universal pension in Rupees (per day)	10.54	12.03	14.99	18.68	23.28	29.01	34.60
Health care							
Expenditure calculated using option based on staff ratio, staff wages, exp. Ratio							
Ratio of wages in health care to teachers' wages	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Staff/population ratio in health care (per 100,000 pop)	300	300	300	300	300	300	300
Health expenditure factor	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Per capita minimum health care basket (CMH / WHO) option (US\$)							
Education							
Expenditure calculated using UNICEF per unit cost estimate							
				Age group: 6 to 11 years of age			
Ratio of UNICEF per unit cost estimate (in % of GDP per capita)	13%	13%	13%	13%	13%	13%	13%
Net enrolment ratio in the age group (%)	87%	94%	100%	100%	100%	100%	100%
Ratio of teachers wage to GDP per capita							
Number of pupils per teacher	40	40	40	40	40	40	40
Overhead factor							
Child benefit							
		Benefit amount is in PPP\$		Pension amount is calculated as a defined amount in Rupee		Beneficiaries: all children in age 0-14	
Child benefit as a proportion of GDP per capita (%)	8.1%	7.5%	6.6%	5.8%	5.1%	4.6%	4.2%
Child benefit as a US\$ a day amount	0.39	0.44	0.55	0.69	0.86	1.07	1.27
Child benefit in rupees per day amount	5.27	6.02	7.50	9.34	11.64	14.51	17.30
Proportion of children in age bracket receiving a child benefit	100%	100%	100%	100%	100%	100%	100%
Birth grant							
		Birth grant in US\$ PPP		Beneficiaries: all women in age bracket who give birth			
Proportion of births in private health facility/ Hospital (%)	15%	20%	33%	46%	59%	75%	92%
Birth grant in US\$	392	448	558	695	867	1080	1288
Birth grant in Rupees	5336	6089	7588	9456	11784	14686	17513
Proportion of women who give birth receiving a birth grant (%)	15%	20%	33%	46%	59%	75%	92%
Administrative expenditure in % of cash benefit expenditure	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Option							
Proportion of government expenditure allocated to basic social protection	30%	30%	30%	30%	29%	26%	25%

Table B2. Scenario II results: Nepal

Results	2007	2010	2015	2020	2025	2030	2034	
Total expenditure on basic benefit package in million US\$	556.6	629.8	804.7	1,187.4	1,714.3	2,477.9	3,599.3	4,848.1
Universal pensions	57.6	71.8	103.7	149.6	216.4	321.7	440.4	
Basic health care	115.3	160.1	273.9	461.8	765.4	1,241.0	1,802.9	
Basic education	147.0	203.7	321.3	464.5	665.6	950.7	1,257.3	
Child benefit	253.5	298.9	385.6	490.2	621.4	788.0	948.6	
Birth grant	8.5	12.8	25.7	45.4	72.5	114.3	165.7	
Administrative expenditure	47.9	57.5	77.2	102.8	136.5	183.6	233.2	
Total expenditure on basic benefit package in million rupees	0.0	50,902.9	65,038.5	95,968.8	138,556.0	200,270.3	290,903.1	391,833.1
Universal pensions	4,652.9	5,799.8	8,384.1	12,094.1	17,491.4	26,000.7	35,592.1	
Basic health care	9,319.4	12,942.3	22,134.7	37,322.9	61,864.9	100,301.8	145,715.1	
Basic education	11,881.6	16,460.9	25,968.3	37,542.8	53,798.3	76,840.6	101,618.5	
Child benefit	20,491.3	24,155.7	31,162.3	39,622.4	50,222.2	63,684.8	76,670.7	
Birth grant	683.5	1,031.7	2,076.1	3,666.3	5,857.8	9,236.8	13,388.9	
Administrative expenditure	3,874.2	4,648.1	6,243.4	8,307.4	11,035.7	14,838.3	18,847.8	
Total expenditure on basic benefit package in % of GDP	8.8%	7.8%	7.6%	7.2%	6.8%	6.4%	6.2%	6.0%
Universal pensions	0.72%	0.68%	0.63%	0.59%	0.56%	0.55%	0.55%	
Basic health care	1.4%	1.5%	1.7%	1.8%	2.0%	2.1%	2.2%	
Basic education	1.8%	1.9%	2.0%	1.8%	1.7%	1.6%	1.6%	
Child benefit	3.1%	2.8%	2.4%	1.9%	1.6%	1.4%	1.2%	
Birth grant	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	
Administrative expenditure	0.6%	0.5%	0.5%	0.4%	0.4%	0.3%	0.3%	
Total expenditure on basic benefit package in % of government expenditure	53.0%	45.2%	42.3%	37.4%	32.7%	29.0%	26.4%	24.8%
Universal pensions	4.1%	3.8%	3.3%	2.9%	2.5%	2.4%	2.2%	
Basic health care	8.3%	8.4%	8.6%	8.8%	9.0%	9.1%	9.2%	
Basic education	10.6%	10.7%	10.1%	8.9%	7.8%	7.0%	6.4%	
Child benefit	18.2%	15.7%	12.1%	9.3%	7.3%	5.8%	4.8%	
Birth grant	0.6%	0.7%	0.8%	0.9%	0.8%	0.8%	0.8%	
Administrative expenditure	3.4%	3.0%	2.4%	2.0%	1.6%	1.3%	1.2%	
Total expenditure on basic benefit package in % of government revenue	70.4%	54.2%	46.5%	37.4%	32.7%	29.0%	26.4%	24.8%
Universal pensions	5.0%	4.1%	3.3%	2.9%	2.5%	2.4%	2.2%	
Basic health care	9.9%	9.3%	8.6%	8.8%	9.0%	9.1%	9.2%	
Basic education	12.6%	11.8%	10.1%	8.9%	7.8%	7.0%	6.4%	
Child benefit	21.8%	17.3%	12.1%	9.3%	7.3%	5.8%	4.8%	
Birth grant	0.7%	0.7%	0.8%	0.9%	0.8%	0.8%	0.8%	
Administrative expenditure	4.1%	3.3%	2.4%	2.0%	1.6%	1.3%	1.2%	
Option 1: Proportion of government expenditure allocated to basic social protection (2006 level)	13.7%	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%	
Government financing in % of GDP	2.6%	2.7%	2.9%	3.1%	3.3%	3.5%	3.6%	
Government financing (in million US\$)	207.6	283.6	473.6	781.9	1,271.4	2,028.1	2,917.2	
External financing required (in million US\$)	422.3	521.1	713.8	932.4	1,206.5	1,571.2	1,930.9	
Option 2: Proportion of government expenditure allocated to basic social protection (alternative scenario)	30.0%	30.0%	30.0%	30.0%	29.0%	26.4%	24.8%	
Government financing in % of GDP	5.2%	5.4%	5.8%	6.2%	6.4%	6.2%	6.0%	
Government financing (in million US\$)	417.9	570.9	953.4	1,574.2	2,477.9	3,599.3	4,848.1	
External financing required (in million US\$)	212.0	233.8	234.0	140.2	-	-	-	

Share of domestic financing under Option 1

33.0% 35.2% 39.9% 45.6% 51.3% 56.3% 60.2%

Share of domestic financing under Option 2

66.3% 70.9% 80.3% 91.8% 100.0% 100.0% 100.0%

Results	2007	2010	2015	2020	2025	2030	2034	
Total expenditure on social protection in million US\$	701.9	803.8	1,020.8	1,499.0	2,163.9	3,125.7	4,538.3	6,109.2
Basic social protection	629.8	804.7	1,187.4	1,714.3	2,477.9	3,599.3	4,848.1	
Other social protection	174.0	216.1	311.6	449.6	647.8	939.0	1,261.1	
Total expenditure on social protection in percent of GDP	10.0%	9.7%	9.1%	8.5%	8.1%	7.8%	7.6%	
Basic social protection	7.8%	7.6%	7.2%	6.8%	6.4%	6.2%	6.0%	
Other social protection	2.2%	2.1%	1.9%	1.8%	1.7%	1.6%	1.6%	

Annex C. Scenario III

Table C1. Scenario III assumptions: Nepal

Main assumptions	2007	2010	2015	2020	2025	2030	2034
Population							
Total population	27427932	29147788	32011251	34901353	37831381	40740028	42996889
of which 0-4	3819371	3873099	3900880	3957557	4042610	4088445	4081755
of which 5-14	6831013	7128758	7488339	7662911	7776846	7938522	8060088
of which 15-64	15725624	16995096	19282754	21724645	24195643	26523157	28319998
of which 65+	1051924	1150835	1339278	1556240	1816282	2189904	2535048
Economy							
Real GDP growth	4.64%	4.61%	4.51%	4.33%	4.05%	3.75%	3.59%
Rate of inflation	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Productivity change	2.32%	2.31%	2.26%	2.17%	2.02%	1.88%	1.80%
Percentage of invalids in working-age population	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Exchange rate (LCU/US\$)	80.82	80.82	80.82	80.82	80.82	80.82	80.82
PPP\$ Exchange rate	13.60	13.60	13.60	13.60	13.60	13.60	13.60
Government revenue as a proportion of GDP	14.44%	16.45%	19.40%	20.71%	22.02%	23.33%	24.38%
Increase of government revenue in addition to GDP growth	5.33%	4.65%	1.50%	1.40%	1.31%	1.23%	1.18%
Pensions							
	Pension amount is in PPP\$			Pension amount is calculated as a defined amount in Rupees			
Ratio of universal pensions to GDP per capita							
Maximum universal pension per day (in US\$ or PPP\$)	0.97	1.10	1.38	1.71	2.14	2.66	3.17
Universal pension in Rupees (per day)	13.15	15.01	18.70	23.31	29.04	36.19	43.16
Health care							
	Expenditure calculated using option based on the Commission for Macroeconomics and Health of the WHO estimate						
Ratio of wages in health care to teachers' wages							
Staff/population ratio in health care (per 100,000 pop)							
Health expenditure factor							
Per capita minimum health care basket (CMH / WHO) option (US\$)	34.00	35.50	38.00	47.35	59.01	73.54	87.70
Education							
	Expenditure calculated using UNICEF per unit cost estimate			Age group: 6 to 11 years of age			
Ratio of UNICEF per unit cost estimate (in % of GDP per capita)	13%	13%	13%	13%	13%	13%	13%
Net enrolment ratio in the age group (%)	87%	94%	100%	100%	100%	100%	100%
Ratio of teachers wage to GDP per capita							
Number of pupils per teacher	40	40	40	40	40	40	40
Overhead factor							
Child benefit							
	Benefit amount is in PPP\$		Pension amount is calculated as a defined amount in Rupee		Beneficiaries: all children in age 0-18		
Child benefit as a proportion of GDP per capita (%)	10.1%	9.4%	8.3%	7.2%	6.4%	5.7%	5.2%
Child benefit as a US\$ a day amount	0.48	0.55	0.69	0.86	1.07	1.33	1.59
Child benefit in rupees per day amount	6.58	7.50	9.35	11.65	14.52	18.10	21.58
Proportion of children in age bracket receiving a child benefit	100%	100%	100%	100%	100%	100%	100%
Birth grant							
	Birth grant in US\$ PPP			Beneficiaries: all women in age bracket who give birth			
Proportion of births in private health facility/ Hospital (%)	15%	20%	33%	46%	59%	75%	92%
Birth grant in US\$	259	296	369	459	572	713	851
Birth grant in Rupees	3524	4021	5011	6245	7783	9699	11566
Proportion of women who give birth receiving a birth grant (%)	15%	20%	33%	46%	59%	75%	92%
Administrative expenditure in % of cash benefit expenditure	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Option							
Proportion of government expenditure allocated to basic social protection	30%	30%	30%	30%	30%	30%	30%

Table C2. Scenario III results: Nepal

Results	2007	2010	2015	2020	2025	2030	2034	
Total expenditure on basic benefit package in million US\$	939.3	1,610.6	1,875.0	2,389.4	3,244.1	4,382.0	5,912.6	7,493.2
Universal pensions	71.8	89.5	129.4	186.7	270.0	401.3	549.3	
Basic health care	932.5	1,034.7	1,216.4	1,652.8	2,232.5	2,996.1	3,770.8	
Basic education	147.0	203.7	321.3	464.5	665.6	950.7	1,257.3	
Child benefit	384.4	455.6	594.2	763.3	972.4	1,232.6	1,484.8	
Birth grant	5.6	8.4	17.0	30.0	47.9	75.5	109.4	
Administrative expenditure	69.3	83.0	111.1	147.0	193.5	256.4	321.5	
Total expenditure on basic benefit package in million rupees	0.0	130,171.5	151,539.0	193,116.5	262,196.1	354,160.7	477,866.9	605,615.7
Universal pensions	5,804.1	7,234.7	10,458.3	15,086.2	21,818.8	32,433.3	44,397.7	
Basic health care	75,370.6	83,630.3	98,314.2	133,578.7	180,438.3	242,147.1	304,761.5	
Basic education	11,881.6	16,460.9	25,968.3	37,542.8	53,798.3	76,840.6	101,618.5	
Child benefit	31,065.6	36,821.2	48,026.3	61,687.7	78,594.5	99,622.4	120,008.5	
Birth grant	451.4	681.3	1,371.1	2,421.3	3,868.6	6,100.2	8,842.3	
Administrative expenditure	5,598.2	6,710.6	8,978.4	11,879.3	15,642.3	20,723.4	25,987.3	
Total expenditure on basic benefit package in % of GDP	14.8%	20.0%	17.8%	14.6%	12.8%	11.3%	10.1%	9.3%
Universal pensions	0.89%	0.85%	0.79%	0.74%	0.70%	0.69%	0.68%	
Basic health care	11.6%	9.8%	7.4%	6.5%	5.8%	5.1%	4.7%	
Basic education	1.8%	1.9%	2.0%	1.8%	1.7%	1.6%	1.6%	
Child benefit	4.8%	4.3%	3.6%	3.0%	2.5%	2.1%	1.8%	
Birth grant	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	
Administrative expenditure	0.9%	0.8%	0.7%	0.6%	0.5%	0.4%	0.4%	
Total expenditure on basic benefit package in % of government expenditure	89.4%	115.6%	98.5%	75.2%	61.8%	51.4%	43.4%	38.3%
Universal pensions	5.2%	4.7%	4.1%	3.6%	3.2%	2.9%	2.8%	
Basic health care	67.0%	54.4%	38.3%	31.5%	26.2%	22.0%	19.3%	
Basic education	10.6%	10.7%	10.1%	8.9%	7.8%	7.0%	6.4%	
Child benefit	27.6%	23.9%	18.7%	14.5%	11.4%	9.1%	7.6%	
Birth grant	0.4%	0.4%	0.5%	0.6%	0.6%	0.6%	0.6%	
Administrative expenditure	5.0%	4.4%	3.5%	2.8%	2.3%	1.9%	1.6%	
Total expenditure on basic benefit package in % of government revenue	118.9%	138.6%	108.3%	75.2%	61.8%	51.4%	43.4%	38.3%
Universal pensions	6.2%	5.2%	4.1%	3.6%	3.2%	2.9%	2.8%	
Basic health care	80.2%	59.8%	38.3%	31.5%	26.2%	22.0%	19.3%	
Basic education	12.6%	11.8%	10.1%	8.9%	7.8%	7.0%	6.4%	
Child benefit	33.1%	26.3%	18.7%	14.5%	11.4%	9.1%	7.6%	
Birth grant	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%	
Administrative expenditure	6.0%	4.8%	3.5%	2.8%	2.3%	1.9%	1.6%	
Option 1: Proportion of government expenditure allocated to basic social protection (2006 level)	13.7%	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%	
Government financing in % of GDP	2.6%	2.7%	2.9%	3.1%	3.3%	3.5%	3.6%	
Government financing (in million US\$)	207.6	283.6	473.6	781.9	1,271.4	2,028.1	2,917.2	
External financing required (in million US\$)	1,403.0	1,591.4	1,915.8	2,462.2	3,110.6	3,884.5	4,576.0	
Option 2: Proportion of government expenditure allocated to basic social protection (alternative scenario)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	
Government financing in % of GDP	5.2%	5.4%	5.8%	6.2%	6.6%	7.0%	7.3%	
Government financing (in million US\$)	417.9	570.9	953.4	1,574.2	2,559.6	4,082.9	5,872.8	
External financing required (in million US\$)	1,192.7	1,304.1	1,436.0	1,669.9	1,822.4	1,829.7	1,620.4	
Share of domestic financing under Option 1	12.9%	15.1%	19.8%	24.1%	29.0%	34.3%	38.9%	
Share of domestic financing under Option 2	25.9%	30.4%	39.9%	48.5%	58.4%	69.1%	78.4%	
Results	2007	2010	2015	2020	2025	2030	2034	
Total expenditure on social protection in million US\$	1,084.7	1,784.5	2,091.1	2,701.0	3,693.7	5,029.7	6,851.6	8,754.3
Basic social protection	1,610.6	1,875.0	2,389.4	3,244.1	4,382.0	5,912.6	7,493.2	
Other social protection	174.0	216.1	311.6	449.6	647.8	939.0	1,261.1	
Total expenditure on social protection in percent of GDP	22.2%	19.9%	16.5%	14.6%	13.0%	11.7%	10.9%	
Basic social protection	20.0%	17.8%	14.6%	12.8%	11.3%	10.1%	9.3%	
Other social protection	2.2%	2.1%	1.9%	1.8%	1.7%	1.6%	1.6%	

Annex D. Scenario IV

Table D1. Scenario IV main assumptions: Nepal

Main assumptions	2007	2010	2015	2020	2025	2030	2034
Population							
Total population	27'427'932	29'147'788	32'011'251	34'901'353	37'831'381	40'740'028	42'996'889
of which 0-4	3'819'371	3'873'099	3'900'880	3'957'557	4'042'610	4'088'445	4'081'755
of which 5-14	6'831'013	7'128'758	7'488'339	7'662'911	7'776'846	7'938'522	8'060'088
of which 15-64	15'725'624	16'995'096	19'282'754	21'724'645	24'195'643	26'523'157	28'319'998
of which 65+	1'051'924	1'150'835	1'339'278	1'556'240	1'816'282	2'189'904	2'535'048
Economy							
Real GDP growth	4.64%	4.61%	4.51%	4.33%	4.05%	3.75%	3.59%
Rate of inflation	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Productivity change	2.32%	2.31%	2.26%	2.17%	2.02%	1.88%	1.80%
Percentage of invalids in working-age population	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Exchange rate (LCU/US\$)	80.82	80.82	80.82	80.82	80.82	80.82	80.82
PPP\$ Exchange rate	13.60	13.60	13.60	13.60	13.60	13.60	13.60
Government revenue as a proportion of GDP	14.44%	16.45%	19.40%	20.71%	22.02%	23.33%	24.38%
Increase of government revenue in addition to GDP growth	5.33%	4.65%	1.50%	1.40%	1.31%	1.23%	1.18%
Pensions							
Ratio of universal pensions to GDP per capita	Pension amount is in PPP\$		Pension amount is calculated as a defined amount in Rupees				
Maximum universal pension per day (in US\$ or PPP\$)	0.97	1.10	1.38	1.71	2.14	2.66	3.17
Universal pension in Rupees (per day)	13.15	15.01	18.70	23.31	29.04	36.19	43.16
Health care							
Ratio of wages in health care to teachers' wages	Expenditure calculated using option based on the Commission for Macroeconomics and Health of the WHO estimate						
Staff/population ratio in health care (per 100,000 pop)							
Health expenditure factor							
Per capita minimum health care basket (CMH / WHO) option (US\$)	34.00	35.50	38.00	47.35	59.01	73.54	87.70
Education							
Ratio of UNICEF per unit cost estimate (in % of GDP per capita)	Expenditure calculated using UNICEF per unit cost estimate			Age group: 6 to 11 years of age			
Net enrolment ratio in the age group (%)	13%	13%	13%	13%	13%	13%	13%
Ratio of teachers wage to GDP per capita	87%	94%	100%	100%	100%	100%	100%
Number of pupils per teacher	40	40	40	40	40	40	40
Overhead factor							
Child benefit							
Child benefit as a proportion of GDP per capita (%)	Benefit amount is in PPP\$		Pension amount is calculated as a defined amount in Rupee		Beneficiaries: all children in age 0-18		
Child benefit as a US\$ a day amount	10.1%	9.4%	8.3%	7.2%	6.4%	5.7%	5.2%
Child benefit in rupees per day amount	0.48	0.55	0.69	0.86	1.07	1.33	1.59
Proportion of children in age bracket receiving a child benefit	6.58	7.50	9.35	11.65	14.52	18.10	21.58
	100%	100%	100%	100%	100%	100%	100%
Birth grant							
Proportion of births in private health facility/ Hospital (%)	Birth grant in US\$ PPP			Beneficiaries: women living under poverty line only who give birth			
Birth grant in US\$	5%	6%	10%	14%	18%	22%	27%
Birth grant in Rupees	392	448	558	695	867	1080	1288
Proportion of women who give birth receiving a birth grant (%)	5336	6089	7588	9456	11784	14686	17513
	1%	2%	3%	4%	5%	7%	8%
Administrative expenditure in % of cash benefit expenditure	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Option							
Proportion of government expenditure allocated to basic social protection	30%	30%	30%	30%	30%	30%	30%

Table D2. Scenario IV results: Nepal

Results	2007	2010	2015	2020	2025	2030	2034	
Total expenditure on basic benefit package in million US\$	652.6	1,320.9	1,529.8	1,933.5	2,650.6	3,616.5	4,928.0	6,289.4
Universal pensions	71.8	89.5	129.4	186.7	270.0	401.3	549.3	
Basic health care	932.5	1,034.7	1,216.4	1,652.8	2,232.5	2,996.1	3,770.8	
Basic education	147.0	203.7	321.3	464.5	665.6	950.7	1,257.3	
Child benefit	118.6	140.5	183.3	235.5	300.0	380.3	458.1	
Birth grant	0.8	1.2	2.4	4.2	6.7	10.5	15.3	
Administrative expenditure	50.2	60.2	80.7	107.1	141.7	189.2	238.6	
Total expenditure on basic benefit package in million rupees	0.0	106,757.0	123,645.5	156,269.4	214,230.8	292,293.8	398,293.6	508,318.4
Universal pensions	5,804.1	7,234.7	10,458.3	15,086.2	21,818.8	32,433.3	44,397.7	
Basic health care	75,370.6	83,630.3	98,314.2	133,578.7	180,438.3	242,147.1	304,761.5	
Basic education	11,881.6	16,460.9	25,968.3	37,542.8	53,798.3	76,840.6	101,618.5	
Child benefit	9,583.7	11,359.3	14,816.1	19,030.7	24,246.4	30,733.5	37,022.6	
Birth grant	63.0	95.1	191.3	337.8	539.8	851.2	1,233.8	
Administrative expenditure	4,054.0	4,865.2	6,521.2	8,654.5	11,452.3	15,287.9	19,284.3	
Total expenditure on basic benefit package in % of GDP	10.3%	16.4%	14.5%	11.8%	10.5%	9.3%	8.4%	7.8%
Universal pensions	0.89%	0.85%	0.79%	0.74%	0.70%	0.69%	0.68%	
Basic health care	11.6%	9.8%	7.4%	6.5%	5.8%	5.1%	4.7%	
Basic education	1.8%	1.9%	2.0%	1.8%	1.7%	1.6%	1.6%	
Child benefit	1.5%	1.3%	1.1%	0.9%	0.8%	0.7%	0.6%	
Birth grant	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Administrative expenditure	0.6%	0.6%	0.5%	0.4%	0.4%	0.3%	0.3%	
Total expenditure on basic benefit package in % of government expenditure	82.1%	94.8%	80.4%	60.8%	50.5%	42.4%	36.2%	32.1%
Universal pensions	5.2%	4.7%	4.1%	3.6%	3.2%	2.9%	2.8%	
Basic health care	67.0%	54.4%	38.3%	31.5%	26.2%	22.0%	19.3%	
Basic education	10.6%	10.7%	10.1%	8.9%	7.8%	7.0%	6.4%	
Child benefit	8.5%	7.4%	5.8%	4.5%	3.5%	2.8%	2.3%	
Birth grant	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	
Administrative expenditure	3.6%	3.2%	2.5%	2.0%	1.7%	1.4%	1.2%	
Total expenditure on basic benefit package in % of government revenue	82.6%	113.6%	88.4%	60.8%	50.5%	42.4%	36.2%	32.1%
Universal pensions	6.2%	5.2%	4.1%	3.6%	3.2%	2.9%	2.8%	
Basic health care	80.2%	59.8%	38.3%	31.5%	26.2%	22.0%	19.3%	
Basic education	12.6%	11.8%	10.1%	8.9%	7.8%	7.0%	6.4%	
Child benefit	10.2%	8.1%	5.8%	4.5%	3.5%	2.8%	2.3%	
Birth grant	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	
Administrative expenditure	4.3%	3.5%	2.5%	2.0%	1.7%	1.4%	1.2%	
Option 1: Proportion of government expenditure allocated to basic social protection (2006 level)	13.7%	14.9%						
Government financing in % of GDP	2.6%	2.7%	2.9%	3.1%	3.3%	3.5%	3.6%	
Government financing (in million US\$)	207.6	283.6	473.6	781.9	1,271.4	2,028.1	2,917.2	
External financing required (in million US\$)	1,113.3	1,246.3	1,459.9	1,868.7	2,345.1	2,899.9	3,372.2	
Option 2: Proportion of government expenditure allocated to basic social protection (alternative scenario)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Government financing in % of GDP	5.2%	5.4%	5.8%	6.2%	6.6%	7.0%	7.3%	
Government financing (in million US\$)	417.9	570.9	953.4	1,574.2	2,559.6	4,082.9	5,872.8	
External financing required (in million US\$)	903.0	959.0	980.1	1,076.5	1,057.0	845.1	416.6	

Share of domestic financing under Option 1

15.7% 18.5% 24.5% 29.5% 35.2% 41.2% 46.4%

Share of domestic financing under Option 2

31.6% 37.3% 49.3% 59.4% 70.8% 82.9% 93.4%

Results	2007	2010	2015	2020	2025	2030	2034	
Total expenditure on social protection in million US\$	797.9	1,494.8	1,746.0	2,245.1	3,100.2	4,264.3	5,867.0	7,550.5
Basic social protection	1,320.9	1,529.8	1,933.5	2,650.6	3,616.5	4,928.0	6,289.4	
Other social protection	174.0	216.1	311.6	449.6	647.8	939.0	1,261.1	
Total expenditure on social protection in percent of GDP	18.6%	16.6%	13.7%	12.2%	11.0%	10.1%	9.4%	
Basic social protection	16.4%	14.5%	11.8%	10.5%	9.3%	8.4%	7.8%	
Other social protection	2.2%	2.1%	1.9%	1.8%	1.7%	1.6%	1.6%	

Annex E. The model¹⁵

E.1. Modelling methodology

The model adopted in this report is based on the ILO model used for the costing of basic social protection in selected African countries (Pal, et al. 2005) and selected Asian countries (Mizunoya, et al. 2006). The model takes into account country specific information necessary to develop a quantitative model such as real and nominal gross domestic product (GDP), inflation, exchange rate, purchasing power parity (PPP), government expenditure/revenue and medical staff wages.

Based on historical data, projections of various demographic, economic and financial parameters were undertaken for the period 2004 to 2034. In some cases, where more current data were available, projections were made from 2005 or 2006.

The model is a simple and robust deterministic “if-then” model, which treats key economic variables (i.e., economic growth, productivity and inflation) as exogenous. It basically projects expenditure and revenues in the social and public sectors in the form of extended budget scenarios based on exogenous assumptions for key parameters of the model. However, the assumptions are internally consistent (for example, the relationship between population growth, economic growth and productivity) and consistent with observed historical data. The model was designed to permit sensitivity analysis of some of the main assumptions (i.e., GDP growth, productivity, benefit levels and coverage, etc).

E.2. The demographic and economic parameters and assumptions

Country specific historical data were used to the extent available in this study.

Demographic environment

Historical as well as future population estimates are based on United Nations’ population projections from World Population Prospects 2002 (medium variant) (United Nations 2004b).

Gross Domestic Product

Historical data for real and nominal GDP from 1990 to 2003 were obtained from the World Economic Outlook Database of the International Monetary Fund (IMF, 2005a). Real GDP growth is assumed as being equal to the growth of the working-age population plus 2 per centage point for the base case.

Inflation

Historical data and projections on inflation were obtained from the IMF World Economic Outlook Database (IMF, 2005a). The estimated inflation rate for 2006 is 4.5 per cent in Nepal. For the rest of the projection period, inflation was estimated as being equal to average annual inflation during the period 2000-2006, i.e. 3.8 per cent.

¹⁵ Much of the explanation that follows is based on the previous ILO costing study of African countries Pal, et al. 2005 and of Asian countries Mizunoya, et al 2006.

Productivity

Productivity increase is assumed to be half of real GDP growth. This implies that half of real economic growth is achieved by increases in the level of employment.

Exchange rates

Historical exchange rate data of local currency units to the US\$ were obtained from the International Financial Statistics Database of the IMF (2006c). The rates for the projection period were kept constant at their 2005 level. The PPP for 2005 was also taken from the International Financial Statistics database. This PPP value has been kept constant throughout the projection period.

E.3. Government revenue, expenditure and expenditure by function

Historical data were obtained from the IMF Government Finance Statistics Database (IMF, 2007).

Revenue data exclude grants. In the majority countries of the study, these data were available up to 2003 and were projected on the basis of GDP growth thereafter. From 2004 onwards, projected levels of government expenditure as a percentage of GDP were assumed to increase by half up to a maximum of 30 per cent of GDP by 2034 (interpolated linear increase). In order to cover government deficit, revenue is assumed to reach the projected expenditure level by 2014 in order to reach a balanced budget. Thereafter, the budget remains balanced, that is, revenue and expenditure is assumed to be equal.

IMF data on consolidated government expenditure for education, health, and social security and welfare were also used so as to have a basis for what is currently being spent by government (IMF, 2007). Government expenditures were projected in the same manner as government expenditure/revenue up to 2003.

The model simulates two hypothetical options for the financing of the estimated cost of the future benefits package. It should be kept in mind that total government expenditure for health, social protection and welfare would be higher than the projected expenditure for basic social protection, as it also includes expenditure by social protection schemes for all other contingencies. Of course, it must be noted that expenditure allocated today for a variety of social security and health provisions will not and should not be entirely reallocated to the financing of the basic package of benefits modelled here. Therefore, taken into account was an assumption of the portion of 2006 expenditure used for education, health, and social security and welfare (as provided by the IMF) on what is currently being spent to provide basic benefits. Due to lack of statistical evidence, it was assumed that 90 per cent of 2006 expenditure on health care, 49 per cent of 2006 expenditure on education and 10 per cent of 2006 expenditure on social security and welfare were spent on basic benefits.

In respect of the level of expenditure on basic social protection, two options were calculated. Option 1 assumes that the current level of expenditure on education, health care and social security and welfare is kept constant over time. Option 2 assumes that expenditure on basic social protection represents one-third of total government expenditure.

E.4. Summary of economic assumptions used in all the scenarios

The base case model estimates the costs of a basic social protection benefits package based on the following main assumptions:

- Real GDP growth is assumed as growth of working age population plus 2 percentage points.
- Projected levels of total government expenditure to increase by 50 per cent of current levels by year 2034, with a maximum of 30 per cent of GDP.
- Government revenue (excluding grants) is assumed to reach the projected expenditure level by 2014 in order to reach a balanced budget.
- Government expenditure on basic social protection under Option 1 is fixed at 2006 level of 14.9 per cent.
- Government expenditure on social protection under Option 2 is capped at 30 per cent of government expenditure.

