MILLENNIUM DEVELOPMENT GOALS

NATIONAL PROGRESS SUMMARY REPORT FOR PAPUA NEW GUINEA 2009

Port Moresby

December 2009
FOREWORD BY THE GOVERNMENT OF PAPUA NEW GUINEA

I am pleased to officially present to you Papua New Guinea’s second Millennium Development Goals Progress Report (MDGR) 2009. The first MDGR was produced in 2004 which reported progress on the national Millennium Development Goals (MDGs) in Papua New Guinea (PNG) between 1990 and 2004. This second Report tracks the country’s performance on the MDGs between 1990 and 2009. It also presents PNG’s actual and projected Medium Term Development Strategy 2005-2010 (MTDS) targets, the measured and projected trends on the national MDGs for the period 1990-2015 and shows a comparative picture of the global MDG targets.

The ultimate goal of our Government’s development strategy is to improve the standard of living for all Papua New Guineans. However, this goal cannot be achieved without a marked improvement in progress towards all the MDGs.

This Report shows that PNG has made progress on some MDGs, while others require urgent attention. For example, child and maternal mortality and the HIV/AIDS prevalence rate remain worryingly high, primary school enrolment rates are low, and measures to tackle gender equality issues appear inadequate.

The Government should consider different and more effective ways to ensure greater progress is made towards achieving the MDGs. One way the Government should consider is through the formulation of five year national development plans with targeted interventions on MDGs. This should be supported through the allocation of appropriate budgetary resources to effectively implement these plans, effective monitoring and evaluation.

However, while the effort of the National Government is necessary, it is not sufficient in order to meet the MDGs. It is essential that Provincial, District and Local Level Governments (LLGs) are made fully aware of the importance of the MDGs when they plan, allocate budget resources and monitor their development plans. Furthermore, other stakeholders in the development process, such as development partners, the private sector, churches, NGOs, and Civil Society Organizations, must factor in considerations on how greater progress on the MDGs can be achieved using their own resources. Central Government Departments and Agencies, and their respective regional or provincial offices will provide guidance to the Provincial, District and Local Level Governments and communities on localizing the MDGs. This will be through MDG awareness and advocacy programs, assistance in the preparation of MDG-based development plans, budget alignment implementation and monitoring of the plans.

Our country follows the principles of democratic governance and social justice. In order to commit ourselves to these principles, it is our pledge to improve health, education and income levels in all areas of the country. It is our endeavor to combat HIV/AIDS and reverse the trends of the epidemic; to protect our environment; to ensure our society presents equal opportunities for both sexes; and to protect the poor and the marginalized. With a combined and
concerted effort from all to address the poorly performing MDGs, we can together realize our development goals for the people of Papua New Guinea.

Tracking the MDGs greatly assists in the provision of data and knowledge to the Government, be private sector and the public on whether the development goals of our country have been achieved. Currently, PNG lacks data and analysis on several of the MDGs and it is imperative that progress is made on addressing data issues.

Finally I would like to thank the United Nations Development Program (UNDP) for assisting us in bringing out this report, and urge all our development partners to further assist us in MDG-based planning, budgeting and monitoring and evaluation at the national as well as sub-national level.

Hon. Paul Tiensten, LLM, MP
Minister for National Planning and District Planning
MESSAGE BY THE UNITED NATIONS

The 21st century opened with an unprecedented declaration of solidarity and determination to bring human development to the world. In 2000, the United Nations Millennium Declaration, adopted at the largest-ever gathering of Heads of State, committed countries - both rich and poor - to do all they can to eradicate poverty, promote human dignity and achieve peace, good governance and environmental sustainability.

Emanating from the Millennium Declaration, the Millennium Development Goals (MDGs) oblige the 191 Member States of the United Nations to double their efforts at tackling the multiple impediments to sustainable development; including action on addressing inadequate income, hunger, gender inequality, environmental degradation, disease and a lack of access to education, health care and clean water.

Papua New Guinea, as an active member of the United Nations family, has accepted the MDG paradigm as a cornerstone of its own development strategy. Equally, successive Papua New Guinean governments have established national indicators for MDG achievement and targets for immediate action at national, provincial and district level to improve service delivery, create economic opportunities for both women and men and to use sustainably the country's rich natural resources to meet these goals.

A decade has now passed and we now find ourselves less than five years away from the deadline the world leaders set for their respective nations to meet the Millennium Development Goals. From 2010 until 2015 we need a final concerted effort to meet development targets and improve the livelihoods of the world’s poorest and most disadvantaged populations.

The PNG Government has now finalized a new and ambitious resource project based on the exploitation of LNG. This project is expected to produce enormous economic gains for the country and its people in the medium to long-term. It is also a golden opportunity for Papua New Guinea to invest in its future and to allocate the necessary finances to development projects that will deliver MDG results to the people of this noble country. In 2010, it is now up to all Papua New Guineans, from the villager to the NCD politician, from the business owner to the social activist, from the Gulf to New Ireland and from West Sepik to Bougainville, to make it happen.

This Second Millennium Development Goals Progress Report 2009 (2nd MDGR) provides us with the much needed reality check to fathom the important tasks and priorities for national development in the immediate future. It also identifies data gaps and some of the major challenges that lie in the path of full attainment of the social, political and economic benefits that are embodied in the Millennium Development Goals project. This report should therefore be used by policy-makers and interested groups to promote, sensitize and popularize the goals and to stimulate a broad discussion on the complex path to sustainable development that lies ahead.
From this report, the reader should gain an appreciation of the actions that are required to translate Papua New Guinea’s strong desire and commitment to its future development into a national planning framework and implementation plan that will deliver on the MDG promise for 2015.

I commend the work of the Millennium Development Goal Steering Committee and its technical working group for providing the invaluable data on which this report is based and Dr. Martin Bakker for the important task in coordinating the preparation of the report.

David McLachlan-Karr
Resident Coordinator of the United Nations and
UNDP Resident Representative in Papua New Guinea
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<th>Full Form</th>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<td>ANC</td>
<td>Antenatal Clinic</td>
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<td>ARB</td>
<td>Autonomous Republic of Bougainville</td>
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<td>CDM</td>
<td>Clean Development Mechanism</td>
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<td>National Bio-Diversity Strategic Action Plan</td>
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<td>National Capital District</td>
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<td>Papua New Guinea</td>
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<td>PNGRIS</td>
<td>PNG Resource Information System</td>
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<td>REDD</td>
<td>Reduced Emissions from Deforestation and Degradation</td>
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<td>Sustainable Land Management</td>
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<td>Sexually Transmitted Infections</td>
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<td>TWG</td>
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EXECUTIVE SUMMARY

A. General

Papua New Guinea (PNG) produced its inaugural Millennium Development Goals Report (MDGR) in 2004. It concluded that, although since MDG base year 1990, PNG had made limited progress with regards to some of the MDGs (e.g. MDG 2 and 4). However, the period 1990-2004 had mainly been one of stagnation. The country was not on track with any of the MDGs. In 2004, MDG 8 had not been localized.

In 2003, the Department of National Planning and Monitoring (DNPM) decided that progress towards achieving the MDGs should not only be measured against the “aspirational” global targets but also against a set of national targets. The department produced a set of “tailored” MDG targets which were incorporated into the Medium Term Development Strategy (MTDS) 2005-2010. These targets were adopted for MDG monitoring. In 2004, it appeared that PNG was also off track with regards to most of these more realistic and achievable national targets.

B. Main findings in the Second MDGR

The 2nd MDGR was produced between July and December 2009. The formulation of the 2nd MDGR was coordinated by the DNPM in close collaboration with several line departments, NGOs and institutions. As in 2004, progress has been measured against global targets as well as the national targets incorporated in the MTDS 2005-2010. As in 2004, it appears that PNG has not achieved any of the global targets. Measurement of the individual MDGs against the national (MTDS) targets is given below.

MDG 1: Eradicate extreme poverty and hunger

In 2009, measurement is hampered by the fact that, since the Independent Household Survey of 1996, no new information on income and consumption has become available. Monitoring of the poverty component of MDG 1 has therefore been carried out using a “basket” of proxy indices related to education and literacy, labour force participation, longevity, household facilities etc. Based on this data, it was concluded that there has been a marginal decrease in “poverty of opportunity”. The decrease is approximately the same as that envisaged in the MTDS.

In the absence of data from an Agricultural Survey, it was also not possible to monitor the hunger component of MDG 1. Indirect measurement based on proxy indices suggests that the situation since 1990 has remained largely unchanged.

MDG 2: Achieve universal primary education

Although some progress has been made with regards to access, retention and achievement, progress has been disappointing. The educational reforms started in 1994 and should have been completed in 2004.
MDG 3: Promote gender equality and empowerment of women

Gender disparities in many areas, for instance education, literacy, employment and longevity, are not as large as often assumed. However, PNG’s traditional culture places women in a disadvantaged position. Gender based violence (GBV) in particular is widespread and this is one of the factors that fuels the HIV/AIDS epidemic. This poses an enormous threat for future development and must be considered as a cross-cutting challenge for the achievement of all MDGs. Moreover, PNG’s very high level of maternal mortality is another clear indication of the lack of women’s empowerment.

MDG 4: Reduce child mortality

Early childhood mortality decreased rapidly in the 1970’s but has since leveled off. Since 1990, further decrease has been slow. Partly because of almost universal breastfeeding and the immunization activities of the NDOH, the situation is not worse than it is. However, in order to revitalize the stalling mortality transition, much more effort is required. Unless the plan of the NDOH for the introduction of Community Health Posts (CHP) throughout the entire rural sector is implemented successfully, early childhood mortality will not decrease drastically in the near future.

MDG 5: Improve maternal health

The maternal mortality ratio (MMR), estimated from the 2006 Demographic and Health Survey (DHS) is much higher than that estimated from the 1996 DHS. A comparative analysis suggests that the estimate based on the 2006 DHS is probably far more reliable than the one estimated from the 1996 DHS. Moreover, the former estimate does not refer to 2006 but to 1994. This 1994 estimate of 733 maternal deaths per 100,000 live births has been used as the new MDG base figure. Furthermore, once again based on proxy indices that can be considered as determinants of maternal death (e.g. high risk fertility behavior, ANC attendance and supervised delivery), it may be concluded that maternal mortality has, since 1994, decreased marginally. However, in 2009, it remains at a very high level. In order to reduce maternal mortality significantly, it is essential that the NDOH’s system of CHP’s is introduced throughout the rural sector as soon as possible.

MDG 6: Combat HIV/AIDS, malaria and other diseases

The national (as well as global) targets for MDG 6 remain vague and precise measurement against these targets is therefore not possible. Monitoring of HIV/AIDS is exacerbated by the fact that the database remains very incomplete and defective. However, with the increased number of testing sites, monitoring after 2004 has improved. The available evidence suggests that there is as yet no sign that the HIV/AIDS epidemic has stabilized. The same also applies to several opportunistic diseases that are closely associated with HIV/AIDS, especially TB, pneumonia and malaria.
MDG 7: Ensure environmental sustainability

PNG has signed 46 multilateral environmental agreements (MEA). The most important of these are the UNCCD, UNCBD and UNCCC. A very large number of indicators have been adopted to monitor progress. Most of these have never been measured and may never be measured. Furthermore, monitoring is made very difficult because of the conflicting views with regards to environmental issues, especially in the area of forests and forestry. Moreover, monitoring that is carried out is fragmented and uncoordinated. It is absolutely essential that the DEC assumes a leading role with regards to the collection, processing, management and analysis of all the data required for the monitoring of MDG 7. The national targets should be revisited and most of them replaced by unambiguous and measurable ones.

MDG 8: Develop a global partnership for development

Although attempts have been made to localize MDG 8, the results so far are disappointing. Most aspects of MDG 8 can still not be monitored effectively. Although some information is available, the management and analysis of this data remains unsatisfactory. The 2004 MDG Steering Committee recommended establishing a Task Force, chaired by the DNPM to ensure continuous monitoring of MDG 8. This recommendation should be implemented as soon as possible.
INTRODUCTION
INTRODUCTION

The United Nations Millennium Declaration set the agenda for development during the first 15 years of the 21st century with its commitment to human rights, health, democracy, peace, security and good governance. The 189 members of the UN General Assembly, including Papua New Guinea (PNG), adopted this declaration on the 8th September 2000. In doing this, they committed themselves to a world in which sustaining development and eliminating poverty will have the highest priority. The Declaration focuses on overcoming the key challenges facing humanity at the start of the 3rd millennium and it formulates the required responses through nationally appropriate benchmarks to achieve the goals.

The Millennium Declaration gave rise to eight Millennium Development Goals (MDGs).

(1) Eradicate extreme poverty and hunger
(2) Achieve universal primary education
(3) Promote gender equality and empowerment of women
(4) Reduce child mortality
(5) Improve maternal health
(6) Combat HIV/AIDS, malaria and other diseases
(7) Ensure environmental sustainability
(8) Develop a global partnership for development

These goals represent a consolidation of the outcomes of the various world conferences held during the 1990s.

For each of the MDGs, one or more targets have been formulated. These global targets refer to anticipated change (progress) during the period 1990 and 2015. Moreover, a number of quantifiable indicators have been developed for evaluation and monitoring purposes. The first seven MDGs are mutually reinforcing and are directed at a multi-sectoral approach to reducing poverty, whilst MDG 8 focuses on the establishment of partnerships for development in order to support the achievement of the first seven goals.

The MDGs have widely been adopted as an overarching framework for the assessment of development. Moreover, they serve as a focus for all development related activities, and constitute a benchmark against which to assess performance. In short, they are a cornerstone of development planning and an integral part of the “Road map towards the implementation of the United Nations Millennium Declaration.”
The signing of the Millennium Declaration comes with responsibilities. These refer to:

A. Review, Reporting and Monitoring Requirements

B. Advocacy and

C. Achievement/Implementation

PNG produced its inaugural Millennium Development Goals Report (MDGR) in 2004. In this report, progress with regards to all MDGs between MDG base year 1990 and 2004 was monitored. Moreover, it adopted a set of national (tailored) targets for 2015 that are aligned with those incorporated in the country's Medium Term Development Strategy (MTDS) 2005-2010. Generally, these national targets are far more modest than their global counterparts. They reflect, however the realities as well as the priorities in PNG.

Furthermore, the inaugural MDGR identified the challenges PNG is facing in achieving the MDGs. It also discussed the interventions designed to counter these challenges. However, it was realized that the inaugural MDGR was only a first, step towards realization of the MDG agenda. It needs to be followed up by advocacy and awareness creation and even more importantly by interventions for the achievement of the MDGs. Consequently, a UN funded programme for the implementation of the MDGs has been established in the Department of National Planning and Monitoring (DNPM).

Reporting on the MDGs is an ongoing process. Between July and December 2009, the DNPM and the UNDP, in collaboration with other Government departments, NGOs and institutions as well as several UN agencies produced a second MDGR. The work on Second MDGR was carried out in three stages. During the first stage, 13 MDG Discussion Papers were produced. These Discussion Papers were based on wide consultations with stakeholders. Most of these papers were MDG specific whilst others focused on MDG related issues in a wider sense. These papers formed the starting point for the discussions of the MDG Core Group, consisting of members of the DNPM and the National Statistical Office (NSO). Updated drafts of these papers included feedback from the Core Group members and other stakeholders with a special knowledge of one or more of the MDGs. The TWG consists of representatives of all relevant government departments, NGOs and institutions.

During the second stage, key findings into the Discussion Papers were incorporated in a draft MDGR 2. Subsequently, after a major review of this draft MDGR 2, an updated version was produced. Finally, the 10th draft was reviewed by members of the MDG National Steering Committee (MDGNSC) during their meeting on 20 November 2009. The comments made by the Steering Committee, as well as some additional information that had in the meantime become available were incorporated into draft no 11.
During this meeting, the MDGNSC also noted that policy makers, planners and researchers and particularly those involved in advocacy and implementation of the MDGs require far more detailed information than what can possibly be captured in a concise report like the inaugural MDGR. It was therefore recommended that, in order to meet the requirements of these users, a Comprehensive Report, containing all the information collected and analyzed during the formulation of the MDGR should also be published. This Comprehensive Report should also serve as a tool for capacity building. The Committee recommended that the MDGR Task Force produce two MDGR documents instead of one. These would be:

A. A Comprehensive Report, including all the detailed MDG-related data at the national as well as sub-national level and the analysis of this data.

B. A Summary Report similar to the inaugural MDGR of 2004

After the MDG Steering Committee meeting on 20 November, the present Concise Report was produced. This report is once again a joint effort of the Government of PNG and the United Nations, but the ownership of it rests with the Government and people of PNG. Consequently, it has been endorsed by the National Executive Council (NEC) before submission to the UN General Assembly in New York.

The 2nd MDGR is first and foremost a tool for awareness raising and advocacy. As in the inaugural Report 2004, it is based on the principles of PNG’s Constitution. Furthermore, it has once again been closely aligned with the present MTDS 2005-2010 and other development strategies and plans. MDG concerns will also be integrated in the next Medium Term Development Plan (MTDP) for the period 2011-2015.

The format of 2nd MDGR is similar to that of the inaugural MDGR 2004. Part A consists of three sections. Section I provides a profile of the country and Section II a brief discussion of the challenges that are considered as the overarching and crosscutting ones. It is assumed that these challenges constitute a serious impediment for the achievement of all MDGs. Section III briefly explains why the government of PNG has formulated its own national (tailored) MTDS targets as well as the indicators associated with these targets.

Part B consists of eight sub-sections dealing with each of the individual MDGs. The sections concerning MDG 1 to 7 have three sub-sections each viz.

1. Situation analysis and trends:
Using data that is considered to be reasonably complete and reliable, an assessment is made of the present situation and trends since MDG base year 1990. This results in an assessment to what extent the global as well as the national targets for the particular MDG have been achieved.
2. **Challenges**  
This section discusses the MDG specific challenges PNG is facing in its attempts to achieve the MDGs.

3. **Interventions**  
This section discusses the present and planned future national interventions required to achieve the MDGs.

A separate section is devoted to a discussion on MDG 8. It deals with the enabling international environment for developing countries to achieve MDG 1 to

Finally, Part C provides a brief summary of the report. It also includes the summary tables in which progress towards achieving the MDGs is assessed as well as the monitoring and evaluation system that is currently in place.
PART A: GENERAL

Hanuabada, urban village, NCD. Photo credited: David Ephraim/2005

A hamlet of a rural village, New Ireland Province. Photo credited: Reiko Okumura/UNICEF/2008
I. PNG PROFILE AND DEVELOPMENT CONTEXT

1. Physical and environmental profile

The island of New Guinea is the second largest island in the world (second to Greenland). The eastern part, Papua New Guinea (PNG) has a total landmass of approximately 463,000 km$^2$. This includes the large islands New Britain, New Ireland and Bougainville, as well as a large number of smaller islands. About 85 percent of the total landmass of PNG is on the main island. PNG’s Exclusive Economic Zone (EEZ) is about 2,437,480 km$^2$. PNG shares international (sea) borders with Australia in the south, Solomon Islands in the east and Palau in the north. Moreover, it shares a (land) border with Indonesia (Irian Jaya) in the west. It is by far the largest of all Pacific Island Countries (PIC) not only in terms of land area but also in terms of population. The projected population for 2009 is about 6.5 million, which is about two thirds of the population of the PICs.

Topographically, PNG is one of the most rugged countries in the world. Much of it consists of high mountain ranges, volcanoes, and swampy floodplains etc. which all present their unique challenges. In spite of extensive logging and land clearing for agricultural purposes (commercial as well as subsistence), it is estimated that approximately two-thirds of the total land area is still covered with natural forest. Furthermore, the country has a very broad range of ecosystems characterized by extraordinary bio-diversity. The country is home to many rare and endangered species of animals and plants. It has been estimated that about 5 percent of the total biodiversity of the world can be found in PNG.

PNG has vast natural resources, especially mineral (mainly gold and copper) as well as petroleum and forest resources. These natural resources are the foundation for the creation of wealth. The physical environment is under increasing threat from a variety of factors such as certain agricultural practices (land clearing for commercial and traditional agriculture) as well as resource extraction projects like mining and harvesting of timber. A significant proportion of the total land area has now been modified by erosion. Furthermore, a large proportion of the entire land area is either permanently inundated or regularly flooded.

PNG’s geographical location makes it very vulnerable to natural disasters such as volcanic eruptions, tidal waves, floods caused by monsoon rains, prolonged dry spells, and so forth. Given the fact that the rural sector is not served by a well-developed infrastructure, especially transport and communication infrastructure, a very large part of this sector is not easily accessible. This makes delivery of basic services very difficult and it creates major problems for the achievement of the MDGs.

2. Political profile

Colonization of PNG commenced as late as 1884 when the Germans claimed sovereignty over the northeastern part of the mainland or what is now the Momase Region (MR) as well as the islands that now constitute the Islands Region (IR). Subsequently, in 1888 the British claimed the southern part of the
mainland, which is now the Southern Region (SR). The two parts were governed as two separate colonies: German New Guinea and British Papua. After World War I, both colonies were united as the Trust Territories of Papua and New Guinea under the Mandate of the League of Nations. Under the League of Nations, Australia assumed the administration of these Trust territories. Australia’s administration lasted until PNG gained Self-Government in 1973 and full political independence on 16th September 1975.

PNG is a parliamentary democracy based on the Westminster model. It has three Arms of Government, namely, the Legislative Arm (National Parliament headed by the Speaker), the Executive Arm (the National Executive Council headed by the Prime Minister who is also the Chief Executive of the National Government), and the Judiciary Arm (headed by the Chief Justice). These three arms of Government primarily act as check and balance mechanisms against each other. As a member of the Commonwealth, the head of the Independent State of PNG is the Queen of England, represented by the Governor General who is elected by the National Parliament for a five-year term.

The current single chamber parliament has 109 members with one representative from each of the nineteen provinces and the National Capital District (NCD). There are 89 open constituencies. Every five years the political leaders are elected at the three tiers of government: national, provincial and local level government (LLG). The government cannot be changed for the first 18 months after assuming power.

PNG has a very large number of political parties. They act as vehicles to disseminate government policy decisions to the wider community and convey public feedback to the political leaders at the National Parliament. Political decisions are made within the legal framework of the National Constitution and related By-Laws and Acts of Parliament. Due to the smallness of most parties, successive governments since Independence have been formed by a coalition of a large number of parties. Provinces have considerable autonomy, but rely largely on the national government for funding. Until recently, PNG’s coalition governments proved to be rather unstable. However, since the enactment of the “Bill on Political Parties” governance has stabilized.

PNG has a very complex and costly decentralized system of government. At the sub-national level, there are three levels of administration viz. the province, district and local level government (LLG). There are a total of 89 districts and 319 LLGs. PNG’s provinces are shown in Map A.
Map A: Papua New Guinea and its provinces

<table>
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<tr>
<th>Southern Region</th>
<th>Highlands Region</th>
<th>Momase Region</th>
<th>Islands Region</th>
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<td>Western</td>
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<td>Morobe</td>
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<td>Gulf</td>
<td>Chimbu</td>
<td>Madang</td>
<td>New Ireland</td>
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<tr>
<td>Central</td>
<td>Western Highlands²</td>
<td>East Sepik</td>
<td>East New Britain</td>
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<td>National Capital District (NCD)¹</td>
<td>Enga</td>
<td>West Sepik (Sandaun)</td>
<td>West New Britain</td>
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<tr>
<td>Milne Bay</td>
<td>Southern Highlands²</td>
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<td>ARB³</td>
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<td>Northern (Oro)</td>
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Notes
¹ For the purposes of this report, the NCD is considered as a province
² In 2012, Jiwaka Province (carved out of the Western Highlands Province) and Hela Province (carved out of the Southern Highlands Province) will become officially functional
³ ARB (Autonomous Region of Bougainville) is the former North Solomon Province.
3. **Demographic profile**

At the time of the most recent census in 2000, the total population of PNG was about 5.2 million. The projected 2009 population is 6.5 million. Since the 1970s, the population has been growing at an average rate of more than 2 percent per year. The present growth rate is at least 2.3 percent per year but may be somewhat higher. Fertility, though declining, remains at a high level. As a result, the population has a very broad-based age-sex structure with close to 40 percent under the age of 15. This implies a very high Youth Dependency Ratio (YDR), a high Child-Woman Ratio (CWR) and a low median age.

During the last few decades, with the population doubling approximately every 30 years, pressure on the available resources has increased dramatically. This makes it increasingly more difficult to achieve sustainable development. Furthermore, since the population is very young, it has a high potential for further growth. The high population momentum implies that PNG will have to continue to earmark a large proportion of its GDP for demographic investment (in health, education, employment creation etc.). This leaves limited resources for other aspects of development.

The population is dispersed widely across the country. Significant parts of the country, especially large areas of wetland (e.g. in Western, Gulf, East and West Sepik) have a very low population density of only 1 to 2 persons per km$^2$. This makes it difficult to achieve economies of scale for instance in service delivery. Rural population density is highest in the Highlands Region, especially in the altitude range 1,200-1,500 m.

At the time of the first census in 1966, mortality was very high but it declined rapidly during the 1970s. However, in the 1980’s, the mortality transition started to level off. The determinants of early childhood mortality are discussed under MDG 4. However, the adult mortality transition has probably stagnated more than the early childhood mortality transition. This is probably mainly due to the increasing incidence of lifestyle diseases, especially in the urban sector. This issue is not addressed by any of the MDGs but the increasing incidence of lifestyle disease is a matter of growing concern.

In sum, it appears that PNG’s mortality transition is leveling off at a too high level, corresponding with a national average life expectancy at birth between 55 and 60 years. Moreover, the differences in the level of mortality between the provinces as well as between the rural and urban sector, which, since the 1970s has been very large, will probably remain very significant in the foreseeable future.

In 1980, the Total Fertility Rate (TFR) was 5.4. The most recent estimate (2006) is 4.2. Consequently, in spite of some decrease, the level of fertility remains high. Differences between the level of fertility at the provincial level and between the rural and urban sector remain very significant.

Finally, international migration of the citizen population is low but internal migration from rural to urban areas (urbanization) and to rural-non-villages
(RNV’s) is very substantial. Nevertheless, PNG’s urban sector is still relatively small. In 2000, only 13 percent of the population was urban.

In conclusion, since MDG base year (1990), there has only been a marginal improvement in some of the key demographic indices. In some cases, there has not been any improvement at all. Differences between the level of fertility and mortality at the provincial level and the rural and urban sector are large. The key indices of mortality and fertility at the national, regional and provincial level are presented and discussed in more detail under the appropriate sections on the MDGs.

4. Economic profile and development planning

4.1. The “enclave economies” in the years after Independence

At the time of Independence, PNG’s economy was characterized by primary production in agriculture, forestry and fisheries. Gradually the generation of income from minerals, especially gold and copper, and petroleum became the dominant factor of the economy. The mineral boom of the 1980s has mainly created what has been referred to as “enclave economies”. In 2009, the economy is still fragmented and based on natural resource extraction. However, it has become increasingly more dualistic in nature. Because of the income generated from minerals and petroleum and the contribution of aid, per capita GDP was relatively high. Income inequality in the years before Independence was very high as reflected by a Gini coefficient of 0.51.

4.2. From 1990-2003: A period of prolonged contraction

Between MDG base year 1990 and 2003 the economy benefited from several major mining and petroleum projects. However, PNG’s development record during the period was rather uneven and disappointing. The unsatisfactory performance of the economy was partly due to the fact that growth in sectors other than the mining and petroleum sector (agriculture, industry and services) was sluggish. This was particularly serious in the case of agriculture, the sector of which majority of rural people are engaged.

Furthermore, the budget during these years 1990-2003, with the exception of 1996 and 1997, showed a deficit. During this unstable and volatile period, population growth outstripped economic growth. As a result per capita growth decreased and there was widespread evidence of deterioration in service delivery especially in the relatively inaccessible parts of the rural sector.

Although there is an urban informal sector, this sector is not well developed. The urban sector is also a sanctuary for unemployed and underemployed persons residing mainly in the numerous squatter areas. It is therefore widely believed that living standards for a significant proportion of Papua New Guineans declined during the initial 13 years of the first MDG cycle 1990-2015.
The reasons for economic stagnation in the 1990s are complex. Contributing factors are both external and internal in nature. The former include a worldwide economic depression, the negative development in commodity prices, unfavorable trade conditions and others. Generally, the impact of globalization has not always been beneficial. Internal factors include a series of inappropriate policy regimes, macro-economic and fiscal mismanagement, the civil war in Bougainville (1989-1999) and a series of devastating national disasters especially the eruption of the Vulcan and Tavurvur volcanoes which destroyed the city of Rabaul as well as some severe droughts.

In conclusion, the 1990s were characterized by macro-economic instability, stagnation and increasing unemployment that contributed to law and order problems, especially in the urban sector. Moreover, the distribution of the benefits of economic development was very unequal.

4.3. “The paradox of plenty” in the new millennium

Since 2003, the economies experienced five years of consecutive growth. For 2007, growth in GDP was 6.2 percent and in 2008, 6.6 percent. A preliminary (budget) forecast for 2009 is about 6 percent. The decrease compared to the previous year is predominantly due to the impact of the global financial crisis. About 80 percent of the post-2003 economic growth was due to the mining and petroleum sectors. It is expected that PNG’s abundant mineral and petroleum resources will remain the foundation for wealth creation in the foreseeable future. Moreover, assuming that PNG’s land, seas and forests are wisely managed, the resources from these sectors will remain abundant, long after the mineral and petroleum wealth has been depleted.

There are several reasons for PNG’s economic recovery after 2003. These include the adoption of sound macroeconomic policies, fiscal discipline and an increase in commodity prices. For instance, in 2008, the total value of exports amounted to K 15.4 billion, or 71 percent of the GDP. In comparison, in 2003, exports were only 59 percent of GDP. Consequently, after 2003, (with the exception of 2008) the national budget has shown a surplus. Moreover, during the period since 2003, inflation fell sharply from 14.7 percent in 2003 to 3.0 percent in 2007.

It appears that PNG has been less affected by the recent global financial crisis than most countries, although inflation has increased. With the turmoil in the global financial markets in 2008-2009 now easing, it is expected that PNG will experience significant economic growth in the near future.

One of the major challenges the country is facing is often referred to as “the paradox of plenty”. Experience has shown that resource based development rarely changes a country into a prosperous one in a broader sense. In most countries, there has been relatively little transfer of economic gains into investment in the sectors that provide the best opportunity for equal distribution of these gains. In the case of PNG, since approximately 90 percent of the country’s labor force is engaged in agriculture, fisheries and forestry, the best chance for achieving this goal is investment in these sectors. This will undoubtedly also lead to improvement in the social sector, particularly with
regards to service delivery in health and education. In sum, the main challenge for PNG is to avoid the “resource curse” and to foster “pro-poor” development.

In conclusion, although, since 2004, the economy has been on a path of recovery, serious challenges remain. Firstly, the recovery has not yet been translated into human resource development, improved service delivery, or reduced poverty. In other words, it has not yet fostered equitable growth and an improvement in the welfare and quality of life of the population. Secondly, the base of the economy remains narrow with the emphasis on natural resource extraction. This base needs to be widened. Thirdly, it is not certain how and to what extent internal factors like the impact of the HIV/AIDS epidemic and the law and order situation will affect the economy in the near future.

4.4. Land situation and ownership

PNG’s most important resource (apart from its people) is its land. It has been estimated that about 15 percent of all land can be considered as cultivable land. Presently only about 4 percent is used for commercial agricultural production.

Generally, it is assumed that, PNG’s agricultural potential for cash crops remains under-utilized. However, much of the fertile agricultural land is presently used for subsistence agriculture. Furthermore, considering PNG’s high rate of population growth, the land area needed for subsistence production will undoubtedly increase significantly in the near future. There is considerable scope for further expansion of commercial agricultural production. Currently, the commercial production of crops is far less productive than in other countries. With improvements in productivity, further increase in output may be expected.

The National Constitution guarantees traditional ownership of land. Compulsory acquisition of land is provided for under national land laws. These laws have, however, rarely been applied. As a result, approximately 97 percent of all land in PNG is still communally owned. Its system of land and resource ownership is unique. Land rights vary throughout PNG. Land is mainly held by clans. However, there is emerging fragmentation within clan groups where individual families are demanding to be recognized as separate landowners despite being members of the same clan. Furthermore, land can be inherited along either paternal or maternal lines. The land systems are flexible, allowing for combination of ownership, user rights and allocation rights through social relationships by peaceful or violent means.

The land tenure system implies that most forms of economic activity by non-owners can only be sustained through partnership with the traditional landowner(s). In practice, land disputes are common and the use of compensation claims often hinder development and investment that require the use of land. A crucial prerequisite for future development in the agricultural as well as industrial sector is that much customary owned land needs to be “unlocked” or placed under formal administration. Failure to do so will endanger the implementation of future development plans e.g. those envisaged under the Long Term Development Strategy (LTDS) 2010-2030 and PNG Vision 2050.
4.5. **Labour force**

In 2009, most economically active males and females are engaged in the subsistence sector. In fact, due to widespread female participation in subsistence activities, female labour force participation rates are higher than in other countries of the South Pacific Region. Engagement of both males and females in the cash economy remains low, especially in the rural sector.

In the urban sector, unemployment rates are high. This has an adverse impact on the law and order situation. Because of the broadly distributed access to the natural resource base, the basic needs of most people are still met but this contributes little to per capita real growth. Agriculture has the potential to absorb new labour force entrants but this implies that the technical know-how of rural dwellers as well as the social status of employment is raised.

4.6. **Development planning**

During the decade after Independence, the government’s philosophy with regards to development could be summarized as “State leading the growth of income as a means for development”. After 1985, this philosophy changed to “State facilitating the growth of income as a means for development”. All development strategies since that time have been formulated within the latter framework.

During the first part of the MDG cycle 1990-2015, development planning in PNG was dominated by the annual budget process. Since 1997, with the introduction of the first Medium Term Development Strategy (MTDS) 1997-2002, short term budget-driven planning changed to medium term planning. Although this approach has led to more cohesive and consistent planning, it was still far from ideal.

From the point of view of the MDGs, the present MTDS 2005-2010 is particularly important because the national targets and indicators of this MTDS were adopted in the inaugural MDGR. The monitoring of the MDGs for the period 2004-2009 is once again carried out within the context of the present MTDS 2005-2010.

5. **Socio-cultural profile**

PNG is not only one of the most bio-diverse countries in the world; its socio-cultural profile is even more diverse. For instance, more than 800 distinct languages are spoken. This poses a major challenge for development. Throughout history, distinctive cultures and attitudes of self-sustenance have been developed and shaped by the high dependence of Papua New Guineans on their natural environment. The complex development process in PNG mainly involves protecting and maintaining the harmony that exists between the people and the natural environment. In recent times, development pressures and globalization have had an impact on the social life and traditional culture of Papua New Guineans.
Modernization in PNG has progressed at a rather slow pace relative to the international experience. About 87 percent of the population is still rural. However, social organization and culture have changed under the impact of missionary activity, education, and the spread of government control. Even if urbanization from now onwards increases at a steady pace, PNG will, in the foreseeable future, largely remain a rural society. Nevertheless, population movement, particularly from rural to urban areas has created a landless class of migrants living in squatter settlements in and around urban areas.

Maintaining a sustainable rural livelihood requires not only physical but also social resources. Three key elements of PNG’s social environment are the traditional land tenure system, the “wantok” system and the churches in combination with community-based groups for women and youth. As already mentioned, within PNG’s land tenure system, both clans and individuals can own land. This ensures that most people have access to the means of production for subsistence living and in many cases to some form of cash income. The “wantok” system is PNG’s safety net. Under this system, family and clan members are required to support each other. The “wantok” system is now under pressure, especially in urban areas where people have to cope with the rising cost of modern living.

The very extensive church network provides around 50 percent of all health services in the rural sector. Recently, government has increased funding for the churches to improve service delivery. The church network also provides employment opportunities.

Many consider PNG’s very diverse socio-cultural profile as an impediment for development. Others argue that it is and will remain one of the country’s main strengths.
II. CROSS-CUTTING CHALLENGES FOR ACHIEVING THE MDGs

1. General

The inaugural MDGR of 2004 concluded that PNG was not on track with any of the MDGs. The 2004 MDG National Steering Committee, at the recommendation of the MDG Technical Working Group (TWG), identified many fundamental weaknesses were caused the lack of progress. These were summarized into five crosscutting challenges that had seriously impeded the achievement of all MDGs. These challenges were included in the inaugural MDGR.

In 2006, the initial set of crosscutting challenges was reviewed. As a result, the scope of some of them was broadened whereas others were rephrased. In addition, several other fundamental challenges were considered. Three of these were added to the initial list, bringing the total to eight. Finally, in preparation for the 2nd MDGR in 2009, the MDG National Steering Committee once again reviewed the crosscutting challenges and a ninth one, “Low level of education and literacy” was added. Moreover, it emphasized that achievement of all MDGs will largely depend on the extent to which these crosscutting challenges are addressed in the years to come. Consequently, during the remaining six years of the first MDG cycle 1990-2015, these nine crosscutting challenges should receive maximum attention and support. Failing to do so will mean that in 2015, the achievement of the global MDG targets will be further endangered. Each of the endorsed crosscutting challenges A to I is briefly discussed in the following sections.

2. The crosscutting challenges for the achievement of the MDGs

This section provides a brief summary of those crosscutting challenges which are considered as major impediments for the achievement of all MDGs.

A. HIV/AIDS epidemic

In 2004, the HIV/AIDS epidemic was placed at the top of the list of crosscutting challenges. The 2009 MDG National Steering Committee recognizes that if the present HIV incidence rate continues, it is unlikely that any of the MDGs will be achieved in the foreseeable future, and certainly not by 2015.
B. **Population, resources, environment and development**

A summary of the demographic characteristics (size, growth, structure and distribution) of the population of PNG, as well as a discussion of the demographic processes (fertility, mortality and migration), have led to the present demographic situation detailed in Chapter I.

Since the 1970s, the rate of economic growth has often been lower than the population growth rate. This has had serious resource implications as well as implications for demographic investment. Consequently, it has been difficult to meet the very demanding global as well as national MDG targets. Furthermore, since PNG’s age-sex structure has a high potential for further growth, it is expected that the above problems will remain significant in the near future. They will gradually ease with decreasing fertility.

The National Population Policy (NPP) 2000-2010, considers the discrepancy between the population and economic growth rate as a major stumbling block for national development. The NPP emphasizes the implications of large family size at the macro (national) and micro (household) level. It seeks to create the right environment for sustainable population growth linked to resource availability.

In spite of uncertainties about the precise nature of the relationship between population and development, it is felt that the large average household and family size in PNG is an impediment for future development. It cannot be expected that large households and families engaged in the subsistence sector and with little or no access to even the most basic services can contribute optimally to the development of the country. In particular, it is realized that, since MDG base year 1990, service delivery has not been able to keep up with the growing population. For these reasons the discrepancy between economic and population growth is considered as one of the main crosscutting challenges.

C. **Lack of good governance**

The 2009 MDG National Steering Committee considers good governance, including the supply of security, internal stability, law and order and sound public financial management as basic prerequisites for future development as well as a crosscutting challenge for the achievement of all MDGs. Unfortunately, PNG faces many governance related challenges. The following are just a few of the most. Firstly, the political party system in PNG is characterized by alignment with tribal or regional interests. Some political parties are unstable, with temporary alliances or without a distinctive political ideology. Under these conditions, there is often relatively little focus on national goals and ambitions. This leads to fragile and volatile governance and fledgling institutions. Lack of good governance also often leads to law and order problems, corruption and a lack of investor confidence.

Secondly, although it is generally recognized that the Organic Law is, in principle a good law since it promotes empowerment of the people, this law has also
several weaknesses. In the present context, it is believed that this law has contributed to the deterioration in service delivery, e.g. in health and education. The capacity building that should have accompanied the implementation of the Organic Law has often been lacking.

Thirdly, PNG’s structure of governance consists of three levels: national, provincial and local level government (LLG). It is complicated and costly. Given the extreme cultural diversity in PNG, a more simplified structure of governance may not be feasible. Nevertheless, simplification of the present structure would most likely lead to more effective governance and significantly increase the amount of resources available for development.

Fourthly, the predominant impact of the extractive industry on the economy may lead to influence by outsiders on PNG’s decision-making process.

**D. Deficient service delivery**

PNG’s infrastructure is poorly developed. The road network in particular is limited and the situation is exacerbated because of limited road maintenance. In addition, many airstrips have been closed. As a result, the cost of travel is very high. For these and other reasons, a large part of the rural sector remains relatively inaccessible and a significant proportion of the rural population does not have easy access to basic services such as health and education, safe drinking water or modern sanitation. The inaugural MDGR of 2004 concluded that not much progress had been made towards achieving the MDGs and especially those that depend very heavily on efficient service delivery.

After 2004, in spite of significant economic growth, service delivery has not notably improved. Judging from the proportion of Aid Posts that are not functioning, basic service delivery (at least in the area of health) may have further deteriorated. A major reason for poor service delivery is that, the link between economic growth and enhanced service delivery, particularly in the case of health and education has, not been strong one. The improvement of service delivery is clearly one of the overarching challenges the country is facing.

**E. Poverty of opportunity**

The UN Millennium Development Declaration has a very strong poverty focus. However, it looks at the concept of poverty in a somewhat different way than most people in PNG (as well as in the rest of the South Pacific Region). The MDG concept “income poverty” (and to a less extent “consumption poverty”) and in particular the way these concepts are measured, are considered by many in the region as inappropriate or even offensive. It is widely believed, that abject poverty as exists in many developing countries, does not exist in the region, including PNG. This view has a long history. In the early days of European contact, the people of the South Pacific were often depicted as living in a situation of “subsistence affluence”. Nowadays, this concept is often translated into “self-subsistence abundance.”
Consequently, poverty in PNG is defined in a much broader way. The definition used refers to many areas of life such as inadequate infrastructure, isolation and lack of access to markets and basic services like health and education, lack of employment opportunities in the modern sector (especially for youths and school drop-outs), marginalization of women and poor housing. This has been labeled “poverty of opportunity”. This concept is strongly linked with vulnerability, lack of access to choices.

The concept “poverty of opportunity” has been added to the list of overarching challenges. This broader concept of poverty has also been incorporated into existing national strategies and plans, e.g. the 2010-2015 MTDS. Furthermore, it is recognized that the first seven MDG’s mutually reinforce each other and that all of them focus on the alleviation of poverty in the broadest sense. Consequently, since poverty is multi-faceted, it needs to be addressed in a collaborative way. It requires a joint response by government and development partners.

F. **Gender culture and gender disparity**

Gender disparity in many areas like health, morbidity, mortality, education etc. is less than often assumed. Nevertheless, PNG’s gender culture places women in a disadvantaged position. This applies in particular to gender based violence (GBV) such as rape and spousal abuse. GBV is seen as a severe threat for future development and it poses a serious challenge for the achievement of all MDGs. In particular, gender culture is one of the key factors driving the HIV/AIDS epidemic. This has now officially been recognized in the National Gender Policy and Plan on HIV and AIDS 2006-2011. “Gender culture and gender disparity” has therefore been added to the list of crosscutting challenges.

G. **Climate change, environmental degradation and sustainable livelihood**

The list of crosscutting challenges discussed so far mainly relate to MDG 1 to 6. The challenges faced in ensuring environmental sustainability (MDG 7) are also widely considered as crosscutting. In spite of the fact that the importance of environmental sustainability has been entrenched in the 4th National Goal of the Constitution, this has not always been the case. One reason is that the linkages between climate change, environmental degradation and MDGs 1 to 6 are not well understood. Moreover, concepts related to climate change, environmental degradation and sustainability tend to be complex. As a result, although few people doubted that there is a serious danger of climate change and environmental degradation, many did not consider this as one of the main crosscutting challenges for the MDGs. In this regard, the situation is however changing rapidly.

For a better understanding on the crosscutting impact of climate change and environmental degradation on MDGs 1 to 6, it should be linked with sustainable livelihoods. Since the 1990’s, creation of wealth in PNG has been founded on the country’s very rich natural resource base. In the process, the nature of the
economy has become increasingly more dualistic. The natural resource based export economy i.e. mining, petroleum and logging tends to have a large environmental impact whereas it supports only a small proportion of the people. The companies involved in these extractive industries are often the main beneficiaries. The relative lack of employment opportunities created by these industries (little down-stream processing) implies that they do not make a major contribution to the sustainable livelihood of the people of PNG.

In PNG, several government departments, NGO and institutions are involved in different aspects of sustainable development, the improvement of sustainable livelihoods and environmental issues. An effective response to the challenges of climate change and environmental degradation requires a well-coordinated and holistic approach under the umbrella of a lead department. For sustainable livelihoods, the lead department is the DNPM and for environmental issues, the Department of Environment and Conservation (DEC). However, the coordinating role of the DEC needs to be clearly defined and significantly strengthened.

The government has ratified a large number of multilateral environmental agreements (MEA). All these MEAs come with obligations. Implementation of most MEAs is very costly and the resources (financial as well human) for this are rarely available. Consequently, the implementation rate of the MEAs is very low.

H. Spatial disparity

Spatial disparity at the sub-national level is extremely large. This applies first and foremost to morbidity and mortality. For the last 40 years morbidity and mortality in several provinces e.g. Gulf and West Sepik has remained extremely high viz-a-vis other lower level areas, for example, the Islands Region.

Disparity in education and literacy at the provincial level also remains large, with the Highlands provinces lagging far behind the coastal and island provinces. The same applies to employment rates in the modern sector. The case of Southern Highlands in particular, illustrates the paradox that is PNG. Here we have an oil and gas rich province making an enormous contribution to PNG’s GNP whereas many of its human development indices (especially the ones related to education and literacy) remain amongst the lowest in the country.

Since key indices of health, morbidity, mortality, education, literacy and paid employment are usually highly correlated with the level of overall development in a country; the spatial disparity in these indices suggests that there is also a large disparity in the level of development between the provinces of PNG. This problem has now been allowed to exist for at least 35 years. Although there are some strategies in place that draw attention to the problem of spatial disparity, it has been difficult to implement these strategies. In 2009, interventions by government as well as development partners still tend to focus on parts of the country deemed to be relatively high achievers.

In conclusion, little has been achieved with regards to closing the demographic and socio-economic gaps between provinces. As long as the large disparities
between the provinces remain, it will be difficult to attain any of the MDGs. Even if progress is made in some of the advanced provinces, the national average indicators will be dragged down by the poor performance in the provinces that are lagging behind.

I. **Low level of formal education and literacy**

During the formulation phase of the Inaugural MDGR in 2004, as well as during the 2006 review, the low level of education and literacy in PNG was considered as one of the crosscutting challenges for the achievement of all MDGs. It was also argued that although the challenges for achieving the MDG 2 target of universal primary education (UPE) by 2015 are enormous, the main bottleneck for future development is related to capacity constraints in the public and private sector. The latter is mainly the result of the low level of tertiary and vocational training. As a result, the 2009 MDG Steering Committee decided to add “Low level of formal education and literacy” to the list of crosscutting challenges. This crosscutting challenge encompasses education at all levels from primary to tertiary as well as adult education, vocational training and special needs education.
III. GLOBAL AND NATIONAL TARGETS AND INDICATORS

PNG’s limited database frequently leads to policy making and planning that is based on reliable evidence. The database concerning MDG 6 and 7 is particularly incomplete and deficient. The poor data base also makes it difficult to monitor progress towards achieving the MDGs. It has therefore been recommended adding PNG’s database as another crosscutting challenge that acts as an impediment for the achievement of all MDGs. Others argue that although the weak database creates severe problems for the monitoring of the MDGs, it does not belong in a list of crosscutting challenges for the achievement of the MDGs.

3. Targets

In PNG, the global MDG targets have, from the outset been considered as mainly of aspiration value. From the outset, it was felt that for planning and monitoring purposes, it would be more realistic and meaningful to develop a set of national “tailored” targets, based on a broad consensus between all national stakeholders. Consequently, it was decided that for the monitoring of progress towards achieving the MDGs, these more realistic national targets should be used.

National targets for planning purposes have some basic prerequisites. These targets should:

- Be clear and unambiguous
- Be realistic and achievable considering
  - The present situation and recent trends
  - Future policy and budget allocations
- Have a clearly defined time frame
- Be based on a comprehensive consultative screening process including all major stakeholders. This is necessary to achieve consistency and alignment between the targets in the overarching national policies and plans as well as those in sectoral strategies and plans.

Consequently, the DNPM, in collaboration with relevant line departments and NGOs, formulated national targets for all MDGs. The TWG for the inaugural MDGR in 2004 was also involved in this process. The resulting “tailored” national targets were adopted and incorporated into the MTDS 2005-2010, as well as in the inaugural MDGR. All cost estimates for achieving the MDGs should be based on the national targets incorporated in the MTDS and endorsed by the MDG Steering Committee.
Most of the national targets associated with MDG 1 to 5 meet the above basic requirements. Unfortunately, this is not yet the case with regards to all targets associated with MDG 6, 7 and 8. Some of these targets remain vague and ambiguous. This makes it difficult to arrive at a reasonable estimate of the cost of achieving these MDGs. These vague national targets should, as soon as possible be replaced by precise ones.

The absence of clear targets has implications for the production of realistic population projections. The projection representing the medium scenario should be based on established government policy and clear unambiguous targets.

4. **Indicators**

Because of the dearth of complete and reliable data in PNG, many of the global indicators cannot be measured. Consequently, the MTDS 2005-2010 did not only develop a set of national targets but national indicators for these targets. The basic requirements for the national indicators are that:

- They are clear, precise and unambiguous
- Complete and accurate data must be available for monitoring
- The source of the data must be a reliable national source. Information from international databases or from an international websites that do not obtain their data from a reliable source in PNG should not be used for monitoring.
- Data must preferably be available for two points in time between 1990 and 2009, in order to establish a trend.

These national indicators have, for as far as possible, been used for the monitoring of the MDGs in the inaugural MDGR as well as in the present MDGR II.
PART B: THE MDGs IN PAPUA NEW GUINEA: PROGRESS MADE BETWEEN 1990 AND 2009
MDG 1: ERADICATE EXTREME POVERTY AND HUNGER

Most people of the South Pacific Region, including those in PNG, consider the MDG concept of poverty and especially its target to “reduce by half the proportion of people whose income is less that $1 per day”, as largely irrelevant. Because of the dissatisfaction with this concept, PNG has replaced it with “poverty of opportunity”. This PNG specific concept of poverty refers to vulnerability, lack of opportunities, choices and access to services. Moreover, it is felt that poverty in the South Pacific Region should be seen in the context of relative food abundance. It is believed that a relative lack or even absence of money income does not necessarily lead to poverty and hunger.

In spite of this change of focus concerning poverty, it is important that the monetary element of MDG 1 is not completely lost. After all, a very large proportion of the variation in the income of the poor in developing countries can be explained by income per capita. The importance of income as an explanatory variable of poverty is recognized in the 2005-2010 MTDS, which has maintained one target and four associated indicators.

1. Situation analysis and trends

1.1. Baseline

In the inaugural MDGR, the baseline concerning the monitoring of the poverty component of MDG 1 was derived from data collected during a household survey conducted in 1996. The same baseline has again been used in the 2nd MDGR. The baseline data can be found in Table I-1.

In 2009 (as in 2004) no baseline data for the monitoring of the hunger component of MDG 1 was available.

1.2. Trend since 1990

In the absence of recent data on the income as well as the hunger component of MDG 1, trends since MDG base year 1990 have been established using proxy indices related to the concept of poverty of opportunity.
Table I-1: Selected key poverty indices for PNG and its regions, derived from the 1996 Independent Household Survey

<table>
<thead>
<tr>
<th>Poverty index</th>
<th>PNG</th>
<th>SR</th>
<th>HR</th>
<th>MR</th>
<th>IR</th>
<th>NCD*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini Coefficient</td>
<td>0.51</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Poverty line (kina)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Upper</td>
<td>461</td>
<td>547</td>
<td>464</td>
<td>314</td>
<td>479</td>
<td>1,016</td>
</tr>
<tr>
<td>-Lower</td>
<td>399</td>
<td>496</td>
<td>390</td>
<td>280</td>
<td>424</td>
<td>779</td>
</tr>
<tr>
<td>-Food</td>
<td>302</td>
<td>391</td>
<td>288</td>
<td>218</td>
<td>326</td>
<td>543</td>
</tr>
<tr>
<td>Below poverty line (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Headcount index</td>
<td>30.2</td>
<td>30.0</td>
<td>26.0</td>
<td>38.8</td>
<td>29.8</td>
<td>16.3</td>
</tr>
<tr>
<td>-Poverty gap</td>
<td>9.1</td>
<td>9.8</td>
<td>8.0</td>
<td>11.2</td>
<td>9.3</td>
<td>3.8</td>
</tr>
<tr>
<td>-Poverty severity index</td>
<td>3.9</td>
<td>4.3</td>
<td>3.4</td>
<td>5.0</td>
<td>3.8</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Note: * The sample size for the NCD was increased.
Source: Derived from 1996 Independent Household Survey.

- **Poverty in employment**

Figure I-1 presents several labour force related indices for the population age 10 and over as well as for the population aged 15-24 by sex. The employment rates are high but this is mainly due to the fact that most rural people are engaged in subsistence agriculture. According to the ICLS definition they are employed. Consequently, unemployment is fairly low. However, if those who are available for work but have not taken any action to find work are added to the unemployed, the unemployment rate (ILO version) is high especially in the urban sector. This applies in particular to the urban unemployment rate for young people age 15-24. For instance, for young males in the NCD, the unemployment rate is 49 percent and for the young urban females 35 percent. Consequently serious “poverty in employment” exists in the urban sector and it is especially acute for the young, aged 15-24. Moreover, most of these young unemployed have little or no formal education.

Only a very small proportion of the employed have a wage job. Moreover, between MDG base year 1990 and 2000, this proportion has decreased from 15 percent to 10 percent. There is evidence that, since 2000 the situation has not changed significantly.
Poverty in food security and nutrition

In PNG where the majority of the labour force is engaged in subsistence activities, it is important to monitor MDG 1 by means of indices that represent agricultural production. This was recognized in the MTDS 2005-2010, which adopted a national target related agricultural production viz.: “Increase by 2015, commercial agricultural production by 10 percent and subsistence agricultural production by 34 percent”. Unfortunately, information for the monitoring of agricultural production, particularly in the subsistence sector is not available.

The National Health Information System (NHIS) does, however provide some information related to nutrition. For instance, data regarding low birth weight indicates that in 2008, about 10 percent of new-born infants were underweight. This means that these children weighed less than 2,500 grams at the time of birth. This figure is not very different from the ones measured earlier. Low birth weight of new-born children is partly a reflection of the nutritional status of the population. NHIS data on underweight children under age 5 is presented in Figure I-2.

During the last decade, early childhood malnutrition has not change very much. Moreover, disparities at the provincial level remain large.
Figure I-2: Children under the age of five weighing less than 80 percent of that expected for their age (WFA) between 1999 and 2008

More detailed information on the prevalence of stunting and wasting of children age 6 to 60 months is provided by the 2005 National Micronutrient Survey. Stunting and wasting is measured by the indices “height for age” (HFA) and “weight for height” (WFH) respectively. This survey also provides information on under- as well as overweight children of that age. For this, the indices “weight for age” (WFA) and “body mass for age” (BMFA) are used. This information is summarized in Figure I-3.

It appears that the most serious nutritional problem for children aged 6 to 60 months is stunting. However the majority of these children are only moderately and not severely stunted. Wasting, and especially severe wasting is not common in PNG. A large proportion of PNG children are underweight but, once again, very few are severely underweight. Finally, the prevalence for PNG children to be overweight is slightly higher than in the standard population. Regional as well as rural-urban differences are significant.
Figure I-3: Prevalence (%) of stunting and wasting as well as underweight and overweight children 6 to 60 months old by region and geographic sector

Note: All measurements are based on the WHO standards of 2005.
Source: 2005 Micronutrients Survey

- **Poverty in education and literacy**

In PNG, education and literacy are highly correlated with poverty. Education and literacy indices can therefore be used as proxy indices of poverty. DOE data on access and retention at primary school suggests that, since 1990, the educational situation has only marginally improved. The same applies to youth literacy. (See MDG 2).

- **Poverty in longevity**

The average life expectancy at birth ($e_0$) is a particularly important proxy index of development as well as poverty. Changes in the average life expectancy at birth since the 1970s at the national as well as regional and provincial level is shown in Figure I-4.
Figure I-4: Change in the average life expectancy at birth (years) at the national, regional and provincial level between 1971 and 2000

Notes: In 1971, NCD was part of Central Province and Enga of Western Highlands

The information in Figure I-4 indicates that during the last four decades, improvements in longevity mainly occurred in the earliest part of this period: the 1970s. Furthermore, during the entire period 1971-2000, differences in life expectancy at the provincial level remained large. The information in Figure I-4 also suggests that the poverty situation has improved since the MDG base year (1990).

- Poverty in household facilities

It may safely be assumed that households/families living in a dwelling with a floor of earth, sand or palm/bamboo, without electricity, piped water supply and flush toilet are not well off. Figure I-5 presents information on the presence or absence of these household facilities in 1996 and 2006.
Households that do not have access to piped water into their house or yard most commonly get their water from a river/stream or spring (53.3 percent in 1996 and 60.2 percent in 2006). Most households that do not have their own flush toilets, most commonly use a traditional pit (69.1 percent in 1996 and 69.5 percent in 2006). The most common floor material of houses in PNG is palm/bamboo (48.9 percent in 1996 and 46.2 percent in 2006).

A composite household facilities index in the rural and urban sector in 1996 and 2006, constructed from the four indices in Figure I-5 is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>24.1</td>
<td>16.6</td>
<td>62.6</td>
</tr>
<tr>
<td>2006</td>
<td>22.6</td>
<td>18.4</td>
<td>57.2</td>
</tr>
</tbody>
</table>

The change in the overall index indicates that, since 1996, the situation has slightly deteriorated. The index for the rural sector has slightly improved. This improvement is mainly due to the fact that the number of rural households with electricity has doubled during the interval. In spite of this improvement, the proportion of rural households with electricity remains very low.
Since 1996, the index for the urban sector has deteriorated significantly. One important contributing factor is undoubtedly that the migration from the rural to the urban sector (added to an already high rate of natural increase), has not been followed by a comparable increase in the number of houses and an improvement in household facilities. In the urban sector since 1996, the situation regarding three of the four elements of the composite index, has deteriorated significantly.

Finally, indices for average household size and average number of persons per sleeping room suggest that during the interval 1996-2006, overcrowding has increased.

1.3. Progress towards achieving MDG 1

Progress towards achieving the poverty component of MDG 1 has been monitored by means of several proxy indices associated with “poverty of opportunity” It appears that, since MDG base year 1990, the combined impact of all these proxy indices has led to a small improvement of about 5 to 10 percent in the poverty situation. This improvement is approximately the same as that envisaged by National Target No 1 included in the 2005-2010 MTDS. This is shown in Table I-2 (upper panel). In other words, with regards to the rather modest national targets, PNG is, in 2009, more or less on track. However, none of the far more demanding global targets of MDG 1 can be achieved in the remaining six years before the 2015 deadline. Finally, the continuing very high Gini coefficient is a clear example that improvement in the poverty index does not necessarily translate into development in which the citizens of the country share equally.
Table I-2: Progress between 1990 and 2009 towards achieving the national targets of MDG 1.

<table>
<thead>
<tr>
<th>National Indicators</th>
<th>Most recent measure</th>
<th>Projected (no change scenario)</th>
<th>National Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Year</td>
<td>Comments</td>
</tr>
<tr>
<td>National Target No. 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below poverty line (%)</td>
<td>30.2</td>
<td>1996</td>
<td>Lower poverty line and headcount measure</td>
</tr>
<tr>
<td>Poverty gap ratio</td>
<td>9.1</td>
<td>1996</td>
<td>Incidence x depth of poverty</td>
</tr>
<tr>
<td>Share poorest quintile (%)</td>
<td>4.5</td>
<td>1996</td>
<td>Income of lowest 20 % (Q5)</td>
</tr>
<tr>
<td>Gini Coefficient</td>
<td>0.51</td>
<td>1996</td>
<td></td>
</tr>
<tr>
<td>National Target No. 2*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underweight births (% of total births)</td>
<td>10.0</td>
<td>2008</td>
<td>Only supervised deliveries</td>
</tr>
<tr>
<td>Underweight children (%)</td>
<td>24.0</td>
<td>2008</td>
<td>Children &lt; age 5</td>
</tr>
<tr>
<td>Children with HFA z-score &lt; -2</td>
<td>36.3</td>
<td>2005</td>
<td>Children &lt; age 5 HFA is height-for-age</td>
</tr>
<tr>
<td>Children with WFA z-score &lt; -2</td>
<td>26.4</td>
<td>2005</td>
<td>Children &lt; age 5 WFA is weight-for-age</td>
</tr>
</tbody>
</table>

Note: * This table only includes 4 of the 6 indicators associated with National Target No 2. No reliable data is available for the two remaining national indicators.

Source: Information on NT 1 derived from the 1996 HIS, the 2000 Census and the 1996 and 2006 DHS. Information on NT 2 derived from NHIS and Micro Nutrients Survey 2005

In Figure I-6, the trend in the proportion of the population under the poverty line is compared to the MTDS and the global trend.

**Figure I-6: Trend in the proportion (%) of the population below the lower poverty line between MDG base year 1990 and 2009 and projected to 2015**

![Trend in the proportion (%) of the population below the lower poverty line between MDG base year 1990 and 2009 and projected to 2015](image)

Source: 1996 Household Independent Survey
There is even more uncertainty regarding progress made towards achieving National Target No. 2. This target refers to agricultural production. In spite of the fact that the minerals and petroleum industry has become the leading contributor to PNG’s GDP, agriculture remains the economic backbone of the country. In 2009, it is estimated that agriculture contributes 25 percent to PNG’s GDP whereas it supports 85 percent of the population, mainly through subsistence activities. Consequently, the National Agricultural Policy attempts to improve the performance in the agricultural sector as a way to reduce poverty and hunger. However, many consider National Target No. 2, aiming at a 34 percent increase in subsistence production between 2003 and 2015, as far too optimistic. In the meantime, this target only tries to ensure that subsistence production keeps up with population growth.

In the absence of recent data from an Agricultural Survey, subsistence production can presently not be monitored. The four measurable national indicators associated with National Target No 2 are not well aligned with this target. They do not measure agricultural production but refer to the nutrition status of the population. (See Table I-2, lower panel). Moreover, data for the establishment of a trend is only available for two of these indicators. The limited information suggests stagnation with regard to nutrition. There is clearly a need for information that monitors National Target No. 2 more satisfactorily. A comprehensive Agricultural Survey should be a high priority for the future.

2. Challenges

2.1. Lack of data

In 2009, monitoring of the progress towards achieving MDG 1 is limited. Since the results of the current Living Standards Measurement Survey (LSMS) will not be available before the end of 2010, no recent nationwide information on income and consumption poverty is available. Moreover, in the absence of data from an Agricultural Survey, National Target No 2 concerned with agricultural production can presently not be monitored.

2.2. Economic challenges

Dependency on donor assistance and debt servicing remain major challenges. Other challenges include the low level of employment in the modern (money-earning) sector where unemployment in the urban sector remains high, especially for the young and vulnerable age group (15 – 24). Consequently, for most households, the level of money income is low. In addition, the income needs, in many cases must be spread out over a large number of household members. However, a very large proportion of male and female members of the labour force are engaged in subsistence activities, there is a relatively high level of income in kind.

Access to markets, goods and services, communication services and electrification of the rural sector as well as productive employment in the rural
and informal urban sector needs to be improved drastically. The same applies to productivity in all sectors. All these measures will improve PNG’s poverty situation. Inequality in income/consumption represented by the Q1/Q5 ratio and the Gini coefficient should be reduced through a special development programme.

2.3. **Social challenges**

The level of formal education and literacy remains low (See MDG 2). There is a strong inverse correlation between education and poverty. Poverty related to health is possibly even more severe (See MDG 4, 5 and 6). Of particular importance is that, in 2009, a large proportion of all Health Aid Posts is either non-existent or not operational. Consequently, for many rural people, there is little or no access to basic health services. Furthermore, poverty related to housing conditions and lack of basic facilities, for example, fresh water and modern sanitation remains an enormous challenge. For instance, in spite of an abundance of fresh water in PNG, a large proportion of the population is forced to use an unsafe water supply. The result is a high incidence of waterborne diseases such as malaria, diarrhea and dysentery. Moreover, the proportion of households without access to modern sanitation is limited, especially in the rural sector. Finally, the nutritional status of the poorest people especially women poor.

2.4. **Challenge of HIV/AIDS**

There is a high correlation between HIV/AIDS, poverty and hunger. As in most countries, the HIV/AIDS epidemic in PNG particularly affects those in the age group 15-34. This has already led to a significant loss of productive capacity. It is likely that this trend will continue in the near future. HIV/AIDS must be considered as an increasingly more important challenge that will affect the achievement of MDG 1. Furthermore, apart from loosing the income of HIV/AIDS patients, their treatment and care will affect the livelihood of all household members including their income earning capability. The increase in poverty will particularly affect female members of the household since they are usually tasked with the care of family members that have been infected.

3. **Interventions**

3.1. **Supporting international environment**

The United Nations Millennium Declaration considers the eradication of extreme poverty and hunger as the first goal for the new millennium. Following this declaration, the World Summit on Sustainable Development (WSSD) in 2002 in Johannesburg, re-emphasized the importance of poverty reduction. It used a broad definition of poverty but focused on the physical and environmental aspects of poverty including access to basic services including water, renewable energy, sanitation, housing and seeking accountability by all parties to mitigate environmental concerns and loss.
3.2. **National interventions**

PNG’s initial response to the Millennium Declaration was to draft a National Poverty Reduction Strategy (NPRS) for the period 2004-2020. This strategy was based on the National Constitution as well as the “Kumul 2020” vision statement. However, since this strategy had a rather narrow focus (on income poverty) it was not endorsed by the National Executive Council (NEC). Instead, the government’s views concerning the reduction of poverty and hunger was expressed in its development objectives. These objectives were incorporated in the MTDS 2005-2010, in the inaugural MDGR and most other national and sectoral policies and plans.

All these documents recognize that economic growth is a necessary condition for poverty and hunger reduction but it is not the only one. Reduction of poverty and hunger requires a multi-faceted response that includes a variety of socio-economic and political interventions. This integrated approach has been embedded in all national strategies and plans. Although, not explicitly stated in these policies, a “pro-poor” approach is implicit in all of them. Unfortunately, the implementation of these policies is not always “pro-poor”.

The Government has introduced Vision 2050 that will drive and coordinate PNG’s development aspirations through capacity building and the creation of productive employment as well as improved productivity in all sectors of the economy. Poverty reduction is implied in the focus areas of the Vision 2050.

Source: 2004, Pirozzi/UNICEF PNG
MDG 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION

One of the government’s top priorities is the achievement of Universal Basic Education (UBE). According to MDG 2, universal primary education (UPE) should be achieved worldwide in 2015. In other words, by 2015 all children should complete a full course of primary schooling. In 2009, a very large number of countries are still far away from achieving this very demanding goal. PNG is one of these countries.

In PNG, achievement of MDG 2 is intricately linked with the Educational Reforms introduced in the 1990s. At the time of its introduction, it was assumed that the new educational structure would lead to much wider access to elementary education at age 6 as well as drastic improvement in the completion of primary education. It was hoped that all children would complete nine years of basic education. The introduction of Elementary Schools was seen as critical to the success of the new structure. It was also assumed that the introduction of the Elementary School component would gradually solve the problem of over-age entry into Primary School.

Implementation of the educational reforms started in the mid-1990s and should have been completed by 2004. Currently, there are still some primary schools that have Grade 1 and 2 classes. A major challenge is to relocate these classes to the elementary schools.

1. Situation analysis and trends

In this section, three major aspects of education are assessed, viz.:

- Access to school (enrollment)
- Completion of a certain level of formal education
- Achievement (quality).

For reasons of comparability, all measurement based on DoE data in this section are in terms of the pre-reform system.

1.1. Access

In the 2004 Inaugural MDGR, the Gross Enrollment Rate (GER), and not the Net Enrollment Rate (NER) was used to monitor access to school. NER’s were not available at the time. Moreover, there was and still is a large age disparity among primary school pupils in all classes. For reasons of comparability, the GERs are being used in the present assessment of access to school.

Figure II-1 presents the trend in gross enrollment at primary level starting from MDG base year 1990 to 2007. The data suggest that, since 1990, access to school has marginally improved. Nevertheless, it appears that so far, the
educational reforms have not yet led to an increase in primary school enrollment. It should also be mentioned that primary school enrollment remains characterized by large disparities at the provincial and lower levels. Furthermore, most of the low achievers in enrollment amongst the provinces are those that have been lagging behind in social and economic areas as well.

**Figure II-1: Trend in the GER (%) at the primary level between MDG base year 1990 and 2009 and projected to 2015**

1.2. **Retention**

Completion of primary school, as measured by the cohort retention rate (CRR) is presented in Figure II-2. Information is provided for different cohorts of children since 1985, who completed grade 6. The data indicates that in spite of the educational reforms, retention has not improved by much. The national average CRR is still around 60 percent.

As in the case of enrollment, the national average level of retention is dragged down by the drop-out rate in the provinces of the Highlands Region. Since these provinces have a relatively large population their impact on the national average rate is significant. The enormous differences in the level of retention (as well as enrolment) at the provincial level has been known for a long time. It appears that the educational authorities have, so far, not been able to address the challenges related to education in this region.
Figure II-2: Trend in the CRR (%) at the primary level between MDG base year 1990 and 2009 and projected to 2015


1.3. Achievement

Nationwide exam/test results are only available since 2007. Achievement, since MDG base year 1990 has therefore been measured by means of the level of literacy. Unfortunately, PNG has never conducted a nationwide literacy survey. However, the level of youth as well as adult literacy has been measured indirectly from all censuses. These estimates are based on information concerning the highest level of education completed by all census respondents. It has been assumed that those who have at least completed grade 3 are literate. This cut-off point is based on consensus. In order to maintain comparability with literacy measures since the 1970’s, the same definition has again been used.

In Figure II-3, youth as well as adult literacy rates for 1990 and 2000 are compared. The youth literacy ratio (YLR) refers to the population 15-24 and the adult literacy ratio (ALR) to the population age 15 and over. Figure II-3 suggests that, after 1990, youth literacy has improved marginally. This is in agreement with the enrollment and retention ratios for that period. On the other hand, adult literacy has improved significantly during the same period. This is largely the result of the fact that during this period many elderly persons with no or very little formal education have passed away and have been replaced by young people who have completed at least grade 3.
Figure II-3: Trend in the YLR (%) between MDG base year 1990 and 2009 and projected to 2015

![Graph showing trend in YLR(%) between 1990 and 2015](image)

Source: The YLR’s have been derived indirectly from census data concerning the highest level of formal education completed, using a cut-off point of class 3.

Figure II-4 presents a picture of change in youth and adult literacy between 1990 and 2000. The level of youth as well as adult literacy at the provincial level varies significantly. In the Highlands Region it is far lower and in the Islands Region much higher, than the national average.

Figure II-4: Change in youth and adult literacy between 1990 and 2000

![Bar chart showing change in YLR and ALR between 1990 and 2000](image)

Source: The YLR’s and ALR’s have been derived indirectly from census data concerning the highest level of formal education completed, using a cut-off point of class 3.
1.4. Progress towards achieving MDG 2

Information on education available from the 1960s and 1970s indicates that the level of school attendance, retention and literacy in pre-Independence PNG was very low. However, by 1980, significant improvement had been made. Unfortunately, it appears that, after 1980, the improvement in enrollment, retention and literacy has leveled off. The Education Reform Programme was a direct result of this stagnation.

In Table II-1, progress towards achieving the three national targets (3, 4 and 5), associated with MDG 2 has been summarized. If progress towards achieving MDG 2 is measured against the national (MTDS) targets, it appears that PNG is lagging behind with regards to access to school, retention and youth literacy. However, it is noted that, adult literacy has improved significantly.

Table II-1: Progress between 1990 and 2009 towards achieving national target of MDG 2 (NT 3, 4 and 5)

<table>
<thead>
<tr>
<th>National Indicator</th>
<th>Most recent measure</th>
<th>Projected#</th>
<th>National Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Year</td>
<td>Comments</td>
</tr>
<tr>
<td>GER (%)</td>
<td>74.4</td>
<td>2007</td>
<td>GER prim. Level</td>
</tr>
<tr>
<td>CRR (%)</td>
<td>61.8</td>
<td>2007*</td>
<td>CRR prim. Level</td>
</tr>
<tr>
<td>YLR (%)</td>
<td>61.7</td>
<td>2000</td>
<td>Youths 15-24</td>
</tr>
<tr>
<td>ALR (%)</td>
<td>49.2</td>
<td>2000</td>
<td>Adults 15+</td>
</tr>
</tbody>
</table>

Note: * All projected rates are based on a “no-change” scenario, assuming that pre-2009 annual rate of change will continue. This is not necessarily a correct assumption.  
* 2002-2007 cohort  
@ The MTDS 2005-2010 has not set a national target for adult literacy

Source: The GER and CRR have been derived from DOE data. The YLR and ALR have been derived indirectly from census data on highest level of formal education completed

Finally, given continuation of recent trends, PNG will not be able to achieve the global targets of MDG 2 in the six remaining years of the first MDG cycle. It is also concluded that although the educational reforms may have been successful in some areas they have to date fallen short of expectations. One possible reason for the lack of progress is that the introduction of the educational reforms (which should have been completed in 2004) are behind schedule. It could also be argued that the benefits to be gained from the reform process will only be recognized in the long term.
2. **Challenges**

2.1. **General**

The level of education and literacy is strongly correlated with economic performance, poverty, morbidity and mortality (including maternal mortality and HIV/AIDS infection), fertility and also with improved awareness of environmental issues. For these reasons, the MDG Steering Committee added the low level of education and literacy to the list of overarching challenges.

2.2. **Challenges related to access, retention and achievement**

The UBE Plan of the DOE lists a large number of “in-school” as well as “out-of-school” factors to have a negative impact on access, retention and achievement. The “in-school” factors are those linked to school and education system policy and practices. The “out-of-school” factors are those linked to parents and the community.

- **“In-school” factors**

  Firstly, lack of educational infrastructure (e.g. classrooms and teachers’ accommodation) and lack of educational materials and limited access to water and sanitation remains a serious problem. These factors often lead to school closure and attendance problems of students and teachers. The relative remoteness and inaccessibility of many educational institutions is also a major issue. Many children attending elementary and primary school have to travel for more than one hour to reach the nearest school. This is especially the case in provinces where the rural population tends to live in small remote communities.

  Secondly, absenteeism is widespread. There are reports that in some cases teachers are not at school at all and others of teachers arriving late to take up postings. The loss of actual school time in PNG is a serious issue. Negative pupil behavior such as peer group pressure and bullying is also prevalent.

  Finally, school fees and other financial barriers remain a major factor contributing to low enrollment, retention and achievement. Many parents, especially those depending on subsistence activities, find it difficult to pay even a nominal school fee. As a result, many children are either not enrolled or drop out before completing their basic education. This also applies even more to secondary and tertiary education.

- **“Out-of-school” factors**

  Lack of parental support and community responsibility towards education are major contributing factors to the low level of enrollment, retention and achievement. Furthermore, the limited growth in paid employment opportunities has probably had a negative impact on people’s perception of education. Law and order problems, including tribal fights continue to affect enrollment, retention and achievement. Moreover, those who drop out at an early stage are likely to lose their literacy skills.
The introduction of elementary schools as a part of the education system requires special mention. The introduction of these schools has significant infrastructure, expansion and human resource implications. Even though the elementary schools are considered cost effective, there are still significant costs involved. Moreover, there is misunderstanding regarding the language policy in the elementary schools. The medium of instruction is determined by the community. Some critics consider the use of the local “tok ples” in elementary schools as a matter of concern and argue that the output of these schools consists of children literate in “tok ples” and illiterate in English.

It also needs to be mentioned that, in PNG, it is difficult to intervene in the education process due to low institutional capacity and public expenditure constraints. This has become clear during the ongoing implementation of the educational reforms.

2.3. Demographic challenges

The high rate of population growth and broad-based age-sex structure has significant implications for future school enrollment. In the past, demographic investment in education has not been able to keep up with the additional demands on resources caused by the high population growth rate. As a result many students could not be enrolled in a school located at a reasonable distance from their home. Furthermore, the teacher-student ratio has risen in many cases to unacceptable levels. If it is assumed that the demographic situation will remain as it is, investment in infrastructure, teacher training etc. will need to increase drastically. Furthermore, simply keeping up with population growth does not mean that the quality of education will improve.

The ultimate goal is to absorb all those who reach age 6 into the school system, and to improve retention rates and the quality of education. In order to do this it is clear that far more resources, human as well as financial, are required. Additional resources will also be required to clear the existing backlog in enrolment and once this has been achieved, for further improvement.

2.4. Challenge of HIV/AIDS

Access, retention and achievement in education will almost certainly be affected by the HIV/AIDS epidemic. The epidemic affects the achievement of MDG 2 in several ways. For instance:

- More children, especially those in the most vulnerable groups may be expected to drop out of school to look after relatives suffering from HIV/AIDS. Illness of children as well as stigma and discrimination may lead to further erosion of enrolment, retention and achievement rates. Available evidence suggests that this affects girls more than boys since they carry the “burden of care”. Consequently, it is expected that in the coming years the Gender Parity Index (GPI) of the school going population will drop (See MDG 3).
• Families with parents who are infected will find it increasingly more difficult to pay school fees and other costs associated with the education of their children. In the case of orphanned children, the situation is even more difficult.

• The number of teachers may be reduced because of illness and absenteeism.

3. **Interventions**

3.1. **Supporting international environment**

The DOE continues to enjoy very close relations with all of its donor partners and with the introduction of the Education Sector Improvement Program it is moving toward the introduction of a Sector Wide Approach to the financing of education and, in particular, the UBE Plan. The ESIP Steering Committee boasts wide representation from all stakeholders. Aside from the donors there are representatives from the provinces, churches, wider civil society and parents.

3.2. **National interventions**

The achievement of MDG 2 in PNG is supported by several national and sectoral strategies, policies and plans such as the MTDS 2005-2010, the National Population Policy (NPP), the National Education Plan 2005-2014, the Education Sector Improvement Programme (ESIP) and the National School Subsidy Policy.

Furthermore, the National Literacy Awareness Secretariat (NLAS) under the Office of Library and Archives of the DOE focuses on improvement of adult literacy. The DCD is involved in several initiatives to improve non formal education and adult literacy.

Most importantly, a Plan for Universal Basic Education 2009-2018 has recently been endorsed by the NEC. The UBE plan supports the Government’s National Strategic Plan vision 2050.

There are three dimensions to the UBE Plan. Firstly, all children will have an opportunity to enter the elementary prep grade at the age of 6 years.
Furthermore, the retention rate at schools will increase and the proportion of female students will also increase. Finally, the knowledge and skills of children completing basic education will be improved. The UBE Plan also deals with a number of cross cutting issues such as management at all levels, remoteness, special education, gender and HIV/AIDS.

Furthermore, in order to improve attendance the DOE is developing an effective monitoring system. A recent payroll cleansing exercise has gone some way towards improving the payroll. However, problems related to the posting of teachers to schools in the more difficult parts of the country remain.

Finally, it needs to be noted that, as part of the implementation of the HIV/AIDS National Strategic Plan 2006-2010, HIV/AIDS (as well as related subjects like alcohol and drug abuse) have been incorporated into the curriculum of primary schools. The DOE is continuing to work with churches and other NGOs to overcome remaining resistance to more comprehensive and explicit sex education.
MDG 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

In this section on MDG 3, both concepts of gender and sex are used. Gender is defined as the various characteristics assigned to women and men by the society in which they live. It highlights the fact that women and men behave differently not only because of their biological sex but also because of what their society or community has taught them about how women and men are supposed to behave. On the other hand, sex refers to biological characteristics.

Gender can be considered as the primary organizing principle of all human societies. Gender equality implies that women and men have equal value, equal rights and equal opportunities. MDG 3 deals with the promotion of gender equality and empowerment of women. Although the inaugural MDGR in 2004 concluded that gender disparity in education, morbidity and mortality, employment etc. in PNG is not as extreme as often assumed, the existing gender situation with for instance a very high level of gender based violence (GBV), is rightly considered as a very serious impediment for future development. More generally, this applies to problems related to law and order such as the high level of crime and tribal fighting. On average, the adverse consequences of these affect females more than males.

For these and other reasons, the MDG Steering Committee adopted “gender culture and gender disparity” as one of the crosscutting challenges, endangering the achievement of all MDGs. Consequently, in order to make progress towards achieving the MDGs it is essential that all possible efforts are made to eliminate gender disparity and to promote the empowerment of women.

1. Situation analysis and trends

Although MDG 3 is mainly concerned with disparity in education and in political representation, the situation analysis in this section looks at gender disparity in several other areas.
1.1. Gender disparity in education and literacy

- Enrollment

Figure III-1 presents the gender parity indices (GPI) corresponding with the GERs for female and male children at primary level between 1990 and 2006. The data indicates that boys have better access to school than girls but the difference is not as large as is often thought. It is noted that the introduction of educational reforms has not led to further improvement in the GPI. After 1995, the start of the educational reforms, improvement in enrolment for boys has taken but particularly improvements for girls has been marginal. Since MDG base year 1990, the GPI with regards to primary school enrollment has decreased slightly.

**Figure III-1: Trend in the GPI of enrollment at primary school between MDG base year 1990 and 2007 and projected to 2015**

![Graph showing trend in GPI of enrollment at primary school between MDG base year 1990 and 2007 and projected to 2015]


Gender disparity in primary school enrollment at the provincial level is very large. Female GER's in several provinces are actually higher than those for males. On the other hand, in the provinces of the Northern Coastal Region and especially those in the Highlands Region, there is very significant gender disparity in enrollment at the primary level.

- Retention

Figure III-2 presents GPIs based on the Cohort Retention Ratios (CRR) at the primary level (pre-reform structure) for different cohorts since the 1990s.
The GPI at primary level in the early 1990s was quite high. However, more recently, it has dropped. Spatial disparity (at the provincial level), is large. Male and female CRRs in the provinces of the Islands and Northern Coastal Region are not particularly different and in the Southern Coastal Region, they are actually higher for female children. The picture at the national level is, spoiled by the very low female CRRs in all provinces of the Highlands Region.

- **Achievement**

Most educational performance indicators for girls are lower than those for boys. This applies in particular to gender specific literacy rates. Moreover, there is once again variation at the provincial level. The highest achievers among the provinces are not surprisingly the provinces in the Islands Region.

Figure III-3 presents GPIs based on the YLRs and ALRs indirectly derived from census data.
The literacy ratios for males are significantly higher than those for females. However, the YLR for females increased significantly between 1990 and 2000, whereas for males it decreased during the same period. As a result, in 2000, the YLR for males is only marginally higher for males than for females. This trend has resulted in a very significant improvement in the GPI for youth literacy during the interval. Continuation of this trend will mean that gender inequality with regards to youth literacy will soon become a thing of the past. However, the way in which this is achieved (a decrease in youth literacy for males) is obviously undesirable.

As expected, adult literacy is still very much lower than youth literacy. However, contrary to youth literacy, are literacy of adults has significantly improved for females as well as males (See also MDG 2)

One positive sign for the future is that in most provinces, the GPI for youth literacy has improved significantly. In 2000, several provincial GPI with regards to youth literacy actually reached a value of 1.0 or more, indicating that these provinces have achieved equity or more than equity in youth literacy. Problems of gender inequality in youth literacy are concentrated in the provinces of the Highlands Region.

The GIPs for adult literacy at provincial level vary far more than those for youth literacy. Gender disparity in adult literacy is extremely high in those provinces where the level of education is lowest. That is once again in the provinces of the Highlands Region. There is little or no gender disparity in adult literacy in the provinces of the Islands Region, the NCD and Milne Bay.
1.2. Gender disparity in mortality

Figure III-4 presents the trend in gender differentials in infant mortality and longevity by sex since the 1970s. Infant mortality is expressed by means of the infant mortality rate (IMR) and longevity by means of the average life expectancy at birth ($e_0$).

**Figure III-4: Trend in infant mortality and longevity by sex since the 1970s**

![Graph showing trend in infant mortality and longevity by sex since the 1970s](image)


Since the 1970’s, survival chances during early childhood have been more favorable for female than for male children. However, it appears that the decline in early childhood mortality since the 1970’s has benefited male children more than female children. The trend in life expectancy is not as consistent as the trend in infant mortality. However, it is clear that since the 1970’s, there has been very little difference between the average life expectancy of females and males. In most developed countries, female life expectancies at birth tend to be significantly higher than those for males. Relatively speaking, it appears therefore that females in PNG are lagging behind.

The level of maternal mortality in PNG is one of the highest in the entire Asia-Pacific Region and this rate has changed marginally in the recent past. As long as women in PNG do not receive antenatal support and give birth “in the village” (only attended by a female relative), it cannot be expected that the maternal mortality situation will improve significantly any time soon. In connection with MDG 3, it needs to be stressed that the MMR is an important indicator of gender disparity and inequity. Consequently the very high level of maternal mortality in PNG must be interpreted as another important indicator that confirms the relatively low status of women in PNG.

Finally, the HIV epidemic affects females more than males. Gender inequality is considered as a key factor in the vulnerability to the epidemic. Some ways in which the epidemic exacerbates the burdens on women includes the following:
• The economic security of women (and children) decreases when household income drops because of infection of the income earners. This leads to a decline in the nutritional status of all household members but especially the poorest women. In the meantime, an increasingly heavier demand is made on women, especially those engaged in the subsistence sector.

• It is likely that women will be forced to take on far greater burdens of caring for HIV/AIDS infected persons than men.

• HIV infected fathers/mothers are often inclined to keep girls out of school before they consider keeping boys out of school.

These and other factors affect the achievement of gender equality and empowerment of women.

1.3. Fertility and reproductive health

The situation analysis concerning MDG 3 should include a reference to the continuing high level of fertility in PNG and the factors contributing to this. Although fertility has decreased during the last few decades; to date it remains high. Moreover, the pattern of fertility in PNG is also a risk factor for women. These and other risk factors for women are discussed in detail under MDG 5. They point at a relatively low level of reproductive health care, implying greater health risks and less education, employment and other opportunities for women.

1.4. Gender disparity in employment

The level of labour force participation and employment for females (as well as males) is high. This is, however the result of the fact that most women (as well as men) in the rural sector are engaged in subsistence activities (for household consumption). According to the definitions used, they are economically active and employed. The GPs in labour force participation and employment is slightly more than 1.0.

With regards to paid employment, the picture is different. In 2000, only a small percentage, 5.3 percent, of all employed women had a wage job compared to 15.2 percent for men. During the 1990’s, there has been a slight decrease in the proportion (%) of wage earners amongst the employed women as well as men.

Once again, there are large differences in the labour force situation at the sub-national level. The provinces in the Highlands Region have the highest female as well as male LFPRs. The LFPRs are significantly lower in all other provinces.

The NCD sticks out as an area where unemployment problems are concentrated. The unemployment rate for females in the NCD is very high but that for males is even higher. This applies in particular to young females and males in the age group 15-24. The same applies to underemployment in the NCD. Most of the unemployed and under-employed are never married, young males and females with little or no formal education.
In conclusion, gender disparity in employment is mainly a matter of paid employment. Paid employment is low for males as well as females.

1.5. Gender based violence (GBV)

Although countrywide quantitative information concerning gender based violence (GBV) is limited, it is almost universally agreed that GBV is widespread in PNG. Even if it is assumed that the fragmented statistics overstate the real GBV situation in PNG as a whole, there is little doubt that GBV is one of the most serious impediments for the achievement of MDG 3 as well as all other MDGs. In particular, it should be mentioned that GBV and related factors should be considered as major contributors to the low level of maternal health and the high level of maternal mortality in PNG. It is therefore appropriate that the MDG Steering Committee has endorsed “gender culture and gender inequality” as one of the nine crosscutting challenges PNG faces in achieving all MDGs.

1.6. Gender disparity in political representation

Since 1982, women in PNG have contested in the national elections. Although over time, the number of women candidates in national elections has increased, very few of them have so far been successful. In 2009, the national level parliament of 109 members has only one female representative and this has been the case for more than 10 years. As a result, with regards to women’s political participation, PNG is presently ranked as the 132nd country (out of a total of 138 countries).

At the sub-national level, female political representation is somewhat more favorable. The Organic Law and Administrative Laws on Provincial and Local Level Government (LLG) have a provision for nominated seats for women in the LLGs (rural as well as urban) and in the Provincial Assemblies. In conclusion, women’s representation at all levels of government, but particularly at the national level remains limited. Although since the 1960’s, their opportunities in the areas of education and employment have improved, this has had very little impact on their position as decision makers.

1.7. Progress towards achieving MDG 3

Progress towards achieving the National (MTDS) Target no. 7, related to education is shown in Table II-1. The education and literacy trend since 1990, depicted in this table requires further clarification. Firstly, in PNG, the most basic problem with regards to education and literacy is clearly low enrolment, retention and achievement rates for all children, girls as well as boys.

Secondly, since MDG base year 1990, the GPI for primary school enrollment has slightly decreased. However, it should be kept in mind that the gender differential enrollment in the provinces of the Highlands Region is mainly responsible for this. It is possible that the slight deterioration in the national GPI can at least partly be explained by the sex differential impact of the HIV/AIDS epidemic in the Highlands Region. This would be the case if parents infected
with HIV would be more inclined to keep their female children out of school than their male children.

Thirdly, since 1990, the GPIs related to youth as well as adult literacy have improved. Users are reminded again that the bar for literacy used in censuses and surveys in PNG has been placed at a relatively low level viz. “at least completed grade 3.” Since 1990, the gap between female and male youth literacy rates has narrowed. Continuation of this trend means that the disparity in adult literacy should gradually disappear. However, the slight decrease in the GPI for primary school enrollment suggests that this process may stall in the near future. Furthermore, in this connection, it is also important to point that the gap in youth literacy between girls and boys has recently narrowed, partly as a result of the decreasing youth literacy rate for boys. This is one way of reducing gender disparities but it is not a desirable one.

Fourthly, because of the much larger gender disparity in education in the past, the level of adult literacy for males is significantly higher than that for females, particularly in the Highlands Region.

In conclusion, considering the additional challenge of the HIV/AIDS epidemic, it is unlikely that the gender gap in education and literacy will be closed in the near future. In fact, due to the impact of HIV/AIDS, the post-1990 trend in literacy may well be reversed in the coming years.

### Table III-1: Progress between 1990 and 2009 towards achieving national target 7 of MDG 3

<table>
<thead>
<tr>
<th>Gender parity Index for</th>
<th>Most recent measure</th>
<th>Projected (no change)</th>
<th>National Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Year</td>
<td>Comments</td>
</tr>
<tr>
<td>Prim. Education</td>
<td>0.90</td>
<td>2007</td>
<td>Enrollment</td>
</tr>
<tr>
<td>Youth literacy</td>
<td>0.91</td>
<td>2000</td>
<td>Age 15-24</td>
</tr>
<tr>
<td>Adult literacy</td>
<td>0.80</td>
<td>2000</td>
<td>Age 15 +</td>
</tr>
</tbody>
</table>

Source: GPI’s related to enrollment have been based on DOE data and the GPIs related to literacy have been derived from YLRs and ALRs indirectly estimated from census data.

Furthermore, the analysis in Section 1 confirms the findings of the Inaugural MDGR. These are that, although gender differentials in employment, morbidity and mortality in PNG exist, the gender gaps are not as wide as often assumed. In particular, it appears that gender disparity is not as extensive as spatial disparity. Nevertheless, the analysis in the previous section suggests that the global targets for MDG 3 will not be achieved by 2015.

An area of gender disparity where, compared to most countries in the world, PNG rates particularly poor is that of political representation. Presently female representation in the National Parliament is 0.9 percent.
Although the hard facts are often lacking, there is little doubt that by far the worst examples of gender disparity can be found in the socio-cultural area, especially gender based violence (GBV). This is the reason why the MDG Steering Committee has placed gender culture and gender disparity on the list of crosscutting challenges affecting the achievement of all MDGs. In this respect, it needs to be mentioned that very little progress has been made towards reducing GBV. Moreover, the continuing high level of maternal mortality should also be considered as very closely associated with gender disparity.

In conclusion, in the remaining six years of the first MDG cycle 1990-2015, the global as well as national targets for MDG 3 will almost certainly not be achieved. Moreover, it appears that, so far, there is relatively little understanding for the crosscutting nature of gender culture and gender disparity and of their impact on the achievement of all MDGs.

2. Challenges

2.1. Lack of data

Many complaints have been made about the lack of sex disaggregation in PNG’s database. Although the lack of data concerning gender equality and empowerment of women is frustrating, these complaints are not entirely justified. Census and survey data as well as data from registration systems is in virtually all cases available by sex. The main problem is that there is a lack of data for males as well as females. In conclusion, although there is much scope for the improvement of the database required for the monitoring of MDG 3, this database is not as limited as that for the monitoring of MDG 1, 6 and 7.

2.2. Economic challenges

On average, economic disparity and insecurity affects females more than males. In spite of that, the national budget does not adequately reflect women’s needs in education, employment and in health. The rather low level of money income (especially in the rural sector) and the high level of unemployment and underemployment (in the urban sector) constitute other impediments for achieving gender equality and empowerment of women. However, women dominate the small urban informal sector. In order to expand this sector and to improve the livelihood of many urban dwellers the informal sector needs strengthening.

2.3. Demographic challenges

PNG’s continuing high level of fertility is often mentioned as a factor hampering the achievement of MDG 3. This applies equally to the pattern of fertility, especially with regards to childbirth outside the age range 20-34 and inadequate birth spacing. These factors imply higher than average risks of morbidity and mortality as well as less education, employment and other opportunities for women.
2.4. **Social challenges**

The level of formal education and literacy in PNG remains low but this applies to females as well as males. However, gender inequality in education may well increase in the near future, due to the impact of the HIV/AIDS epidemic. As already mentioned, many parents when faced with a choice will select boys over girls when it comes to sending a child to school. Girls are further disadvantaged by domestic chores.

Major health challenges include all those listed under MDG 5. The very high level of maternal mortality in particular is one of the clearest indications of very widespread gender disparity in PNG. Finally, the relatively low nutritional status of the poorest women should be mentioned.

2.5. **Cultural challenges**

Marriage of girls below the age of 15 is still common, particularly in the Highlands Region. Marriage at such an early age (often as a result of pregnancy), affects all aspects of the life of these young girls (health, education, job opportunities). This is an impediment not only for achieving MDG 3 but also all other MDG’s particularly MDG 2, 4 and 5.

However, the main challenge in this category is undoubtedly the high level of gender-based violence (GBV) in PNG. Although laws regarding domestic violence against women exist, these laws are rarely enforced. It is widely believed that these are “disciplinary and corrective measures” that should be resolved within the family. The payment of bride price also plays a role in violence against women.

Furthermore, because of a strong belief in the separation of church and state, church organizations do not always fully support women rights, i.e. in politics.

2.6. **Political challenges**

Many reasons have been put forward for the very low level of female participation in the political process. However, the most crucial ones are probably the relative lack of political education and training for women and the paucity of funds required for the proper conduct of an election campaign. In this connection, it should be mentioned that the consultation process in PNG is very expensive because of its complex decentralized system of government and its extreme diversity in culture, tradition and language.

2.7. **Challenge of HIV/AIDS**

There are many ways in which the HIV/AIDS epidemic negatively affects the achievement of gender equality and empowerment of women. The most obvious ones include:

- A decrease in the GPI of the school going population when family resources become more limited due to HIV/AIDS infection of father and/or
mother. Parents may be inclined to keep girls out of school before they consider keeping boys out of school.

- It is likely that women will be forced to take on a far greater burden of caring for HIV/AIDS infected persons than men.

- Economic security of women (and children) will decrease when household income drops because of infection of the income earners. An increasingly heavier demand will be made on women engaged in subsistence agriculture.

- Discrimination of pregnant women who are HIV/AIDS positive

Much more effort is needed to educate PNG men about their attitude and responsibilities towards their wife and about shared responsibility

3. **Interventions**

3.1. **Supporting international environment**

PNG is a signatory to a large number of international conventions and declarations related to MDG 3. It seems that, over the years, support has not always kept up with the requirements of these conventions and declarations. This applies to political commitment as well as funding restrictions. Moreover, it is often felt that implementation of the conventions and declarations is the sole responsibility of the Division of Gender in the Department of Community Development. As a result of all these factors, the implementation of the obligations under these conventions and declarations has been slow.

Of all the international conventions and declarations related to MDG 3 that PNG has adopted, the most important ones are probably the Convention of all forms of Discrimination against Women (CEDAW) and the Declaration on the Elimination of Violence against Women (DEVAW).

3.2. **National interventions**

Many national interventions with regards to MDG 3 are related to the implementation of CEDAW. After the Beijing Conference in 1995, focal points for gender were established in many government departments. Unfortunately, these focal points have not always received the substantive support that they need. In 2008, the Department of Community Development (DCD) set up a high level core committee on CEDAW, to fast-track the implementation of this convention. With this initiative, a better sense of partnership between all stakeholders has been fostered. Moreover, a larger reference group was organized to ensure broad-based sectoral input into the national CEDAW Report.

Furthermore, several policies actively promote gender equality and the empowerment of women. Some of these include the “Gender and HIV strategy”, gender equity in education, gender equality and women’s empowerment policy,
the organic law on gender equality and the establishment of the office for the development of women with the mandate to address many of the areas covered by MDG 3.

Since many gender issues are health and education related, many of the interventions listed under the health and education MDGs also promote gender equality and the empowerment of women. This applies in particular to the proposed introduction of Community Health Posts (CHP) throughout the rural sector. (See MDG 4 and 5). The introduction of these CHPs with its professional medical staff of 3, including a trained and experienced midwife will lead to improved maternal health and a decrease in maternal mortality.

With regards to improvement in the political representation of women, the National Leaders recently proposed to create one seat per province in the National Parliament that can only be contested by women. If this Temporary Special Measures (TSM) resolution is endorsed by Parliament, the next Parliament will have at least 22 women MPs, representing 22 new electorates.

Interventions with regards to gender based violence require special attention. These interventions will undoubtedly be coordinated in the National Strategy on GBV 2010-2015. This policy will be multi-sectoral in nature. In this respect, PNG’s system of Village Courts should also be mentioned. These Village Courts draw heavily on customs that have been in place for many generations. However, they also examine how customs need to be changed to protect women and to promote their role as leaders in the community.

In other words, the Village Courts have incorporated new beliefs, values and practices which respect all adults and children and reject the use of violence and discrimination and encourage communities and individuals to resolve issues between them respectfully and constructively. In particular, the Village Courts emphasize the importance of treating women fairly and treating family and sexual violence as serious crimes. Village Court officials are all respected community leaders.
MDG 4: REDUCE CHILD MORTALITY

Mortality is one of the three demographic processes that change the size and structure of a population. MDG 4 is concerned with early childhood mortality as well as some important determinants of early childhood mortality, especially immunization. The global target for MDG 4 is to “reduce by two thirds, between 1990 and 2015, the under-five mortality rate”. This target is extremely demanding, especially for developing countries like PNG that are severely affected by the HIV/AIDS epidemic and where access to basic health services is limited.

It is not yet possible to obtain statistically meaningful mortality indices from PNG’s Civil Registration System (CRS) and NHIS. Consequently, so far all basic mortality indices used for monitoring of MDG 4 have been estimated indirectly from census/survey data. Furthermore, information concerning determinants of mortality have been derived from the 1996 and 2006 DHS. Although the database for the monitoring of MDG 4 is far from ideal, it is more complete and probably more reliable than that of all other MDGs with the possible exception of MDG 2.

1. Situation analysis and trends

1.1. Indices of early childhood mortality

The most important indices of early childhood mortality are the infant mortality rate (IMR), the child mortality rate (CMR) and mortality under the age of five (U5MR). Furthermore, mortality in the first year of life is subdivided into neonatal mortality (in the first month) and post-neonatal mortality (in the following 11 months).

Figure IV-1 presents the national average estimates of early childhood mortality and its components.
In 2009, early childhood mortality remains very high. However, the rates in Figure IV-1 suggest that during the 1970s, the early childhood mortality situation in PNG improved very significantly. Subsequently, the mortality transition appears to have slowed down. In 2009, many children still die in the first five years of life.

The trend in infant mortality at the regional and provincial level since the 1970s is shown in Figure IV-2.
Differences in the level of early childhood mortality within the country (provinces) and between the rural and urban sector are extreme. Since 1971, the gap in early childhood mortality between the frontrunners (mainly the provinces in the Islands Region and the NCD) and those lagging far behind (particularly West Sepik and Gulf) has always been very large. Furthermore, in 1980, infant and child mortality rates in the rural sector were about 80 per cent higher than in the urban sector. In 2000, this gap increased to about 140 per cent. There are not many countries in the world where differences in mortality between the main geographic subdivisions are as large as in PNG.

**Figure IV-3: Trend in neonatal and post-neonatal mortality between 1996 and 2006**

![Bar chart showing trend in neonatal and post-neonatal mortality]

Source: 1996 and 2006 DHS

Figure IV-3 presents a more detailed picture of change in neonatal and post neonatal mortality between 1996 and 2006. It will be noted that in the first year of life, mortality is particularly high for newborn babies during the first month of life. This is due to lack of ANC attendance, unsupervised delivery and delivery complications. In 2006, mortality in the first month of life is as high as mortality in the next 11 months, whereas in 1996, neonatal mortality was significantly higher in the first month than in the remainder of the year.

1.2. **Determinants of early childhood mortality**

A large number of potential determinants of early childhood mortality have been considered. The selection has only been restricted by availability of reliable data. In PNG, probably the most important determinants are high risk fertility behavior, health care during pregnancy and childbirth, infant feeding practices, immunization, acute respiratory infection (ARI) and diarrhea. High risk fertility behavior and health care during pregnancy and childbirth are even more important determinants of maternal health and mortality and they are therefore discussed under MDG 5. For the purposes of MDG 4, infant feeding practices and immunization (of children under age 1) against various diseases and infections, are particularly important.
1.3. Infant feeding practices

Breast feeding is almost universal in PNG. Since 1990, the median duration of “any breastfeeding” has slightly increased whereas the median duration of exclusive breastfeeding has slightly decreased. Furthermore, the proportion of children that has ever been breastfed has very marginally decreased, irrespective of the demographic and socio-economic characteristics of the mothers. The almost universal practice of breastfeeding in PNG is considered as one of the main reasons why infant mortality in the country is not higher than it is. Furthermore, prolonged breastfeeding is also one of the important determinants of fertility since it has a widening effect on the birth interval.

1.4. Immunization

Next to breastfeeding, immunization of children against various diseases is an important intervention in the struggle to reduce early childhood mortality. This is recognized under MDG 4. PNG has a high incidence of tuberculosis, diphtheria, pertussis, tetanus, polio and measles. Many of these diseases but particularly measles and pertussis remain some of the most deadly diseases, contributing to the high level of morbidity and mortality in early childhood.

Unfortunately, the routine immunization programme of the DOH has not been able to keep up with the increasing demands for immunization. Consequently, the department conducts an ambitious “Supplementary Immunization Activity” (SIA), promoted by the WHO. This programme is repeated every two years. The last round was completed in 2008 and the next one will start in 2010.

Figure IV-4: Change in immunization coverage since the 1990’s for children 12 to 23 months old.

Note: Coverage in 2015 has been projected using a “no-change” scenario
Source: Derived from 1996 and 2006 DHS
Figure IV-4 presents change in immunization coverage since the 1990’s, for children 12 to 23 months old. It includes five types of vaccination (before the first birthday) that are recommended by the WHO viz. BCG, polio, DPT, hepatitis and measles.

Although BCG vaccination coverage is high, it is also the only of the five types of vaccination for which coverage has decreased marginally. In this respect, it should be mentioned that BCG is not given to babies who are known to be infected with the HIV virus in order to avoid BCG induced TB, which is hard to treat.

Vaccination coverage for polio, DPT, hepatitis and measles has improved, but far more so in the case of polio and DPT than for hepatitis and measles. Moreover, as expected immunization coverage in the urban sector is far more complete than in the rural sector. Immunization in the Momase Region is lagging behind.

Immunization against pneumonia should also be mentioned. Pneumonia is a very serious but preventable disease that receives relatively little attention. This disease is therefore sometimes referred to as the “forgotten killer”. Pneumonia is the leading cause of death in children under 12 months and second only to malaria in children under the age of 5. The main strategies of the NDOH to reduce death from pneumonia are the promotion of public health measures such as good hygiene practices, maintaining a nutritious diet and reducing overcrowding in houses. Moreover three vaccines are available. Two of these, the pneumococcal vaccines are expensive and as a result they are not yet available for routine immunization.

Finally, there is a clear correlation between immunization coverage and early childhood mortality. For instance, some provinces which, since the 1970’s have experienced the highest level of early childhood mortality also have a relatively low level of immunization coverage. On the other hand, the level of immunization in the provinces of the Islands Region tends to be higher than average whereas these provinces also have a relatively moderate level of early childhood mortality.

1.5. Progress towards achieving MDG 4

According to the global target for 2015, early childhood mortality has to be reduced by two thirds. This implies that the IMR should reach a level of slightly more than 20 per thousand by 2015. Considering the present level of infant mortality and the recent trend, this target will not be achieved in the remaining six years of the first MDG cycle 1990-2015.

The national (MTDS) targets with regards MDG 4 are far more realistic than the global target. Table IV-1 indicates the progress that has been made towards achieving these national targets. It appears that, in 2009, the national target for under-five mortality has been achieved. Moreover, the IMR will, given continuation of present trends, get very close to the 2015 national target. The MTDS 2005-2010 has not set any targets for immunization.
Table IV-1: Progress between 1990 and 2009 towards achieving the national targets of MDG 4 (NT 8 and 9)

<table>
<thead>
<tr>
<th>National Indicator</th>
<th>Most recent measure</th>
<th>Projected (no change)</th>
<th>National Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value Year Comments</td>
<td>1990 2009 2015</td>
<td></td>
</tr>
<tr>
<td>IMR (%)</td>
<td>57 2006 Min. estimate</td>
<td>- 53 46</td>
<td>44</td>
</tr>
<tr>
<td>U5MR (%)</td>
<td>75 2006 Min. estimate</td>
<td>- 70 61</td>
<td>72</td>
</tr>
<tr>
<td>Measles immun. per year (%)</td>
<td>61.0 2008 One-year old children</td>
<td>45 62 69</td>
<td>NA*</td>
</tr>
<tr>
<td>Triple Antigen immun. per year (%)</td>
<td>61.0 2008 3rd dose TA for one-year old children</td>
<td>66 61 59</td>
<td>NA*</td>
</tr>
</tbody>
</table>

Note: * The MTDS 2005-2010 has not set any targets for measles and TA immunization

Source: The IMR and U5MR have been estimated indirectly from 2006 DHS data. Immunization data: NHIS.

In Figure IV-5 and 6 respectively, the measured trend in the IMR and coverage against measles is compared to the global and national targets. In conclusion, it appears that, since MDG base year 1990, progress towards achieving the very demanding global target for MDG 4 has been somewhat disappointing. This relative lack of progress is sometimes obscured by the fact that average rates of change over the entire period from the early 1970’s to 2009 are shown. In reality, substantial progress was concentrated during the first ten years of this period.

Moreover, in 2009, the gap between early childhood mortality infant and child mortality rates of the more advanced provinces and the ones that are lagging behind remains as large as ever.

Figure IV-5: Trend in infant mortality between MDG base year 1990 and 2009 and projected to 2015

Source: The IMR have been estimated indirectly from 2006 DHS data.
**Figure IV-6: Trend in immunization coverage against measles between MDG base year 1990 and 2009 and projected to 2015**

Source: 2006 DHS data and Immunization data: NHIS.

### 2. Challenges

#### 2.1. General

Considering PNG’s problems in the health sector (especially with regards to the delivery of basic health services in the rural sector) as well as the very ambitious interventions the NDOH has planned to address the situation, health expenditure is quite moderate. Meeting the health challenges is also hampered by lack of funding for NGO’s, which are often involved in health care at the grassroots level. It seems that decentralization of government roles and responsibilities and financing under the Organic Law has compromised the quality and functionality of PNG’s health services.

#### 2.2. Economic challenges

Widespread economic disparity and insecurity are major challenges that impede the achievement of MDG 4. Most rural women are still engaged in subsistence activities. Generally, there is a high negative correlation between engagement of women in the money earning sector and the level of infant and child mortality of their children.

#### 2.3. Demographic challenges

The high level as well as the pattern of fertility is an important challenge for the achievement of MDG 4 (as well as MDG 5).

#### 2.4. Educational challenges

The level of formal education and literacy remains high. There is a strong negative correlation between the level of education and literacy of mothers and mortality of their infants and children.
2.5. **Lack of basic health services**

The system of Government Aid Posts, manned by one person (the Aid Post Orderly) has deteriorated over time. At present, a large proportion of these Aid Posts are not operational. Contributing factors include financial constraints, lack of well trained staff, land ownership issues, damage and theft. For a large proportion of the rural population, the lack of access to even to most basic health services is the main reason why the level of morbidity and mortality in PNG remains high.

Furthermore, access by pregnant women to antenatal clinics as well as supervised delivery remains unacceptably low and this leads to high morbidity and mortality amongst infants and children (as well as their mothers), the more so since complications in pregnancy and childbirth are very common. In addition, the relatively high proportion of unplanned and teenage pregnancies is an additional risk of dying prematurely.

The continuing lack of proper sanitation in many households, as the fact that, in spite of an abundance of fresh water, a very large proportion of the population in PNG is forced to use an unsafe water supply. Contaminated water is a common cause of malaria, diarrhea and dysentery and therefore of infant and child morbidity and mortality. Improved water supply systems could probably lead to a reduction of up to 40 % of diarrhea mortality.

2.6. **Challenge of HIV/AIDS**

Many infants and young children in PNG die from HIV/AIDS related diseases that weaken the immune system like malaria, pneumonia and tuberculosis. The HIV/AIDS epidemic makes it increasingly more difficult to meet the global MDG 4 target. The gradual erosion of the extended family support network will increasingly affect infant and child mortality in a negative way.

3. **Interventions**

3.1. **Supporting international environment**

PNG is a signatory to the Convention on the Rights of the Child (CRC) and the International Conference on Population and Development (ICPD).

3.2. **National interventions**

The key national interventions with regards to early childhood mortality are safe motherhood, neonatal care, breastfeeding and complementary feeding, micronutrient supplementation and the expanded program on immunization (EPI). These and other interventions are detailed in the National Child Health Policy (NCHP) for the period 2009-2020. This policy complements the overall National Health Plan and Medium Term Development Framework 2011-2020, the successor of the National Health Plan (NHP) 2001-2010.
The NCHP concentrates on the child health component of the overall NHP 2011-2020. It aims at keeping all children healthy from the moment of birth to the age of five. In order to achieve this, it details a number of program areas. The interventions detailed under these program areas will facilitate the achievement of MDG 4. The most important program areas with regards to achievement of MDG 4 are listed below:

- **Expanded program of immunization**

  The routine immunization programme of the NDOH has, in the recent past been supported by a “Supplementary Immunization Activity” (SIA). SIA covers common preventable diseases that should already have been eradicated, such as measles, polio etc. Under the new NHP, the SIA will gradually be incorporated in the routine immunization programme of the department.

- **Neonatal care**

  Figure IV-4 shows that neonatal mortality constitutes about 50 percent of infant mortality. Since unsupervised delivery and neonatal sepsis account for the majority of neonatal deaths, the NDOH intends to increase its activities in these areas. For instance, one of the three staff members of the future CHPs will be a midwife with at least six months of competency based training and certification in midwifery.

- **Breastfeeding, nutrition and micronutrients**

  The rate of child malnutrition contributes to the high level of early childhood mortality. A significant proportion of all child deaths may be associated with some degree of malnutrition. The NCHP promotes exclusive breastfeeding from birth up to 6 months and supplementary feeding from 6 months onwards.

- **Pneumonia, malaria and tuberculosis**

  Acute lower respiratory infection (ARI) is probably the most common cause of serious illness and death in children in PNG and pneumonia is the most common cause of ARI. It accounts for 30 - 40 percent of all hospitalizations. Furthermore, about 7 percent of early childhood mortality is due to malaria. The NHP contains detailed plans for the reduction of malaria. Finally, tuberculosis is another major cause of morbidity and mortality in early childhood. Childhood TB has a high community transmission rate and it presents a large burden of disease. The association of these three diseases with HIV/AIDS is discussed under MDG 6.

- **Child protection in social services**

  A matter of major concern is the large number of children at risk of neglect and abuse. These include many orphans, adopted infants, displaced children and children living in squatter settlement areas in and near urban areas. In the recent past, the situation has worsened because of the increase in the number of orphans due to HIV/AIDS. The CHP concentrates on improved reporting and
documentation of children at risk of child abuse and neglect, using an improved surveillance system. It also offers improved preventative and treatment services for these children.

The future success of the above interventions will to a large extent depend on the establishment of the already discussed system of Community Health Posts (CHP) throughout the rural sector. Under the National Health Plan 2011-2020, the NDOH intends to replace the government owned Aid Posts with Community Health Posts. It is expected that these community owned health facilities will perform better since they will have staff of three trained health workers specialized in delivery care, reproductive health and MCH issues, immunization, and advocacy (health education and community awareness). It is envisaged that the Community Health Post concept will go through a trial period in a few provinces before it is rolled out to the remaining provinces.

It is expected that these Community Health Posts, in collaboration with the continuing outreach services of the NDOH (through the Health Centers) will significantly improve the health, morbidity and mortality situation in the rural sector, especially in the most inaccessible parts of this sector. However, the results of these improvements will not become visible during the remaining years of the first MDG cycle 1990-2015.

Finally, the future role of non-state actors (NGO’s, FBOs/churches, private sector etc.) in service delivery needs to be considered. At present, close to 50 percent of health (and educational) facilities are run by FBOs/churches. Without their contribution the health (and education) situation in the country would undoubtedly be far worse. In the coming years, the government intends to improve basic health care delivery further through church-state partnerships, especially in the most isolated parts of the country. Partnering with the private sector is also considered, e.g., in the area of infrastructure.
MDG 5: IMPROVE MATERNAL HEALTH

Maternal health refers to the total wellbeing of women but particularly during pregnancy, labour and childbirth. Since MDG base year 1990, many developing countries have made relatively little progress in improving the health conditions of childbearing women. As a result, maternal mortality has remained very high. A large proportion of maternal deaths and illnesses are the result of preventable complications of pregnancy and childbirth.

1. Situation analysis and trends

Until recently, virtually nothing was known about the level and trend in maternal health and mortality in PNG. Circumstantial evidence from small scale studies (often health institution based) suggests however that maternal mortality, similar to overall mortality remains at a high level.

1.1. The Maternal Mortality Ratio (MMR)

The most recent estimate of the MMR is 733 per 100,000 live births and it refers to 1994. It is one of the highest in the Asia-Pacific Region. The trend in the MMR after 1994 cannot be established with certainty. However, some indication of the post-1994 trend can be derived from changes in proxy indices of maternal mortality, for instance high risk fertility behavior, antenatal care, supervised delivery and contraceptive prevalence. In spite of the uncertainties concerning the exact level and trend in maternal mortality, there is little doubt that each year a very large number of women die from complications during pregnancy and childbirth.

Most maternal deaths occur in the first 24-48 hours surrounding delivery. The most common cause of maternal death remains obstetric hemorrhage. Unsafe abortion poses a great risk of maternal mortality. Moreover, many maternal deaths in PNG are related to malaria and HIV. According to the NDOH, between 88 and 98 percent of maternal deaths are preventable.

1.2. High risk fertility behavior

MDG 5 is concerned with fertility only in as far as it affects maternal health and mortality. Although a measure of the level of fertility is not included in the list of global as well as national indicators, it is important to consider to what extent the level of fertility has changed. The change in the total fertility rate (TFR) at the regional and provincial level between 1980 and 2006 is depicted in Figure V-1.
Figure V-1: Trend in the level of fertility at the regional and provincial level since 1980

The TFRs in Figure V-1 indicate that, although the fertility transition started in the 1980s, progress so far has been relatively slow, particularly in the Momase Region. However, the significant gaps between the level of fertility at the regional and provincial level has narrowed. In 2009, the level of fertility in most provinces remains high. This has an impact not only on maternal health and mortality but also on the survival chances of their children.

There is a strong correlation between the characteristics and fertility behavior of women and the probability of survival of their children. There is convincing evidence that women with the following characteristics are at a greater than average risk of dying during pregnancy or childbirth:

- Women age 18 – 34
- Women spacing their children inadequately. (Short birth interval of less than 24 months)
- Women who have 4 or more children

Once again, the risk of dying is not only greater for the mother but also for the child. These three factors also need to be considered in a discussion about MDG 4.

Notes: # Due to the sample size of the 2006 DHS, the sampling errors of the TFRs at the provincial level are too large for a meaningful interpretation.
* In 1971, NCD was part of Central Province and Enga was part of Western Highlands.
There is some evidence, going back to the 1980s, that the above risk factors are important in PNG. This applies in particular to women with no formal education or a very low level of formal education, women with no money income, women belonging to certain religions and women classified as non-migrants. Additional information is available from the 1996 and 2006 DHS.

- **Age of mother at first birth**

The age of the mother at first birth is an important indicator because of its relationship to several demographic and socio-economic factors. In PNG in 1996 as well as 2006, the median age of mother at first birth was in virtually all cases between 20 and 21 years, irrespective of the characteristics of the mother. During the 1996-2006 interval, there has been a very marginal decrease in the age of mother at the time of her first birth.

- **Adolescent fertility**

Adolescent fertility refers to births (and pregnancies) of women under the age of 20. In other words, it refers to teenage pregnancy and motherhood. Figure V-2 presents a picture of the change in adolescent fertility between 1996 and 2006. It is based on the reports of women aged 15-19 who were mothers or pregnant with their first child.

**Figure V-2: Trend in adolescent fertility between 1996 and 2006**

![Figure V-2: Trend in adolescent fertility between 1996 and 2006](image)

Source: Derived from 1996 and 2006 DHS data

Although in 1996 as well as 2006, the proportion of women 15-19 that had started childbearing is high, there has, at least at the national level, been a marginal improvement. The improvement is, however, entirely due to improvement in the Islands Region and Momase Region, whereas the situation in the Southern Coastal Region and in the Highlands Region has deteriorated. As expected, the slight improvement mainly occurred in the urban sector.

The pattern of childbearing of these very young women 15-19 by level of education is not as expected. The situation has improved for women with no education at all and for those who have at least completed grade 6. For women who have completed grade 1 to 5, the situation has deteriorated. However this seemingly odd outcome is in line with previous findings that indicated that women over the age of 15 with no formal education at all and those with secondary and tertiary level of education had a significantly lower level of fertility.
than those with a small amount of formal education (not completed primary school).

- **Birth interval**

A short birth interval (especially a birth interval shorter than 24 months) is another important determinant of morbidity and mortality for mother as well as child. This is partly related to the fact that a short birth interval leads to a shorter period of breastfeeding and often also to otherwise poorer nourishment. A short birth interval is an equally important determinant of early childhood mortality (MDG 5).

Between 1996 and 2006, the proportion of women who had a child within 24 months from the previous birth has marginally increased. The proportion in the rural sector is significantly higher than that in the urban sector. Moreover, since the increase during the 10-year interval is far more significant in the urban sector than in the rural sector, the gap between the two geographic sectors has increased. One reason for this may be that the fertility behavior of traditional rural women is still more controlled by customs and traditions. Another contributing factor may be that, although breastfeeding of young children is still almost universal in PNG, the proportion of “ever-breastfed” children in the rural sector is higher than that in the urban sector. Moreover, women in rural areas breastfeed longer than women in urban areas.

1.3. **Antenatal care (ANC)**

Antenatal care provided by trained medical personnel has marginally increased in the rural sector and marginally decreased in the urban sector. Moreover, in most cases where antenatal care is provided by trained medical personnel, the service provider is a nurse. The figures for the rural sector in 1996 and 2006 are very similar. However, in the urban sector, there has been a marked shift from nurses to doctors. Finally, the proportion of cases where no antenatal care is provided has decreased marginally but remains high, especially in the rural sector.
Figure V-3 presents a picture of change in antenatal care between 1996 and 2006.

**Figure V-3: Change in antenatal care (%) by geographic sector between 1996 and 2006**

Overall, Figure V-3 presents a picture of marginal improvement. It is therefore likely that the impact of the type of antenatal care on early childhood mortality was also marginal.

Another important indicator of antenatal care is the number of antenatal visits made during pregnancy. Women who sought regular antenatal care during the entire period of pregnancy until delivery, tend to have a lower than average risk of dying during pregnancy or childbirth. It appears that, in 2006, the median number of visits of those who sought antenatal care during the reference period is 4.0. This is the number, presently recommended by the NDOH in PNG. However, between 1996 and 2006, the median number of visits decreased from 5.1 to 4.

Finally, the trend in antenatal care since MDG base year 1990 is depicted in Figure V-4. Once again, the overall impression is that, since 1990, the provision of antenatal care has not improved very significantly. Consequently, it is unlikely that the impact of this factor on change in maternal (as well as early childhood) mortality was very significant during this period.

Source: Derived from data on antenatal service provision during pregnancy for women age 15-49 in the three years preceding the 1996 and 2006 DHS
1.4. **Supervised delivery**

The place of delivery (and its level of medical attention and hygiene) is another determinant of maternal and infant death. Change between 1996 and 2006 is depicted in Figure V-5.

**Figure V-5: Change in place of delivery (%) by geographic sector between 1996 and 2006**

Note: * In 2006, delivery at home includes a small number of deliveries at another home

Source: Derived from data on supervised delivery for women age 15-49 in the three years preceding the 1996 and 2006 DHS

Once again, the information in Figure V-5 suggests that relatively little has changed with regard to supervised delivery between 1996 and 2006. Consequently, it is unlikely that its impact on maternal and child death has changed very significantly. The data also indicates that the rural-urban gap between the proportions of women giving birth in a health facility remains very large.
Change in assistance during delivery, presented in Figure V-6 is closely correlated with place of delivery in Figure V-5. Once again the data suggests relative stagnation.

**Figure V-6: Change in assistance during delivery (%) by geographic sector between 1996 and 2006**

Note: * In the 1996 DHS Report, nurses and midwives are lumped together
Source: Derived from data on supervised delivery for women age 15-49 in the three years preceding the 1996 and 2006 DHS

Finally, the trend in supervised delivery between MDG base year 1990 and 2015 is shown in Figure V-7. Once again, although small changes have occurred in assistance during delivery, the overall picture is one of stagnation. It may be assumed that the impact of assistance during delivery on maternal mortality (as well as infant mortality) has not changed markedly since the 1990’s.
1.5. Other variables related to maternal health

Initially, the UNDG formulated only one target associated with MDG 5. This target focused on maternal mortality. Recently, a second target referring to reproductive health has been added. The indicators associated with this additional target do not only refer to antenatal coverage but also to contraceptive prevalence, unmet need for family planning and adolescent fertility. Adolescent fertility has already been covered in a previous section. Contraceptive prevalence and unmet need for family planning are briefly discussed in the following subsections.

The proportion of women and men, aged 15-49 by marital status using any family planning method or any modern family planning method is presented in Table V-1. The data indicates that, although contraceptive prevalence has increased between 1996 and 2006, it remains low for females and only marginally higher for males.
Table V-1: Proportion (%) of women and men aged 15-49 by marital status and use of family planning in 1996 and 2006 and projected to 2009.

<table>
<thead>
<tr>
<th>Category</th>
<th>Any method</th>
<th></th>
<th></th>
<th>Any modern method</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All women</td>
<td>19.8</td>
<td>24.1</td>
<td>17.6</td>
<td>25.6</td>
<td>14.8</td>
<td>17.9</td>
</tr>
<tr>
<td>Currently married women</td>
<td>25.9</td>
<td>32.4</td>
<td>22.6</td>
<td>34.7</td>
<td>19.6</td>
<td>24.3</td>
</tr>
<tr>
<td>All men</td>
<td>-</td>
<td>27.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>19.0</td>
</tr>
<tr>
<td>Currently married men</td>
<td>-</td>
<td>38.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>25.5</td>
</tr>
</tbody>
</table>

Source: Derived from 1996 and 2006 DHS data. Data for men not available from the 1996 DHS.

Table V-2: Proportion (%) of currently married women and men with unmet need for family planning services in 1996 and 2006 and projected to 2009 and 2015

<table>
<thead>
<tr>
<th>Geographic Sector</th>
<th>Sex</th>
<th>1996 (%)</th>
<th>2006 (%)</th>
<th>Projected</th>
<th>1990 (%)</th>
<th>2009 (%)</th>
<th>2015 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sectors</td>
<td>F</td>
<td>29.3</td>
<td>27.4</td>
<td>30.5</td>
<td>26.9</td>
<td>25.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>-</td>
<td>19.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Rural Sector</td>
<td>F</td>
<td>30.7</td>
<td>27.2</td>
<td>33.0</td>
<td>26.2</td>
<td>24.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>-</td>
<td>20.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Urban Sector</td>
<td>F</td>
<td>23.4</td>
<td>24.6</td>
<td>22.7</td>
<td>25.0</td>
<td>25.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>-</td>
<td>17.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Source: Derived from 1996 and 2006 DHS data. Data for men not available from the 1996 DHS.

Table V-2 presents a picture of the change in the need for family planning services between 1996 and 2006. The unmet need for family planning has slightly decreased during this period.

1.5. Trend in maternal mortality

Since the 1994 MMR of 733 per 100,000 live births is the most recent estimate available, the trend in maternal mortality has been based on change in proxy indices like risky fertility behavior, antenatal attendance, supervised delivery etc. These indices suggest that, since 1990 there has at best been a limited improvement in these indices. It seems reasonable to assume that the same applies to the MMR.
1.6. **Progress towards achieving MDG 5**

According to Global Target 5A, the MMR needs to be reduced by three quarters by 2015. The trend in the MMR between 1990 and 2009 that is now considered as the most likely one is depicted in Figure V-8. It is clear that the global target is entirely unrealistic.
Furthermore, Global Target 5B envisages that by 2015, universal access to reproductive health should be achieved. However, the contraceptive prevalence rate as well as antenatal coverage remains low whereas the adolescent birthrate as well as the unmet need for family planning remains high. Global Target 5B must therefore also be considered as unrealistic. Progress towards achievement of the National Target 10 is depicted in Table V-3.

### Table V-3: Progress made between 1990 and 2009 towards achieving National Target No. 10 of MDG 5

<table>
<thead>
<tr>
<th>National Indicator</th>
<th>Most recent measure</th>
<th>Projected (no change)</th>
<th>National Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Year</td>
<td>Comments</td>
</tr>
<tr>
<td>MMR(per 100,000 live births)</td>
<td>733</td>
<td>1994</td>
<td>Sisterhood estimate</td>
</tr>
<tr>
<td>Pregnant women attending ANCs (%)</td>
<td>79.3</td>
<td>2006</td>
<td>Attendance by pregnant women</td>
</tr>
<tr>
<td>Births attended by skilled health personnel (%)</td>
<td>51.8</td>
<td>2006</td>
<td></td>
</tr>
</tbody>
</table>

Note: * The MTDS 2005-2010 has not set a target for ANC attendance and supervised delivery

Source: The MMR for 1994 has been derived from 2006 DHS

When this target concerning future reduction in the MMR was formulated, it seemed, considering the available knowledge at that time, realistic. However, the trend in maternal mortality since 1990, based on more recent information, suggests that this national target is also unachievable. It needs to be stressed again that the high level of maternal mortality in PNG must be considered as additional evidence of significant gender disparity and inequity. (See MDG 3)
2. Challenges

2.1. Lack of data

All data collecting methods concerning maternal mortality rely on accurate reporting of deaths of pregnant women and of a correct interpretation of the cause of their death. This is very difficult even under ideal conditions. Furthermore, NHIS data provides a misleading picture of maternal health and mortality, because of the urban/institutional bias in this data. Finally, the MMR that has been estimated indirectly from DHS data by means of the “sisterhood” technique is not very robust. The only reason why PNG continues using this methodology is that no alternative is available.

2.2. Demographic challenges

The continuing high level of fertility must be considered as an important factor, contributing to the high level of maternal morbidity and mortality. Giving birth to a large number of children (especially when medical supervision is lacking) is an important determinant of maternal morbidity and mortality.

2.3. Economic challenges

The low level of money income (especially in the rural sector) and widespread economic disparity and insecurity are important factors why limited progress is being made in reducing morbidity and mortality, including maternal mortality.

2.4. Social challenges

Attempts to improve maternal health and to decrease maternal morbidity and mortality are hampered by the low level of education and literacy of females (as well as males). There is a strong correlation between the level of education and literacy of mothers and the risk of dying during pregnancy or childbirth.

With regards to health, most of the challenges listed under MDG 4 are equally important ones for the achievement of MDG 5. These include the absence of the most basic health services (Aid Posts) in a large part of the rural sector, the high number of persons per health worker in other health institutions, the lack of proper sanitation and safe water supply in many households.

A particularly important challenge for the achievement of MDG 5 is that only a small proportion of rural women attends an ANC and gives birth without proper medical supervision. Consequently, many women die from complications before, during and after delivery such as miscarriages, breech, transverse, bleeding, retained placenta and other complications.

Protection against malaria and prompt effective treatment is often not available for many people including pregnant women. Malaria tends to be an important co-factor of maternal (as well as infant) morbidity and mortality.
Finally, reproductive health care and family planning is non-existent or not very effective in large parts of the country, particularly in isolated rural areas. Interventions that promote spacing of children and draw attention to other risk-reducing behavior remain ineffective. Contraceptives are not readily available for a large proportion of women. Improvement in the reproductive health situation of the country and better access to family planning services could prevent many maternal (as well as infant and child) illnesses and deaths.

2.5. Cultural challenges

Although the official statistics provide insufficient support for this, many girls still marry, get pregnant and give birth at a fairly low age. It is believed that this problem mainly exists in the patrilineal societies of the Highlands Region. This clearly affects all aspects of life for these young girls/mothers and must be considered as a high risk factor with regards to maternal morbidity and mortality (as well as early childhood mortality).

2.6. Challenge of HIV/AIDS

The available data on HIV/AIDS, though very incomplete and of low quality, suggests that women in the reproductive age span (15-49) and particularly those in the peak age groups of fertility (20-34) have a very high infection rate. (See MDG 6). Although the social background of the infected women is not reported, it may be assumed that infections are disproportionately concentrated among the poor and illiterate women in these age groups.

3. Interventions

In spite of all the uncertainty with to regards the exact level of and trends in maternal mortality, there is little doubt that, compared to most countries in the Asia-Pacific Region, the level of maternal health in PNG remains low and the level of maternal morbidity and mortality very high. Maternal health should be addressed with a range of comprehensive primary health and clinical services before, during and after childbirth. The most important services include:

- Family planning services
- Maternal health education and health promotion
- Screening, including antenatal care
- Supervised delivery

Since most maternal deaths occur in the 24 to 48 hours surrounding delivery, interventions during this period will be the most effective ones.

As already mentioned under MDG 4, the NDOH is in the process of formulating its third National Health Plan for the period 2011-2020. One of the focus areas of this plan is to improve maternal health and to reduce maternal mortality. The proposed introduction of a system of Community Health Posts (CHP) and improved partnerships i.e. between church and state, are not only considered as major interventions with regards the achievement of MDG 4 but they are equally important in the case of MDG 5.
Most interventions designed to turn around the current status of maternal health in PNG are detailed in the 2009 publication by the Ministerial Task Force on Maternal Health in PNG. This Task Force distinguishes nine thematic areas. However, the most important one is undoubtedly the improvement of the dysfunctional health system. It seems that, so far, interventions in this area have been rather unsuccessful. This has implications for future interventions. It has been realized for quite some time that improvement of the crumbling health care delivery system, especially in large parts of the rural sector should be the cornerstone of future interventions. With regards to maternal health, this refers in particular to the improvement of the health care programme during pregnancy and delivery. Consequently, the NDOH has now devised an ambitious plan to exchange its network of Aid Posts by Community owned Health Posts (CHP). The introduction of CHPs has already been discussed in detail under MDG 4. The CHPs and especially it’s midwives, in combination with the ongoing outreach capacity of the NDOH (through the Health Centers) should significantly improve healthcare delivery, including the health care programmes during pregnancy and childbirth.

- **Strengthening of voluntary family planning**

Family planning as part of an effective reproductive health programme is seen as a primary intervention for the improvement in maternal health and the reduction of maternal mortality.
MDG 6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

The first case of HIV/AIDS was recorded in 1987. Since that time the disease has progressed rapidly. In 2009, HIV/AIDS is the single most important impediment for the achievement of all MDGs. The 2009 MDG Steering Committee placed the HIV/AIDS epidemic at the top of its list of cross-cutting challenges.

MDG 6 also deals with other diseases that are closely associated with HIV/AIDS. These include first of all TB and pneumonia. These opportunistic diseases, as well as malaria, which all weaken the immune system, often have HIV/AIDS as the underlying cause.

1. Situation analysis and trends

A. HIV/AIDS

1.1. Change in infection since 1987

Figure VI-1 presents the trend in HIV infections since 1987. The data suggests that HIV infection has increased exponentially. However, this increase is partly due to improvement in reporting. Since 2004, the number of test sites has increased dramatically from 4 to 201. In spite of this large increase as well as the number of tests conducted, anecdotal evidence suggests that a significant proportion of persons infected with HIV are not tested and recorded. Consequently, it may safely be assumed that the coverage of the surveillance system of the NDOH remains incomplete. Estimates of coverage vary widely.

Since the late 1990’s, the average annual rate of change in HIV infection, has decreased. There is, however no reason for complacency as all other indicators are still increasing. In 2002, HIV/AIDS infection amongst women visiting the antenatal clinic in the General Hospital in Port Moresby reached a level of more than 1 per cent and was possibly approaching 3 per cent. Based on this, it was concluded that HIV/AIDS in PNG had become a generalized epidemic, meaning that all sectors of the population are potentially at risk of becoming infected themselves or have to cope with the consequences of members of their family and community becoming infected. Furthermore, it was also concluded that the evidence in PNG was pointing to an African social-epidemiological pattern. Some now believe that the early estimates of HIV prevalence based on reports from a very small number of ANCs, may have over-estimated HIV infection rates.
Figure VI-1: Increase in HIV infection since 1987.

Source: Derived from NHIS

Figure VI-2, which shows the trend in the national and regional prevalence rates of HIV/AIDS since 2000 suggests that until 2006, the prevalence rate has steadily increased but after that, it appears to have leveled off. There is a very significant difference in HIV/AIDS infection between the four regions.

1.2. Differentials

- **Age and sex**

HIV/AIDS recording is characterized by a large number of cases with age not stated. For instance, for 44.6 percent of the 5,084 new HIV infections reported in 2008, the age of the infected person was not recorded. Even more telling is that for 68 cases (or 1.3 percent) even the sex of the infected person was not recorded. The very incomplete knowledge of these central variables is particularly worrying for policy makers and planners since the impact of HIV/AIDS on virtually all demographic, socio-economic and other parameters is age and sex specific.
In 2008, almost 93 percent of all new HIV infections were adults (over the age of 15). The remain percent were children aged 0-14. A large proportion of the adults are in the “working” and reproductive age range 15-49. However, over the years, the proportion of children has increased marginally due to the fact that vertical infection (from mother to child) has increased.

The proportional (%) age-sex distribution of new HIV/AIDS cases recorded in 2008 in broad age-groups is given in Table VI-1.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Persons</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>99.9</td>
<td>38.2</td>
<td>61.7</td>
</tr>
<tr>
<td>0-14</td>
<td>4.0</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>15-59</td>
<td>94.5</td>
<td>35.3</td>
<td>59.2</td>
</tr>
<tr>
<td>60 and over</td>
<td>1.4</td>
<td>1.1</td>
<td>0.3</td>
</tr>
<tr>
<td>15-49</td>
<td>90.1</td>
<td>31.9</td>
<td>58.2</td>
</tr>
<tr>
<td>20-34</td>
<td>58.8</td>
<td>17.0</td>
<td>41.8</td>
</tr>
</tbody>
</table>

This age distribution is very similar to that of the labour force participation. Consequently, given continuation of present trends, HIV/AIDS will have an increasingly devastating impact on labour force participation and employment in PNG. In other words, HIV/AIDS strikes at the heart of development.

Furthermore, the female infection rate is particularly high in the age range of peak fertility 20-34. Since heterosexual transmission is the main mode of HIV transmission in PNG, it may be expected that the age pattern of HIV infection will increasingly affect the level as well as the pattern of fertility.
• Spatial differences

Spatial differences refer to differences by geographic level and geographic sector. Until recently, very little was known about the spatial distribution of HIV/AIDS. A very large proportion of all cases were detected in a few urban centers, mainly the NCD. Consequently, the published figures by province of detection suggested that HIV infection was concentrated in those provinces with a test site but particularly in the NCD. This obviously portrayed a very misleading picture of the spatial distribution of HIV infection.

In 2009, HIV/AIDS cases are recorded by province of origin and by province of detection. It is likely that in most, but certainly not all cases, the province of origin is the same as the province of birth. Unfortunately, the province of origin is not recorded in a very large proportion of cases. The available evidence does, however suggest that a very large proportion of all HIV/AIDS infected persons originates from the five provinces of the Highlands Region (77 percent).

The province of detection is the province where the test site is located. The province of detection is in most cases recorded. The proportional (%) distribution of confirmed HIV infections in 2008 by region and province of detection is depicted in Figure VI-3. However, the population size of the 20 provinces is very different. In order to compare the prevalence of HIV/AIDS infection at the provincial level, the numbers and percentages of infected persons need to be converted into rates. Change in HIV prevalence for the four regions since 2000 is shown in Figure VI-2.

For policy makers and planners and particularly those engaged in counseling, care and treatment of HIV/AIDS patients, knowledge of the usual place of residence is of crucial importance. Presently, the place of usual residence is not recorded. It is assumed that the province of detection is the same as the province of usual residence. This is probably incorrect in many cases.

In the surveillance reports on HIV/AIDS, no distinction has so far been made between infected persons with a rural and urban place of residence. In spite of the lack of data, it is widely assumed that a disproportionate number of all HIV/AIDS cases are urban residents. Generally, urbanization was and still is considered as a major factor contributing to the fast spread of HIV/AIDS. Moreover, it has been known for a long time that the rural non-village (RNV) sector in PNG is a high-risk sector with regards to all sexually transmitted infections (STI). Because of the strong correlation between STD and HIV/AIDS infection, it was therefore assumed that a disproportionate number of persons with HIV/AIDS get infected in and around the economic enclaves of PNG such as mine sites, work camps and plantations that make up the RNV Sector.
In this connection, it is also important to note that the LTDS 2010-2030 intends to introduce ten “economic corridors”, all connected by road. It may be expected that these “economic corridors” like the present RNV’s will also become high-risk areas for STIs and HIV/AIDS.

- **Mode of transmission**

Although there has been some improvement in reporting, in 2008, mode of transmission was still not recorded in more than 50 percent of all cases. The available data on mode of transmission in 2008 is presented in Figure VI-4. This figure clearly does not present a true picture of the mode of transmission. It is known that health workers are often uncomfortable asking their HIV patients about the mode of transmission. More specifically, it may be expected that homosexual transmission is underrepresented in Figure VI-4. In recent years, peri-natal exposure (mother to child transmission at birth and through breastfeeding) has become a more important mode of transmission in PNG.
Figure VI-4: Proportion (%) of HIV/AIDS by mode of transmission in 2008

Source: Derived from NHIS

1.3. Treatment

The ART program started in 2004. Since then, it has steadily been expanded and by the end of 2008, 19 percent of the health facilities offered ART. By that time, 5,195 patients had been put on ART since treatment started. However, it has been estimated that in 2008, 8428 persons infected with HIV/AIDS are in need of ART. The increase in the ART coverage rate is shown in Figure VI-5.

Figure VI-5: Change in ART coverage rates between 2003 and 2008

Source: Derive from NHIS
1.4. **Knowledge and attitude**

Since the 1990s, awareness of HIV/AIDS has drastically increased, especially in the urban sector. As expected, the level of knowledge increases with the level of formal education. For the rural population, health workers are the main source of information on HIV/AIDS whereas for the urban population it is the radio.

Since the 1990s, there has also been a significant change in people’s perceptions on how HIV infection can be avoided. This is shown in Table VI-2.

**Table VI-2: Females and males who know about HIV/AIDS by knowledge of ways to avoid HIV/AIDS (%) in 1996 and 2006**

<table>
<thead>
<tr>
<th>Ways to avoid HIV/AIDS*</th>
<th>1996#</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>Females</td>
</tr>
<tr>
<td>(1) One sex partner</td>
<td>61.3</td>
<td>57.6</td>
</tr>
<tr>
<td>(2) Avoid sex with prostitutes</td>
<td>44.0</td>
<td>24.7</td>
</tr>
<tr>
<td>(3) Use condom</td>
<td>19.3</td>
<td>35.2</td>
</tr>
<tr>
<td>(4) Abstain from sex</td>
<td>4.6</td>
<td>10.3</td>
</tr>
<tr>
<td>(5) No way to avoid HIV/AIDS</td>
<td>10.3</td>
<td>26.6</td>
</tr>
</tbody>
</table>

Notes:  
* Only the most common answers are included  
# The 1996 DHS did not include a male module

Source: 1996 and 2006 DHS

**B. OPPORTUNISTIC INFECTIONS**

Several infections invade the body when the immune system is weakened by the HIV virus. This section focuses on two of these opportunistic infections, TB and pneumonia. In addition it discusses malaria since this is also an important co-factor of HIV/AIDS. All three are major causes of death in PNG and all three are often closely associated with HIV/AIDS. Under normal circumstances, these diseases are highly preventable and/or curable.

1.1. **Tuberculosis (TB)**

Tuberculosis (TB) has a high community transmission rate and consequently it has a high disease burden. In recent years, childhood TB represented more than 30 percent of all TB cases treated in PNG and it contributes significantly to the high level of mortality at early childhood. Through its very close association with HIV/AIDS, death from TB will almost certainly increase in the years to come.

1.2. **Pneumonia: “The forgotten killer”**

Pneumonia is a very serious disease. In PNG, it is the leading cause of death (followed by malaria). Children in particular are affected. For children under 12 months, pneumonia is the leading cause of death. In children under 5, pneumonia as cause of death is only second to malaria.
Overall, at this point in time, pneumonia represents (after malaria) the second highest burden of disease in the country. Some risk factors for pneumonia are poor hygiene, poor nutrition, overcrowding and environmental pollution. The first three in particular play an important role in PNG. The most important intervention is vaccination. (See immunization section under MDG 4). It may be expected that the death rate from pneumonia will increase in the near future because of its association with HIV/AIDS.

1.3. Malaria

Malaria is endemic in all coastal provinces of PNG. In spite of the fact that the cause of death statistics from the NHIS (because of an urban-institutional bias in recording), seriously under-estimate death from malaria, there is no doubt that malaria (mainly cerebral malaria and often combined with HIV/AIDS) have become the leading causes of death in PNG. Furthermore, as in the case of pneumonia, the death rate from malaria may well rise again in the future, because of its close association with HIV/AIDS. At this point in time, malaria poses the highest disease burden in PNG.

1.4. Concluding comments

The burden of disease from opportunistic infections in PNG is very high. A very large number of years of healthy life are being lost because of these diseases. The DOH notes that more than 50 percent of the above three diseases can be prevented through cost effective interventions like immunization and inexpensive antibiotics (in the case of pneumonia).

C. Progress towards achieving MDG 6

The annual rate of increase in HIV/AIDS infections has halted around 2000, but this does not apply to the annual number of persons infected nor the incidence and prevalence rates. Judging from the trend in reported cases between 1987 and 2008, the PNG epidemic may, compared to several of the worst hit countries in sub-Saharan Africa, still be at a relatively early stage of development.

Gender inequality and in particular gender based violence (GBV) is one of the key factors driving the HIV/AIDS epidemic in PNG. Women and girls suffer the most from the impact of HIV and AIDS. Reversing the course of the epidemic will depend to a significant degree on the empowerment of women.

The global as well as the national targets concerning MDG 6 are very vague. However, in 2009, it is clear that there is as yet no sign that the incidence of HIV/AIDS and associated opportunistic diseases will be halted let alone be reversed any time soon. This equally applies to the opportunistic diseases associated with HIV/AIDS. With only six years left of the initial MDG cycle 1990-2015, the global as well as national MDG 6 targets appear to be out of reach. However, since major progress has been made in the area of treatment, it is expected that mortality due to HIV/AIDS may slow down.
2. **Challenges**

2.1. **Lack of data**

In spite of the significant increase in the number of test sites, HIV testing remains limited. One reason for the limited coverage of PNG’s surveillance system is undoubtedly the prevailing stigma and discrimination of people living with HIV/AIDS. Consequently many people with HIV/AIDS are reluctant to identify themselves. In order to incorporate HIV/AIDS effectively into development planning, as well as for improvement in counseling, care and treatment, the HIV surveillance system as well as data management and coordination needs to be improved.

Presently, none of the rather basic global and national HIV indicators can be measured with much confidence. This applies even more to the 24 sophisticated HIV indicators, identified by the United Nations General Assembly Special Meeting (UNGASS) in 2001, which deal with national progress, knowledge and behavior and impact. Most of the quantified UNGASS indicators should at best be considered as very rough estimates. In most cases, the numerator as well as the denominator of the UNGASS rates is not precisely known. Moreover, the UNGASS indicators are not very well aligned with those in the MTDS. Like the MDG indicators, the UNGASS indicators should preferably be localized.

2.2. **Political commitment**

Complacency with regards the HIV/AIDS threat at the decision making level is still significant. Budgetary allocation for the combat against HIV/AIDS is limited. Dependence on support by donor agencies is high. In spite of large scale donor assistance, it appears that PNG’s interventions in the area of HIV/AIDS have to date been ineffective. Leadership, management and coordination at all levels need to be improved. These and related factors make an effective multi-sectoral response to the HIV/AIDS epidemic difficult.

2.3. **Demographic challenges (migration)**

In PNG not only rural-urban migration but also work related (often seasonal) migration to RNVs (i.e. coffee plantations, mining areas etc.) is an important factor in the spread of HIV/AIDS, particularly in the Highlands Region. In the future, the planned “economic corridors” may also become high-risk areas.

2.4. **Economic challenges**

HIV/AIDS often leads to loss of income and limited employment opportunities, particularly in the modern sector. This in turn, exacerbates the poverty situation. Poverty does not only affect the HIV/AIDS sufferers but their entire family/household and especially its female members. Another group that is badly affected is the illiterate/under-educated and unemployed youths in the vulnerable age group 15-24, especially in the urban sector.
2.5. Social and cultural challenges

The relatively low level of education and literacy contributes to a low level of awareness and a poor understanding of HIV transmission. This in turn leads to fear and stigmatization of people living with HIV and to marginalization, discrimination, social exclusion and rejection by the family, the community and the workplace. Interventions that address these social and cultural challenges are very problematic. For instance, since HIV infection affects people at a younger and younger age, it is essential that all schools incorporate HIV/AIDS awareness in the community life subjects at primary level. Postponing this to the secondary level implies that many of those who drop out after the primary level will remain ignorant. As in most countries in the region it proves to be difficult to conduct effective HIV/AIDS education especially at primary level.

Social and behavioral change research is the 4th focal area of the NSP 2006-2010. This research is concerned with behavior that puts people at risk of HIV transmission. It involves the collection of information from respondents concerning their sexual attitudes, drug injecting and other risky behavior. Many of these surveys are restricted to groups with “high-risk behavior”. This implies that it is assumed that high risk behavior is contained within that particular group. In PNG this is often not the case. The information collected in these surveys should complement epidemiological and other information and lead to the development of strategies for behavioral change.

In PNG, the most crucial challenges with regard to HIV/AIDS fall under the heading of social and cultural challenges. These include a very high level of high-risk behavior such as unsafe sex, widespread multiple partner sex as well as a drop in single partner sex and abstinence. This is exacerbated by patterns of male sexual behavior including a high incidence of rape and incest. This behavior is often accompanied by alcohol and drug abuse. A combination of all these factors presents ideal conditions for the rapid spread of HIV, especially amongst women.

The impact of all these sensitive factors, whose existence is denied by many, may in reality be far more important than officially recognized. The challenges in this category are undoubtedly the most difficult ones to address since they require behavioral change. The NSP 2006-2010 emphasizes that not only the socio-economic determinants of the spread of HIV should be addressed with vigor but also the cultural ones.

A final comment refers to the rapid social change affecting gender relations. They tend to increase the vulnerability of women with regards to HIV infection. The above behavioral changes cannot be achieved without empowerment of women.

2.6. Health factors

The high level of sexually transmitted diseases (STIs) is an important co-factor of HIV transmission. Access to condoms is limited since they are scantily distributed, especially in most of the rural sector.
The high incidence of opportunistic diseases such as TB, pneumonia and malaria is partly due to factors like late admission (often because of inaccessibility of aid posts and health centers), deterioration in infrastructure, staff incompetence in diagnosing and treating these diseases as well as drug and oxygen shortages and problems with the supply of diagnostic reagents and the maintenance of equipment and non-functioning of X-ray machines.

In this respect, it should also be mentioned that “concerns about morality and Christian values are repeatedly confounded with public health matters, to the detriment of both the churches and the health establishments”. Because churches provide approximately 50 percent of all health services, the issue is a severe one.

The list of challenges with regards HIV/AIDS in this section is by no means complete. Many other challenges can be added. Moreover, the challenges listed above should not be given the same weight. Generally, an effective response to a challenge becomes difficult, expensive, fragmented and disorganized when a very large number of factors are all considered of equal importance and given the same high priority. In order to become more useful for those actively involved in HIV/AIDS counseling, advocacy, care and treatment it is imperative that the list of challenges is prioritized.

The MDG Steering Committee has placed HIV/AIDS at the top of the list of crosscutting challenges for all MDGs. Between now and 2015 all available resources must be used to counter the HIV/AIDS epidemic. Any future advances made in the area of poverty reduction, health, education etc. may well be overtaken by the impact of this epidemic.

3. **Interventions**

The long and varied list of challenges regarding the HIV/AIDS epidemic hammers the message home that an integrated response towards the HIV threat is imperative.

3.1. **Supporting international environment**

The UNGASS on HIV/AIDS is the focal international framework that governs all UN activities with regards to HIV/AIDS. PNG is a signatory to a number of international conventions and agreements that highlight HIV and AIDS as a major issue that needs to be addressed urgently. Some of these include the International Conference on Population and Development (ICPD, 1994), the International Conference on Women (2000), the International Conference on Gender Equality, Development and Peace for the twenty-first century and the World Summit for Social Development and Beyond. Interventions with regards prevention, testing, counseling, treatment and care are further guided by the Global Directions of 2005.

So far, PNG’s Development Partners have provided more than 90 percent of all the resources for the fight against HIV/AIDS. Most financial support comes from
AUSAID. Furthermore, the Global Fund has provided a grant of US$ 29 million for care and treatment. Significant financial support has also been provided by several other donors, e.g. the UN and the EU.

3.2. National interventions

The national response to the epidemic was formally launched in 1997. In that year, the government established the National AIDS Council (NAC). Its mandate is to facilitate and coordinate a comprehensive multi-sectoral response to the HIV epidemic. The NAC has five working advisory committees. Also, 20 Provincial AIDS Committees (PAC) have been established.

The technical arm of the NAC is the National AIDS Council Secretariat (NACS). Its multi-sectoral approach towards intervention implies that all concerned departments, agencies, organizations and other stakeholders are actively involved in the response against the threat of HIV/AIDS.

The first national plan with regard to HIV/AIDS was the National HIV/AIDS Medium Term Plan covering the period 1998-2002. The present NSP 2006-2010 has seven focal areas. These focal areas provide the broad strategic framework for an integrated national response to the HIV/AIDS epidemic. Furthermore, the NSP 2006-2010 has been embedded in several national policies and plans. This is particularly important in the case of two overarching national policies viz. the MTDS 2005-2010 and the NPP 2000-2010.

An annual planning exercise for the implementation of the NSP is undertaken each year. Moreover, since 2007, an Independent Review Group (IRG) reviews the national response to the HIV/AIDS epidemic on an annual basis. The IRG reviews the performance of planned activities against NSP objectives and reports to the NAC. The most recent review, carried out in August-September 2008, concluded that five of the eight priorities identified during the previous review in September 2007, had been achieved.

Presently, the NACS is in the process of preparing its National HIV Strategy for the period 2011-2015. This multi-sectoral strategy will address prevention, treatment, care and support, gender, leadership and vulnerable groups. There will be an increased focus on testing as well as on more accurate and timely data.

It is generally recognized that gender inequality and the special health risks women face (e.g. as a result of sexual violence) place them at a very high risk of HIV infection. Consequently, in 2006, the NAC commissioned a National Gender
Policy (NGP) on HIV/AIDS covering the period 2006-2010. This is a companion document to the NSP. The NGP recognizes that gender is the key factor shaping both the epidemic and the response to it. The NSP and the NGP jointly comprise the “one national HIV/AIDS plan of action”.

Furthermore, in August 2003, the government enacted a “HIV/AIDS Management and Prevention Act”. This act mainly deals with the human rights aspects of HIV/AIDS such as discrimination and other unlawful acts, testing, counseling, reporting and confidentiality.

Present interventions to reduce the incidence of malaria include vector control, personal protection and availability of effective treatment. So far, it has been very difficult to monitor the malaria control programme. Consequently, the 2006 DHS included for the first time a malaria prevention module.
MDG 7: ENSURE ENVIRONMENTAL SUSTAINABILITY

Over the years, the government has signed and ratified 47 multilateral environmental agreements (MEA). All MEA’s come with their own obligations, including reporting obligations. The most important of these MEA’s are:

- The UN Convention to combat desertification (and land degradation) (UNCCD)
- The UN Convention on bio-diversity (UNCBD)
- The UN Convention on climate change (UNCCC)

In this section these Rio conventions, as well as some other MEAs, are discussed in the PNG context.

In recent years, PNG has made a major contribution to the debate on MDG 7 related matters, especially climate change and REDD.

1. Situation analysis and trends

It is not feasible to carry out a situation analysis of all 47 MEAs, the more so since measurable indicators for most of them are not available. Instead, the assessment in this section mainly focuses on the three Rio conventions. In addition, an assessment is also made of several other MDG 7 related issues, often covered under other MEAs such as those related to forestry, use of energy, emission of greenhouse gasses (GHG) and ozone depleting CFCs. The final section is concerned with an assessment of change in access to some basic services such as fresh water and basic sanitation.

A list of the national (MTDS) indicators designed to monitor MDG 7 can be found in Appendix A. From the outset, some general comments need to be made about these indicators. Firstly, for most of them, no reliable nationwide information is presently available. Secondly, several of the quantified indicators are not based on measurement but on imputation or projection. Thirdly, in most cases a particular indicator can only be quantified at one point in time and the establishment of a trend is therefore not possible. Fourthly, several of the indicators, i.e. “cultivable land”, “proportion of land area covered by forest”, “land area protected to maintain biological diversity”. can and have been defined in different ways. As a result, there is often a wide variety of estimates using different definitions.

In conclusion, very little of the information on MDG 7 in Appendix A can be considered as robust. Moreover, since a time series of MDG 7 related data for the entire country, going back to MDG base year 1990 is rarely available, it is not possible to establish a reliable trend for most MDG 7 indicators.
1.1. **United Nations Convention to Combat Desertification (UNCCD)**

The UNCCD is the only MEA that targets developing countries. Initially, the focus of this convention was on problems of desertification in Africa. More recently, its scope has been widened to include land degradation in arid, semi-arid and sub-humid areas. The UNCCD covers four thematic areas viz. the causes of land degradation, sustainable land management, climate change and drought.

The widening of the scope of the UNCCD to include land degradation is very important for PNG. Because of the continuing high rate of population growth, demands for land for subsistence farming have increased accordingly. This has led to acceleration in land degradation, further fuelled by a weak enabling environment and capacity constraints, as well as unsustainable agricultural practices.

The inability of the land to support the increase in population is seen by some as the root cause of deforestation of primary forest. Others disagree and argue that most land that is being cleared for farming, particularly subsistence farming is secondary forest (or grassland) and not primary forest. They consider commercial logging as the main source of deforestation. There is, however, little doubt that land degradation, irrespective of its cause, has become a major problem. The PNG Government recognizes this and the threat it poses for securing sustainable livelihoods. Consequently, it ratified the UNCCD in December 2000. The convention came into force in March 2001.

The enabling framework for the UNCCD in PNG includes several national strategies and plans such as the MTDS 2005-2010, the 2001-2010 NPP, the Organic law and the Land Act and Forestry Act and its amendments. Moreover, several reports and studies dealing with land degradation have been produced.

- **National Action Plan (NAP)**

The objectives and guidelines for implementation of the UNCCD are incorporated in a Global Strategic Plan of 2008-2018. Countries that have ratified this convention are obliged to translate this global plan into their own National Action Plan (NAP). So far, due to a variety of factors, but particularly capacity constraints, PNG has not yet produced its NAP on land degradation. However, it has developed a Sustainable Land Management (SLM) Project. This is basically a capacity building project with its focal point in the DEC. It is expected that this project will facilitate the formulation of a National Action Plan in the near future. The future NAP should provide a baseline for an effective response to prevent further land degradation. It should also link land degradation with the two other major environmental conventions. Moreover, the NAP should focus on sustainable livelihood. The majority of the rural people continue to rely on subsistence farming for their livelihood. For them, food security is the highest priority.
• Land use

MDG 7 related indicators are often ill-defined and this often even applies to the most basic ones such as those related to cultivable land and land use. It has been estimated that cultivable land in PNG covers approximately 15 percent of the total land area. Much of this land is not accessible by road. Furthermore, the DAL has classified the entire land area into 11 categories of land use intensity, including forest, agriculture and other use (infrastructure etc.). Presently, this classification is mainly of theoretical value. Recent information on land use, using the DAL classification is not available. The first and only nationwide Agricultural Survey in PNG was carried out in the 1960’s.

In addition to data collection problems, the DAL faces major institutional constraints. A particularly serious one is probably that the extension work of the department in the provinces has largely collapsed. Furthermore, after the introduction of the Organic Law, coordination at the national level has almost ceased to exist.

• Land degradation, livelihood and food security

The UNCCD has provided a comprehensive definition of land degradation. Moreover, it has formulated four strategic objectives and for each of these, the expected impacts. Moreover a set of indicators has been identified for the monitoring of progress towards achieving these strategic objectives. Most of these indicators cannot be quantified.

Generally, there is little agreement concerning the causes of land degradation. It is believed by some, e.g. in the PNG Forest Industries Association (PNGFIA) that the main cause of land degradation in PNG is not commercial forestry but subsistence agriculture. Subsistence agriculture as well as small scale agriculture and exploitation of forest resources for firewood (cooking and heating) are believed to have increased at approximately the same rate as the population growth rate. Since the majority of the rural population is engaged in subsistence agriculture, the demand for new agricultural land is undoubtedly high. It seems reasonable to assume that this has led and continues to lead to land degradation. In turn, this negatively affects the level of food security in many parts of the rural sector.

However, the high rate of population growth and the corresponding rapid increase in subsistence agriculture is by no means the only threat to food security. Other threats include rapidly increasing food and fuel prices, consumption of low quality imported, especially in the urban sector, decrease in bio diversity, decrease in crop variety and decrease in traditional knowledge due to migration, urbanization and other factors.

Others argue that the rapid increase in population size and the associated increase in subsistence farming contribute relatively little to land degradation as well as deforestation of primary forest. It is believed that, nowadays, subsistence farming is rarely extended to areas covered by primary forest. Furthermore, the adoption of more productive food crops and varieties as well as intensification of
land uses have led to increased food production. Consequently, it is believed that the main causes of deforestation and land degradation must be found elsewhere, for instance large scale logging as well as major mining and energy projects.

Finally, it has been estimated that about one fifth of the total land area of PNG is subject to inundation. It is either permanently inundated or regularly flooded. In addition, a very significant part of the total land area is subjected to strong or severe erosion.

- **Agricultural production and exports**

At the time of Independence, the contribution of the agricultural sector to GDP was high. In 1977 it was 36 percent. Since Independence this contribution has decreased significantly. The decline was in proportion to the increase in mineral exports. However during the last eight years, the contribution of agriculture increased again. As a result of the increase in agricultural activity, especially in oil palm, the contribution of agriculture to the GDP may well rise again to the level of the 1970s. The current increase is, however overshadowed by the boom in the LNG industry.

The agriculture sector will continue to absorb a very large proportion of rural entrants in the labour force. Most of them will be engaged in the subsistence sector.


The UNCBD deals with all living organisms i.e. viruses and bacteria, fungi, plants and animals. This convention has been introduced to conserve biodiversity. There are many linkages and synergies between the UNCBD and the other two major conventions, viz. the UNCCD and the UNCCC. PNG signed the UNCBD in 1992 and the treaty was ratified in 1993. The Government developed a National Biodiversity Strategic Action Plan (NBSAP).

In 2009, subsequently PNG is still one of the most bio-diverse countries in the world. For instance, it has an estimated 76 percent of all coral reef species and 85 percent of all fish species. However, bio-diversity is increasingly under threat. The most important reasons include:

- The high rate of population growth and the increasing demands for development, modernity and reduction of poverty
- Resource extraction
- Climate change
- National disasters

In 2000, it was estimated that the amount of land set aside for biological diversity was 1,602,771 ha. This amounts to less than 4 percent of the total land area. Furthermore, a recent estimate of the land area that has been rehabilitated to ensure biodiversity is 444 ha. This is mainly land at former mine sites.
PNG considers expanding the national system of protected areas. In the NBSAP, it is expected that 10 percent of the total land area should be protected by 2010. In 2009, the achievement of this target is unrealistic. However, presently about 4.5 percent has already been gazetted.

One possible response under the ESEG Policy Framework is the commitment to large landscape scale demonstration projects using public-private partnership models to ensure implementation. Effective management of these projects may however be hampered by the fact that about 97 percent of all land is traditionally owned.

PNG’s sea area covers 3,120,000 km$^2$ and there is an additional 40,000 km$^2$ of coral reefs. According to the worst case scenario with regards to climate change and sea level rise, coral reef growth may stop in 2060. Degradation of the marine environment is clearly of major importance in a country like PNG where the livelihood and food security of many people depend on it. For instance, it is estimated that 70 to 90 percent of animal protein in PNG is provided by fish.

There are presently twelve protected areas that contain marine ecosystems. Of the total area of 3,600 km$^2$, about 25 percent is marine. These marine protected areas (MPA) are threatened over fishing, destructive fishing methods and sedimentation pollution. The NBSAP recommends that by 2012, 10 percent of all marine areas should be protected. In 2009, this target appears to be unrealistic. Furthermore, all the six Coral Triangle governments (Indonesia, Malaysia, Papua New Guinea, the Philippines, Timor Leste, and the Solomon Islands) have taken important steps toward addressing threats to marine and coastal resources. However, the current response to these threats remains insufficient.

To respond to this urgent problem, a new Coral Triangle Initiative (CTI), involving strengthened collaboration among governments of the region, could help ensure the effective conservation and sustainable use of marine and coastal natural resources. Such an initiative could significantly improve human welfare, conserve the region’s extraordinary biological diversity, and ensure a continuing flow of goods and services for future generations.

1.3. United Nations Convention on Climate Change (UNCCC)

PNG has ratified the UNCCC but it has not yet developed its own national policy and action plan on climate change. So far a Pacific framework has been used as the basis for monitoring and assessment. However, this framework is not ideal for the monitoring of all the effects of climate change in PNG. The development of a national policy and action plan on climate change should be considered urgently.

PNG’s response to the challenges of climate change have been led by the Department of Environment and Conservation (DEC) and the National Forest Authority (NFA). The DEC’s core components of an environment sustainable framework include water, biodiversity, soil, air and carbon. The DEC is responsible for all bio-diversity assessment in the country.
In 2008, the Government established an Office of Climate Change and Environment Stability (OCCES). OCCES (in close collaboration with the DEC and the NFA) is amongst others responsible for all matters related to carbon trading. It advises on forests that can be used for carbon trading under REDD (reduced emissions from deforestation and degradation) or under CDM (clean development mechanism). More generally, the government believes that, in order to halt deforestation in developing countries, industrialized countries should do more than pay for carbon credits. It challenges the industrialized nations to re-draft their economic theories and re-model global markets for a sustainable future.

Reliable information with regards to the effects of climate change is scarce. However, according to the worst case scenario, between now and 2100, temperatures may rise by 1.8 – 6.4°C, with a 75 percent probability that the increase will amount to at least 2°C. An increase in seawater temperature to 34°C will result in increased acidification and a degradation of critical habitats in PNG.

1.4. Forests and the forestry sector

Forests have played an important role in the livelihoods of the people of PNG. This will undoubtedly remain so in the future. During the last five decades, the population of PNG has been growing at a rapid rate and the demands on land and forest resources have increased accordingly. Moreover, since World War II, the forests have increasingly been exploited for their products, especially timber. This has become a major source of revenue. Moreover, it provides direct employment to over 10,000 people. The importance of PNG’s forests and its forestry sector can not be overestimated. It is hoped that the forests will still be there once the minerals, oil and gas deposits have been exploited.

PNG is a signatory to MEAs dealing with natural forests, extraction of timber etc. However, the most important ones that affect forests and the forestry sector are the already mentioned UNFCCC and its associated Kyoto Protocol, and the UNCBD. PNG has not yet developed a national strategy or plan for its forests.

It is extremely difficult to monitor the loss of forest in PNG. The database of the NFA is very incomplete and often out of date. Furthermore there are measurement and definition problems. There is probably no aspect of MDG 7 where the confusion is greater than in the area of forests and forestry. The confusion starts with the uncertainty of how forests should be defined. Since the FAO definitions with regards to forests and forestry have been adopted by the NFA, these definitions have been used in this report.

It has been estimated that, before the onset of commercial logging at the beginning of the 20th century, about 46 million ha in PNG was covered with primary forest. However, the first scientific estimates of forested areas in PNG are based on the PNG Resource Information System (PNGRIS) developed in the early 1970s. According to PNGRIS, of PNG’s total land area of 464,100 km², the “total gross forest area” was 330,650 km² (71.2 percent). However, part of this area had been disturbed, especially by shifting cultivation. It was estimated that at that time about 13 million ha of the original 46 million ha of primary forest
had, for a variety of reasons, to some extent been degraded. If these estimates represent a reasonable estimate of forest coverage in those years, this implies that before 1975, almost 30 percent of PNG's forests had already to some extent been degraded.

Presently, it is estimated that about 29 million ha of forested land remains. The loss of some 4 million hectares between 1973 and 2009 is attributed to a combination of shifting cultivation, conversion of forested lands to agriculture, logging, urban development, infrastructure development, mining developments and natural disasters. However, there is no consensus with regard to the reliability of the 2009 estimate of 29 million ha of forested land. If it is assumed that this estimate is more or less correct, and forest “loss” during this period is indeed about 4 million ha, it is still unclear to what extent each of the above factors has contributed to this loss.

Table VII-1 presents the average rate of decrease in PNG's forested area per year during the intervals 1900-1975 and 1975-2009 based on the above estimates of forest coverage.

The rate of forest loss between 1973 and 2009 associated with the above figures on forest coverage averages at about -0.4 percent per year. This estimate is approximately the same as the one made by the FAO Forest Resource Assessment (FRA) in 2005. Other estimates are much higher. Most of the loss associated with logging probably occurred in the 1980’s and particularly in the 1990’s when “rogue” logging was more common than it is today. It should; however be stressed again that the figures and rates of forest loss in Table VII-1 may not be much more than very rough estimates. This data should be used with extreme caution, since it is by no means universally accepted.

Table VII-1: Absolute and relative change in forest coverage during the 1900-1975 and 1975-2009 period

<table>
<thead>
<tr>
<th>Period</th>
<th>Forest coverage</th>
<th>Rate of forest degradation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F₁</td>
<td>F₂</td>
</tr>
<tr>
<td>mill. ha</td>
<td>%</td>
<td>mill. ha</td>
</tr>
<tr>
<td>1900-1973</td>
<td>46</td>
<td>100</td>
</tr>
<tr>
<td>1973-2009</td>
<td>33</td>
<td>70</td>
</tr>
</tbody>
</table>

Note: The average annual rate of loss of primary forest per year (r) has been estimated from

\[ r = \frac{\ln F_2/F_1}{n} \]

where

- \( F_1 \) is Area (in millions of ha) covered with primary forest at the start of the reference period
- \( F_2 \) is Area (in millions of ha) remaining at the end of this period
- \( n \) is The length of the reference period between \( F_1 \) and \( F_2 \) (in years)

Furthermore, in this table, \( h \) is the “halving time” (in years) or the number of years it would take, given continuation of the average annual rate of decrease in the same row, for the area covered by primary forest” to be halved.

\( h \) (in years) has been calculated from:

\[ h = \frac{\ln 2}{r}, \]

where \( r \) is expressed per unit.
It should also be mentioned that parts of the forested area that was “lost” due to logging, was in reality selectively logged. In this respect it is important to mention that, since 1991, selective logging has been the only form of logging permitted in the newer timber concessions that have been secured under Forest Management Agreements (FMA) with landowners. This means that only a limited number of trees can be felled. In other words, it is probably more correct to say that the selectively deforested area has mainly been degraded in terms of biodiversity.

Moreover, in order to manage forest resources on a sustainable basis, all new timber concessions acquired by the State are for 50 years. This is intended to ensure that there is a second crop after the first 35 years of operation. The effectiveness of these arrangements is not yet clear. It depends largely on compliance by the timber industry to the existing laws and regulations. It is clear that the limited FA staff is in no position to police the large forest area of PNG regularly and effectively. In reality, much unwarranted destruction remains undetected.

Given continuation of the estimated average rate of forest loss during the period 1975-2009, it would take almost 200 years to halve the area covered by forest. In other words, according to this “no-change” scenario, forest cover would decrease from 29 million ha in 2004 to 14.5 million ha at the end of the 22nd century. However, this projection, based on a “no-change scenario” may be too pessimistic for the following reasons:

- Presently, there are far more safeguards in place against indiscriminate logging than in the 1980’s and 1990’s.

- Future logging will probably increasingly take place in remote and more difficult terrain that is less accessible, especially by heavy machinery. This will further slow down deforestation. This is already obvious in the Highlands Region.

- PNG supports the cause of Reduced Emissions from Deforestation and Degradation (REDD). It has become part of a “Coalition of Rainforest Nations”. These nations have come together as a force in the UN’s Framework Convention on Climate Change (UNFCCC). It may be expected that this initiative will reduce the rate of deforestation and degradation even further.

- It is expected that reforestation (which was less than 1 percent per year in the 1990’s) will gradually increase to about 3 percent per year. Once the reforestation plan is implemented, there may be an increase in the forested area.

In conclusion, based on recent trends, forests are predicted to decline in area in the near future. However, for the reasons given above, the loss will remain moderate. Losses will undoubtedly to some extent be caused by forest conversion
to agriculture and shifting cultivation, as a result of the rapidly increasing population. However, the loss of forest as a result of these agricultural activities may not be as extensive as often assumed.

With regards to logging, most of the forest concessions have already been logged. Furthermore, due to the selective nature of logging, much forest cover will still be maintained except for some where large-scale conversion has taken place to cater for agricultural plantations. Finally, once the reforestation policy is fully implemented, this will further arrest the decline in forest cover.

In addition, it should also be reiterated that, loss of forest could probably be reduced significantly if the NFA was in a better position to enforce the existing legislation. Due to its limited manpower, it is difficult to police PNG’s extensive forest areas effectively.

It needs to be stressed again that it is not at all clear to what extent forest was lost and is still lost due to subsistence farming. The agricultural survey conducted in 1962, as well as the 1975 land use survey provide some very limited information. Unfortunately no reliable recent estimate of conversion of forest for agricultural use is available, although it is sometimes assumed that about 200,000 ha of forest is cleared annually for subsistence farming. The source of this information is unknown but it is probably based on remote sensing. It is not clear which proportion of the forest cleared for subsistence agriculture used to be primary and which proportion secondary forest. Since most primary forest close to villages and clan areas has already been cleared a long time ago, and after use, has in most cases reverted to secondary forest, it may be expected that, in future, subsistence farming will increasingly use land under secondary forest. It is also believed that in many cases the fallow period has been reduced from 25-30 years to less than 10 years at present.

In spite of all the uncertainties with regards to depletion and/or degradation of forests, there is little doubt that the forestry sector will continue to make a significant contribution to the economy. The export of timber will remain an important component of this contribution. According the NSP 2010-2050, the forestry sector is expected to make a significantly bigger contribution to the economy in the future. However, how this can be achieved with the legal and other restrictions on logging now in place, is not clear. For instance, a ban on “round log export” will come into effect in 2010. It is expected that this will lead to more onshore processing and value adding. This will only be possible if the Government provides incentives and enabling conditions.

Finally, it is estimated that forests absorb some 3.3 billion tons of carbon dioxide annually but this may also not be much more than a “guess estimate”.

1.5. Energy use

Although several MEAs are concerned with energy use, PNG has not yet produced a National Energy Policy. In 2009, a very large proportion of all electricity is used in the urban sector. Population change in the urban sector of PNG between 1990 and 2000 is presented in Table VII-2.
Table VII-2: Population by geographic sector, enumerated at the time of the censuses since 1966 and the level of urbanization in these years.

<table>
<thead>
<tr>
<th>Census Year</th>
<th>Population (No.)</th>
<th>% Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Rural</td>
</tr>
<tr>
<td>1966</td>
<td>2,184,986</td>
<td>2,056,940</td>
</tr>
<tr>
<td>1971</td>
<td>2,489,935</td>
<td>2,213,617</td>
</tr>
<tr>
<td>1980</td>
<td>3,010,727</td>
<td>2,617,596</td>
</tr>
<tr>
<td>1990</td>
<td>3,607,954</td>
<td>3,053,203</td>
</tr>
<tr>
<td>2000</td>
<td>5,190,786</td>
<td>4,504,485</td>
</tr>
</tbody>
</table>

Source: National Statistical Office, Census Reports

An increase in the urban population is the result of three factors, natural increase, rural to urban migration and incorporation. The boundaries of the urban areas in PNG were delineated prior to the 1980 census. Since that time they have remained unchanged in spite of the fact that there are now large concentrations of people (often squatters) just outside the boundaries of several urban areas who should be considered urban. This means that prior to the 2010 Census the boundaries of these urban areas should be revisited and changed. The urban population for the years 1990 and 2000 in Table VII-2 should be considered as low estimates. It is expected that, with the growth of the urban sector, electricity consumption will increase significantly.

Relatively little is known about energy use in the rural sector. However, the 1997 Household Energy Use Survey provides some information. This survey estimated the consumption/use of several categories of energy. The results indicate that the majority of rural households neither had access to nor used electricity, LPG, charcoal, solar hot water heaters and portable AC/DC generators. Rural households mainly used firewood, kerosene, batteries and fuel (for transportation).

The MDG indicator “percentage of households using wood as primary energy source” is an important one in PNG especially in the Highlands Region. It has therefore been included in the MTDS set of national indicators for MDG 7. Unfortunately, no recent information is available. Finally, it is expected that a large proportion of PNG’s future energy requirements will be met by hydro electricity.

1.6. **Green house gas (GHG) emissions**

With regards to Green House Gas (GHG) emissions, the earliest information that is available dates from 1994. A time series of greenhouse gas emissions is not available. Nevertheless it may be assumed that GHG emission is still very low compared to that in developed countries.

Effects of global warming do have an impact on PNG. Research suggests that the average temperature has increased by 1°C over the last 50 years.
There is currently ongoing work being done through the Second National Communication under the UNFCCC and this is facilitated by the OCCES. The data in the GHG Inventory has yet to be endorsed by the government.

1.7. **Access to safe drinking water and sanitation**

Table VII-3 presents the proportion of households that, in 1996 and in 2006 had access to safe drinking water. The sources of drinking water are very different in the rural and urban sector. About 70 percent of rural households use drinking water from a spring, river, stream, pond, lake or dam. On the other hand, more than 70% of the urban households have access to piped water. The proportion of urban households with access to a safe water supply is at present about 7 times higher than for rural households. However, it will be noted that, since 1996 the proportion of rural households with a safe water supply has slightly improved, whereas for urban households the opposite is the case.
Table VII-3: Access to water and improved sanitation by geographic sector

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1996</td>
</tr>
<tr>
<td>Water supply</td>
<td></td>
</tr>
<tr>
<td>Households with piped water supply (%)*</td>
<td></td>
</tr>
<tr>
<td>- Total (NI 53)</td>
<td>18.8</td>
</tr>
<tr>
<td>- Rural</td>
<td>8.5</td>
</tr>
<tr>
<td>- Urban</td>
<td>71.7</td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
</tr>
<tr>
<td>Households with improved sanitation (own or</td>
<td></td>
</tr>
<tr>
<td>shared flush toilet) (%)</td>
<td></td>
</tr>
<tr>
<td>- Total</td>
<td>11.6</td>
</tr>
<tr>
<td>- Rural</td>
<td>2.5</td>
</tr>
<tr>
<td>- Urban</td>
<td>58.3</td>
</tr>
</tbody>
</table>

Note: * Projection based on no-change scenario  
# To household or neighborhood  
Source: 1996 and 2006 DHS

Table VII-3 also shows that the situation with regards to sanitation is also very different for rural and urban households. At present, almost 80 percent of the rural households are still using a traditional pit toilet. Moreover, a significant proportion of rural households do not have any toilet facilities at all. On the other hand, a large proportion of urban households has its own or a shared flush toilet. However, for urban households, this proportion has drastically decreased since the 1990s. This is undoubtedly partly a result of the large increase in the urban population and in particular the urban squatter population. It is clear that the city/town authorities in PNG have not been able to keep up with the demands for modern sanitation facilities.

1.8. Summary

The analysis in Section 1 is mainly concerned with some, MEAs. Due to the lack of complete and reliable data, the analysis has produced very limited results. With exception of the few MDG 7 indicators that can be derived from DHS data, it is still not possible to establish a reliable trend for any of the other global or national indicators with much confidence. Consequently statements referring to the worsening or improvement of MDG 7 indicators are mainly based on perception and are not supported by reliable statistical evidence.

In order to make the monitoring of MDG 7 more meaningful in the future and in subsequent reports, drastic improvements in data collection, analysis, management and coordination need to be made. Since so many different departments and agencies are involved in the collection and management of MDG 7 related data, their efforts need to be coordinated. The obvious department to do this is the DEC.
Finally, PNG’s abundant natural resources are not only the base for wealth creation, this resource base also constitutes the main challenge for environmental sustainable development and livelihoods. Because of this and PNG’s extraordinary bio-diversity, the country needs a multi-faceted and holistic approach if it wants to achieve the demanding targets of MDG 7.

1.9. Progress towards achieving MDG 7

Of the four global targets, three are relevant for the Rio Conventions. Moreover, two global targets, viz. 7A and 7D are general and imprecise. Target 7A in particular, does not go beyond the rather simple and vague suggestion that the principles of sustainable development laid down in all the signed and ratified conventions, protocols and treaties should be integrated into country policies and programmes and that the loss of environmental resources should be reversed. Targets referring to “reversing the loss of environmental resources” and “achieving a significant change” do not present a very clear message to policy makers and planners unless they are translated into something tangible. Furthermore, target 11 is addressed at the international community. In the PNG context, it should address the lives of the people living in squatter settlements instead of those living in slums.

At this stage, all national targets, with the exception of target 15, also remain vague and imprecise. Furthermore, in the Inaugural MDGR in 2004, many of the national indicators could not reliably be quantified. This is still the case in 2009. The DEC is engaged in an ongoing review of the MDG 7 indicators. This review is expected to produce more refined and relevant environmental sustainability indicators that are measurable and achievable. Moreover, overlapping indicators need to be eliminated. Unfortunately, at the time of writing, these indicators were not yet available.

A special mention should be made with regards to MTDS Target 13, “Implement the principles of sustainable development through sector specific programs by 2010 and no later than 2015.” In 2009, no national policy or action plan has been developed for most of the MEAs and this includes the UNCCD and the UNCCC. The existence of such a policy/plan is a basic prerequisite for the implementation of the objectives of these MEAs.

The impression exists, but this is not more than an impression, that little, if any progress has been made towards achieving MDG 7.
2. **Challenges**

2.1. **Lack of data**

The data-base for monitoring of MDG 7 is weak, fragmented and unorganized. Relevant data is collected by a large number of government departments and agencies but to date, it has not yet been possible to combine all the information in one database. Information sharing and coordination needs to be improved urgently. The very deficient database, in combination with methodological issues and inconsistencies in defining basic concepts, makes it difficult to monitor progress towards achieving MDG 7 effectively. Moreover, in PNG many of the global as well as national indicators are unverifiable.

2.2. **Weak institutional framework and capacity constraints**

The integration of MDG 7 concerns into development strategies and plans leaves much to be desired. Furthermore, coordination, cooperation and information sharing between the different agencies involved in the monitoring of MDG 7 is weak to almost non-existent.

Furthermore, in departments engaged in MDG 7 related policy making and planning, there tends to relatively little technical expertise. As a result, National Action Plans for even the main MEAs to which PNG is a signatory have in many cases not yet been formulated. Lack of technical expertise affects in particular the monitoring and evaluation capacity of these departments.

2.3. **Land and forest degradation**

Land degradation and forest degradation increasingly threatens the livelihood of the rural people. The fact that so far, it has not yet been possible to formulate a National Land-Use Plan must be considered as a major policy failure.

However, for reasons discussed in Section 1, the rate of forest degradation due to logging will, from now onwards probably decrease. The Forest Authority (FA) has listed what it considers as to-day’s biggest threats. These are:

- The rapidly growing population. It has been argued that more natural forest is degraded because of agricultural use (mainly subsistence) than as a result of logging. Moreover, it is also likely that land clearing in the future will increasingly be extended to areas that are more vulnerable to erosion of the topsoil and rapid depletion of soil nutrients. Some believe that mainly secondary forest and not natural forest is cleared for subsistence farming. Consequently, for them the high population growth rate and consequently large increase in subsistence farming is not considered as contributing very significantly to the degradation of primary forests.

- If the National Agricultural Plan is fully implemented, it will also include a significant conversion of forest lands to agricultural lands. There is, however, no agreement on this.
• The influx of potential investors in bio-fuel projects

• The growing trade-off of forests for infrastructure development

Problems also remain with acquiring land for reforestation. This may change when landowners become more aware of the benefits that can be reaped from carbon trading.

2.4. **Decrease in biodiversity**

An ever increasing number of rare insects, birds and animals are endangered. In the meantime, after 1998, official funding for maintaining PNG’s wealth of biodiversity has decreased by 60 percent. In this respect, it should also be mentioned that PNG does not have a proper system of nature reserves. The conservation of biodiversity must, largely be achieved through the establishment of protected areas. However, the landowners (or clans) keep the right to access and use these protected areas. DEC is exploring the “Payment for Ecosystem Services” to enhance the protection and conservation of biodiversity. This is discussed in detail in the NBSAP.

2.5. **Non-renewable resource extraction**

Some of the worst examples of disastrous environmental and social impacts caused by mining can be found in PNG. This applies in particular to the Bougainville Panguna Copper Mine and the Ok Tedi Mine, which have been referred to as “global disasters”. It is, however important to note that both these mining ventures did not fall under the Environmental Planning Act of 1978. In PNG, severe impacts to the environment do often occur at all stages in the mining cycle. The petroleum sector has a lower environmental impact than mining. Generally, PNG’s environmental track record has been assessed to be poor.

2.6. **Waste management.**

Mining activities in PNG produce vast amounts of waste products. Unfortunately, the lack of appropriate legislation and policies, infrastructure and both human and financial resources have led to poor waste management and disposal practices. Untreated tailing disposal from the mines have negative impacts on both freshwater and coastal marine environments affecting public health and ecosystems. They also affect large expanses of land. Furthermore, awareness on the importance of proper waste management in the urban areas is low.

2.7. **Green house gas (GHG) emissions**

GHG emissions are still relatively low in PNG. However, the country will increasingly be affected by the impact of climate change resulting from global warming due to increased GHG concentrations in the atmosphere.
2.8. Natural disasters

PNG’s geographical location makes it vulnerable to natural disasters such as frequent volcanic eruptions, earthquakes and tsunamis, floods caused by monsoon rain, prolonged droughts and frosts in the Highlands Region etc.

2.9. United Nations Law of the Sea

It may look inappropriate to list the UN Law of the Sea under challenges that PNG is facing. However, this law overrides national legislation and there are several areas of conflict that need to be resolved.

2.10. Access to safe water

In spite of the fact that PNG has one of the highest stocks of fresh water per capita in the world, a large proportion of the population does not have access to a safe water supply. Given the continuing high population growth rate, a high level of land degradation, deforestation, subsequent erosion and pollution of rivers through disposal of mining sediments, agricultural and urban wastes, the proportion of people using contaminated water may increase. At this stage, PNG has already a high incidence of water-related diseases like diarrhea.

2.11. Erosion of the social environment

Traditional social systems like the wantok system are being eroded. An increasingly larger proportion of the population is abandoning rural livelihood skills, which will impact negatively on the achievement of MDG 7. It should also be noted that most of those abandoning their rural environment can at this stage not be absorbed by the modern economic sector.

2.12. Population factors

Because of the continuing high population growth rate and the fact that it may not reasonably be expected that this rate will decline drastically in the near future, not only demographic investment but also the pressure on the available resources will increase significantly. It has been estimated that, given continuation of population growth at its present rate and continuation of current farming practices, all arable land in PNG will have to be used to meet the food demands of the growing population by 2025. In the long term, it may therefore be expected that the population will outstrip the capacity of the land to support adequate subsistence food production. Not only will the pressure on land increase but also on wildlife and marine resources.

Furthermore, increasing migration from the traditional rural sector to urban areas and RNVs has endangered access to adequate water resources and overloaded the existing waste disposal systems in the urban areas.

A reasonably high level of education and literacy is a prerequisite for environmental sustainability. It is also often felt that the present formal
education system does not prepare children for rural life since it undermines continued sustainable rural livelihood skills and practices.

3. **Interventions**

3.1. **Multilateral Environmental Agreements (MEA)**

The supporting environment for MDG 7 at the international level appears to be strong. In 2009, PNG is a signatory to 47 Multilateral Environmental Agreements (MEA). These MEAs, covering PNG’s land and sea area as well as its airspace, are concerned with areas as diverse as combating climate change and protection of biodiversity to sustainable use of resources and contamination of the environment by hazardous chemicals. However, the signature should be more than an expression of interest. After signing of a MEA, countries are expected, after approval of their legislature, to ratify it. This implies that the treaty’s principles and obligations should be translated into national law.

For the implementation of the MEAs funding can be obtained from the Global Environment Facility (GEF). This is, however only the case when projects designed to achieve certain goals, meet the prerequisites. Moreover, funding is performance based. In PNG, the GEF, through the UNDP, offers small grants (of maximally US$ 50,000) for eligible environmental projects in five main areas. So far, this program has not been successful. It is presently undergoing a major restructure.

3.2. **National interventions**

There are several national and sectoral policies, plans and acts in place that support PNG’s activities in achieving MDG 7. However, as mentioned in Section 2, several key policies and action plans are still missing, i.e. those related to the UNCCD and the UNCCC.

Most importantly, the Government of Papua New Guinea through the Department of Environment and Conservation (DEC) actively promotes as one of its initiatives, the concept of and need for achieving Environmentally Sustainable Economic Growth (ESEG) which aims to strengthen the use of economic instruments and strategies for assisting industry and people to manage their environment sustainably whilst maintaining economic growth. ESEG is a new Government initiative. Unfortunately, many stakeholders still lack an understanding of the relationships between economic growth and environmental sustainability.

ESEG basically has some priority areas for policy in water, biodiversity and land as well as renewable and non-renewable resources by:

- Ensuring that ESEG is incorporated into overarching national policies and plans
- Supporting an integrated land-use planning process through the Sustainable Land Management project
- Supporting ESEG in the conservation of forest areas and the protection of high biodiversity areas
- Promoting ESEG in the area of climate change mitigation particularly on the Reduced Emissions from deforestation and Degradation (REDD) initiative.

PNG’s responses so far through the ESEG policy framework include:

- Attempts to develop an integrated land-use planning process for the improvement of the coordination of land-use decisions across National and Provincial governments and better management of the pressures on the environment. So far, a National Land Use Policy has not yet been developed.
- Strengthened environment regulation underpinned by more rigorous standards
- Focus on improving information on the state of the environment to better inform policy makers and the broader public of the health of the environment
- Development of new and innovative renewable resource industry strategies that reduce impact on the environment whilst increasing returns to the private sector and landowners and:
- Commitment to large landscape scale demonstration projects through public-private partnership models to ensure the new strategies are adopted

Moreover, with the introduction of LNG and seabed mining, the government, through its ESG agenda, will introduce measures that will lead to cleaner extraction of resources.

The implementation of ESEG requires organizational reform of the DEC to align its functions with the new policy approach.

DEC’s new strategic directions initiative relates to integration of environmental policies with the Government’s socio-economic policy decision making framework to support its environmentally sustainable economic growth agenda. This reform will result in a shift from a technical department to a policy oriented department,
committed to the implementation of two major global environmental policy initiatives: MDG 7 and REDD (Reduced Emissions from Deforestation and Degradation). However, progress with regards to MDG 7 and REDD needs to be monitored effectively. Without major improvement in DEC’s database, as well as improvements of technical expertise in the area of monitoring, this will not be possible.

In order to improve MDG 7 monitoring, the 2004 MDG National Steering Committee strongly recommended that an MDG 7 Task Force should be created, chaired by the central agency with regards to MDG 7, the DEC and with membership of all departments and institutions that contribute or should contribute to the MDG 7 database. One of the tasks of this committee would be to coordinate the collection, validation, management and dissemination of MDG 7 related data. Moreover, the data should be incorporated in a user friendly information system within the DEC. In 2009, this resolution has not yet been implemented.

In conclusion, the government emphasizes the proper management of both social and natural capital to meet the essential needs of today without compromising the needs of future generations. The nation’s capital stock needs to be safeguarded but this capital should also be transformed into human capital especially in the form of education and health services. Real development will only occur when the benefits of PNG’s natural capital are shared by the entire population.
1. **Preamble**

MDG 8 deals with the responsibility of OECD countries to provide an “enabling international environment” for developing countries to achieve the first seven goals. MDG 8 is therefore about joint responsibility for expanded partnership between advanced and developing countries. MDG 8 is also about mutual accountability. Government at all levels as well as bilateral and multilateral institutions must be held accountable for how their actions affect the achievement of the MDGs.

The “Global Deal” involves a wide range of issues. Many countries have, to date, not been able to include a fully articulated progress report on the status of MDG 8 in their Millennium Development Goals Reports (MDGR). PNG is one of these countries. In 2004, the MDG Steering Committee recommended deferring a complete coverage of MDG 8 to the 2nd generation report in 2009. As a result, the section on MDG 8 in PNG’s Inaugural MDGR was not much more than an official statement recognizing the centrality of MDG 8. However, it stressed the importance of localization of MDG 8. In other words, it was realized that without external financing, the scope and complexity of achieving the MDGs would be beyond the capacity of the country.

In order to be better prepared for full coverage of all aspects of MDG 8 in the 2nd MDGR, the 2004 MDG Steering Committee recommended that a special Task Force (consisting of members of the DNPM, the Department of Finance, the Ministry of Foreign Affairs and development partners) should be established. This Task Force would amongst others be responsible for the continuous monitoring of MDG 8. The input with regards to MDG 8 in the 2nd MDGR should be based on broad and inclusive consultations of this Task Force with stakeholders. To date, some progress has been made but, unfortunately, not in the area of monitoring and evaluation of MDG 8. Consequently the present section on MDG 8 is once again far more restricted than it should be.

2. **Important MDG 8 related issues identified in 2004**

In spite of the problems with the articulation of MDG 8 in 2004, the 2004 MDG Technical Working Group identified several issues that were considered to be crucial importance for the development of an effective partnership for development in PNG. Some of these are equally important in 2009 and should therefore be reconsidered.

- **Official Development Assistance (ODA)**

  Official Development Assistance (ODA) or foreign aid constitutes a large proportion of all public financial resources available for the support and facilitation of the Government’s internal achievement of all MDGs and in particular MDG 6 and 7. This implies that if development partners decide to
withdraw support, the efforts that are being made will most likely collapse. Excessive donor dependency may undermine the achievement of the MDGs. ODA prior to 1998 was a combination of tied and untied aid. That changed in 1999 when Australia, the largest donor partner gradually migrated to tied aid (linked to projects). PNG's ODA is all tied aid delivered through different mechanisms.

- **Debt**

Prior to 2004, PNG's debt burden increased steadily. In 2004, the debt burden had reached a high level of about 71 percent of GDP. This substantial level of debt absorbed much of the limited public budget. Many considered this as the most important impediment for development and as the most important challenge with regards to the achievement of the MDGs since relatively few resources were left to improve health, education and other services and to halt environmental degradation. On average, between 1990 and 2004, the growth of debt was significantly higher than economic growth.

After 2004, the improvement in the economy has enabled the government to reduce debt levels to 35 percent of GDP (in 2007). Moreover, since the growth in GDP during this period was far higher than the population growth rate of about 2.3 percent per year, per capita GDP also increased significantly. In other words, in a period of just five years, the government has achieved a far more sustainable debt position.

- **Management and coordination of ODA**

The MDG TWG found that, in many cases, several donors were involved in closely related activities. It realized that there were systemic weaknesses at the policy as well as operational level in the management and coordination of ODA, undermining the effectiveness of the efforts. In the meantime, in order to optimize foreign aid, the government had embarked on a sector wide approach to donor coordination. It was hoped that this would lead to more effective management of all forms of foreign assistance.

- **Membership of international organizations**

PNG is a member of a large number of international organizations and a signatory to many international agreements, including the World Trade Organization, the Economic Partnership Agreement with the European Union, the Asia Pacific Economic Cooperation and various bilateral and multilateral agreements within the Pacific Region. It was realized that PNG's membership of these international organizations can impact in several ways on PNG's ability to achieve the MDGs. It is possible that the opening up of trade barriers and liberalization will lead to economic growth. However, in the case of PNG, the necessary infrastructure to improve efficiency is not yet in place. Consequently, PNG industries may be unable to compete on the world market. This may have a negative impact on PNG's ability to achieve the MDGs.
3. **Situation analysis**

3.1. **Official Development Assistance (ODA)**

The main progress made since 2004 is in the area of management and coordination of ODA. PNG in 2005 embraced the Paris Declaration on Aid Effectiveness. Furthermore, the Paris Declaration was localized into a “Joint Commitment of Principles and Actions between the Government of PNG and Donor Partners” and was signed in 2008. As a result, PNG’s ODA has seen a positive and encouraging trend. The Government has increased ownership of ODA and its role in coordinating external assistance has strengthened. Moreover, bilateral and multilateral country programs are progressing increasingly towards greater consultation and ownership by the Government. The development of Country Assistance Programs and strategies are a reflection of the efforts towards developing partnership for global development. The UN country programme, the Partnership for Development schedules with Australia, and the World Bank Country Assistance Strategy (CAS), just to name a few, are a reflection of these positive changes.

Respective country programmes and strategies have been aligned with the national plans and strategies, specifically the MTDS 2005-2010 as well as sectoral development plans. Furthermore, the Government has just launched its National Strategic Plan (NSP), 2010-2050 and the Long Term Development Strategy (LTDS) will soon be introduced. These overarching plans shall provide the long term platform and parameters to which investment and ODA shall be aligned. There are however several other issues that need to be addressed such as financial alignment, donor harmonization, collaborative monitoring and reporting on aid effectiveness and impact.

Two cases merit reporting: firstly the UN Country Programme, and secondly the partnership for development schedules with Australia. With regards to the UN Country Programme, the UN system in PNG now has one UN Country Program pitched around the MDG, which provides for key areas that the UN system will focus on through the various UN agencies. It provides a predictable outlay for multi-year funding.

With regards to Australia’s partnership for Development, this provides a framework for specific time-bound result driven schedules framed in the spirit and targets of the MDGs also with a multi-year financing outlay.
Furthermore, since 2004, the mechanism in the delivery of aid has graduated from project aid to program and sectoral aid approaches. The sector wide approach was introduced in 2004 and is increasingly gaining prominence in harmonizing donor support and aligning to Government sectoral plans and financial systems. The approach is under review given the country’s complex, dynamic and evolving political and governance structure.

In 2004, total ODA amounted to 64 percent of total expenditure and 69 percent of the development budget. In 2010 it is anticipated that total ODA will be less than 40 percent of total expenditure and 70 percent of the development budget. The development budget captures all ODA, grants, loans and technical assistance for projects. The following overview presents ODA as a percentage of the development budget by sector.

- Health sector 33%
- Education sector 34%
- Law and justice sector 32%
- Infrastructure 35%
- Economic sector 36%
- Governance 30%

It is anticipated that donor support in these key sectors will increase over the next three years. Furthermore, in 2009, grants constitute 70 percent of total ODA while the loan component is 60 percent.

3.2. Debt

The Government has adopted a Medium Term Debt Strategy approach to stabilize debt volatility by managing debts and debt servicing. This strategy mitigates any debt blow outs. Fortunately in the last five years PNG enjoyed a budget surplus and has been able to reduce and sustain debts at levels considered feasible. However, with the LNG gas project and several other loan financed projects, debt and debt servicing will be stretched and tested. It is anticipated that until 2014 when revenue from the LNG begins to flow in, a trend of budget deficient financing may be undertaken.

3.3. Trade and investment

Trade and investment has also reached new dimensions since 2004. With trade regulations relaxed and competition embraced and promoted, investment and competition has increased. In the telecommunication industry, the country has seen the entry of a new mobile phone competitor – Digicel – which has a strong presence in the Caribbean and Pacific. This has stimulated the growth of mobile phone services. Before 2004, few Papua New Guineans owned a mobile phone. Today there are an estimated one million subscribers of which 50 percent are Digicel and the balance belonging to Bmobile, a partially Government owned entity.

The Pacific trade and investment relations have also seen a surge in investment from business entities from the Pacific. Investment from the Fiji business
community in pharmacy, supermarkets, computer technology, communication technology, and insurance has increased.

Furthermore, the aviation industry has seen the expansion of its airline, servicing some international routes in partnership with Virgin Airways. These examples are evidence of increased change of policy and rules to promote competition.

The two LNG projects, one in the Southern Highlands and the other in the Gulf Province creates the potential for a significant paradigm shift in PNGs investment and trade environment, and that of ODA. Bilateral and multilateral partnerships have risen to new heights with the Japanese taking major stakes in the LNG project in the Southern Highlands. The demand for skilled human resources and contractors is putting added pressure on the constrained supply side and may lead to an influx of international resources. There will also be added pressure on the rules and regulations for visas and work permits, and other related impediments to improved flow of resources into the country.

It is likely that the issue of PNG being categorized as a donor recipient will also become debatable. The potentially huge amount of revenue from LNG will undoubtedly lead to a decline in ODA and could make PNG a donor rather than a recipient of ODA. However, future external shocks could have detrimental effects on the economy.

3.4. MDG resource implications

Although some progress has been made in the methodology for the estimation of the resources required for achieving the MDGs, this applies mainly to MDG 1 to 5. Several problems need to be resolved before PNG can embark on an effective costing exercise for the MDGs.

Firstly, the MDGs are presently aligned with the targets and indicators of the MTDS 2005-2010. The government is committed towards achieving the targets incorporated in this MTDS. However, in 2010, the present MTDS will be replaced by the MTDP for the period 2010-2015. The preparations for the formulation of this plan have not yet started. In order to achieve optimal alignment between the new MTDP for the period 2010-2015, it is imperative that the formulation of this plan is undertaken as a collaborative exercise.

Secondly, in order to arrive at a meaningful estimate of the costs of achieving a particular MDG, its targets need to be defined clearly and unambiguously and refer to a well-defined period of time. Although this is the case with most national targets associated with MDG 1 to 5, most targets for MDG 6 and 7 remain ambiguous and imprecise. It is hoped that these national targets will be more precisely defined in the new MTDP 2010-2015. However, it is realized that, considering the great uncertainties with regard to the present situation and trends in most MDG 6 and 7 related indicators, it will be difficult to establish satisfactory targets for these MDGs at this stage.
Thirdly, implementation of the MDGs in PNG is mainly at the provincial and lower level. Because of the extremely large socio-economic, demographic and other differences at the provincial and sub-provincial level, it is imperative that the overall cost estimates are based on the cost estimates of implementation of the MDGs at the provincial and lower level. Consequently, during the implementation phase of the 2nd MDGR, an attempt should be made, in collaboration with the provincial authorities, to establish provincial level targets for each of the MDGs. These targets should also be incorporated in the provincial population and sectoral projections. Ideally, this exercise should form the base for the estimation of the costs of achieving the MDGs at the provincial and hence at the national level.

Finally it is imperative that throughout the costing exercise at all levels the following three factors are given full weight:

- The high cost in PNG of demographic investment, particularly in the areas of health, education and job creation in the modern sector
- The impact of the HIV/AIDS epidemic on the achievement of all MDGs.
- The “Millennium Gaps” within PNG have been widening. MDG costing should take this into account. Interventions should focus on the narrowing of the large gaps that exist within the country. Not only the government but ODA as well should start concentrating on narrowing the enormous gaps in development that exist between PNGs geographic subdivisions, the provinces, districts and LLGs.

4. Progress made towards achieving MDG 8

As in 2004, it has not been possible to quantify most of the global MDG 8 indicators that are relevant for PNG. The only quantitative information that has been made available refers to ODA as a percentage of total expenditure and as a percentage of the development budget and PNG’s debt burden as a percentage of GDP. This information has been summarized in Table VIII-1.

Table VIII-1: ODA as a % of total expenditure and the development budget in 2004 and 2010 (projected) and PNG’s debt burden as a % of GDP in 2004 and 2007

<table>
<thead>
<tr>
<th>Year</th>
<th>ODA Total Expenditure (%)</th>
<th>ODA Development Budget (%)</th>
<th>Year</th>
<th>Debt burden % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>64</td>
<td>69</td>
<td>2004</td>
<td>71</td>
</tr>
<tr>
<td>2010 (Proj.)</td>
<td>&lt; 40</td>
<td>&lt; 70</td>
<td>2007</td>
<td>35</td>
</tr>
</tbody>
</table>

Based on this very limited information, it is difficult to say to what extent PNG has made progress with regards to the achievement of MDG 8. However, a positive sign is that PNG’s debt burden has been halved in only three years.
PART C: SUMMARY AND CONCLUSION
1. **General**

In the Inaugural MDGR published in 2004, it was concluded that since the MDG base year (1990), PNG’s performance towards achieving the MDGs had been mixed. Although limited progress had been made in some areas, e.g. MDG 2 and MDG 4, for other MDGs there had been stagnation (e.g. MDG 1, MDG 3, MDG 5 and MDG 7) or possibly even deterioration (MDG 6). Moreover, since it had not yet been possible to localize MDG 8, the Inaugural MDGR only covered this MDG in general terms. The overall assessment was that progress during the first 14 years of the MDG cycle 1990-2015 had been disappointing and that PNG was not on track with regard to any of the MDGs.

Since the government considered the global targets associated with the MDGs as over-ambitious, unrealistic and therefore out of reach, it developed in 2003-2004 its own set of national targets and indicators associated with each of the MDGs. These so-called tailored or customized targets were thought to reflect the realities in country. These far more reasonable and achievable targets were incorporated in the Medium Term Development Strategy (MTDS) 2005-2010. In 2004, the MDGs were aligned the MTDS and the national targets of the MTDS were adopted for purposes of MDG monitoring.

The analysis underpinning the inaugural MDGR also confirmed that with regard to most of the MDG indicators, the disparities at the sub-national level (e.g. the provinces) as well as between the rural and urban sector were large. It also became clear that, after Independence, the gaps between the provinces had in some cases further widened e.g. with regards to early childhood mortality. Consequently, it was concluded that the most obvious, cost effective and easy way of making progress towards achieving most of the MDGs would be to focus on the low achievers amongst the provinces.

### 1. Status at a glance: PNG’s progress towards achieving the MDG’s.

A brief summary of the status of the MDGs in PNG in 2009 is presented in two summary tables, A and B. A comparison is made with the 2004 assessment. The 2009 assessment has once again been based on broad consultations and discussions with a large number of stakeholders. However, the final decision was made by the MDG Steering Committee.

Table A assesses PNG’s ability to achieve MDGs 1 to 7 by 2015. A distinction has been made between the ability to achieve the global goals and the national goals incorporated in the MTDS. The state of the supporting environment is also presented but separately for the policy and legislative environment, and implementation.
Table A: Likelihood of achieving the global and national targets associated with MDG 1 to 8 and the state of the supporting environment for each of these MDGs.

<table>
<thead>
<tr>
<th>MDG</th>
<th>Year</th>
<th>Likelihood of achieving global and MTDS targets</th>
<th>State of supporting environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MDG</td>
<td>MTDS</td>
</tr>
<tr>
<td>1</td>
<td>2004</td>
<td>Very unlikely</td>
<td>Potentially</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very unlikely</td>
<td>Likely</td>
</tr>
<tr>
<td>2</td>
<td>2004</td>
<td>Very unlikely</td>
<td>Potentially</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very unlikely</td>
<td>Potentially</td>
</tr>
<tr>
<td>3</td>
<td>2004</td>
<td>Very unlikely</td>
<td>Potentially</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very unlikely</td>
<td>Potentially</td>
</tr>
<tr>
<td>4</td>
<td>2004</td>
<td>Very unlikely</td>
<td>Potentially</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very unlikely</td>
<td>Likely</td>
</tr>
<tr>
<td>5</td>
<td>2004</td>
<td>Very unlikely</td>
<td>Potentially</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very unlikely</td>
<td>Very unlikely</td>
</tr>
<tr>
<td>6</td>
<td>2004</td>
<td>Very unlikely</td>
<td>Very unlikely</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very unlikely</td>
<td>Very unlikely</td>
</tr>
<tr>
<td>7</td>
<td>2004</td>
<td>Very unlikely</td>
<td>Very unlikely</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very unlikely</td>
<td>Very unlikely</td>
</tr>
</tbody>
</table>

The following ranking system has been used to assess PNG’s ability to achieve the global and national goals:

**Very likely, Likely, Potentially, Unlikely, Very unlikely**

The ranking in Table A shows that there are no major differences between the 2004 and 2009 rating of PNG’s ability to achieve the global and the national (MTDS) targets for each of the MDGs. In 2009, it remains very unlikely that any of the global targets will be achieved. In fact, since only six years are left before the first MDG cycle 1990-2015 comes to an end, it has become even more unlikely that the global targets will be achieved.

The situation concerning the national (MTDS) targets is slightly different. Based on new evidence that has become available, it has now become likely that the rather modest MTDS targets for MDG 1 and 4 will be achieved by 2015. On the other hand, new evidence from the 2006 DHS indicates that it has now become very unlikely that the targets for MDG 5 will be achieved by 2015.

The scale used for ranking of the supporting environment is:

**Very good, Good, Fair, Weak, Very weak**

In the rating of policy/legislation there is one change. Policy and legislation concerning MDG 7 has now been scaled down to fair. One reason is that, in 2009, the National Action Plans for the UNCCD and the UNCCC have still not yet been formulated. The same applies to the National Action Plan on Forests and
the National Forest Inventory. The ranking concerning the implementation of the policies and legislation has remained unchanged in 2009.

Table B assesses PNG’s monitoring and evaluation capacity for each of the MDGs. Generally, PNG’s data base is incomplete and deficient. This also applies to the database used for the monitoring of the MDGs. Many of the global as well as national (MTDS) indicators can, at this stage, not yet be measured. However, there are significant differences in the level of completeness and quality of the data available for monitoring individual MDGs. Moreover, for several indicators, information is only available at one point in time and a trend can therefore not be established.

The database for monitoring MDG 7 and 8 is particularly weak and that for MDG 5 and especially 6 is only marginally better. Monitoring of the MDGs and more generally of development in PNG heavily relies on the decennial censuses and the occasional (sample) survey. The institutional framework for the collection of most service statistics remains very poorly developed. Consequently, these systems do not provide much reliable information that can be used for the effective monitoring and evaluation of the MDGs. There is an urgent need to extend the number of measurable MDG indicators and this means drastic improvement in the service statistics of line departments especially the DOH, DOE, DEC, DAL, FA etc. Moreover regular surveys need to be conducted to collect information that cannot be obtained from service statistics, especially the monitoring MDG 1.

The scale used for ranking the monitoring and evaluation capacity for the MDGs is the same as that used for the assessment of the supporting environment, viz.: 

**Very good, Good, Fair, Weak, Very weak**

The assessment in 2009 is presented in Table B. The assessment of 2004 is again given as a comparison.

Since 2004, the monitoring and evaluation capacity concerning most MDGs has not changed by very much. However, with the introduction of the Annual Census by the DOE, the quality of educational statistics has improved. Similarly, since 2004, the number of testing sites for HIV/AIDS has drastically increased and this has undoubtedly led to some improvement in HIV/AIDS monitoring. Unfortunately, the database required for the monitoring of MDG 1 is far more restricted than in 2004. Since that time, very little new information has become available.
Table B: Monitoring and evaluation capacity for each of the MDGs

<table>
<thead>
<tr>
<th>MDG</th>
<th>Year</th>
<th>Data Collection</th>
<th>Statistical Tracking</th>
<th>Statistical Analysis</th>
<th>Statistics in policy</th>
<th>Monitoring Evaluation</th>
<th>Quality Survey Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2004</td>
<td>Weak</td>
<td>Weak</td>
<td>Fair</td>
<td>Fair</td>
<td>Weak</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>NA</td>
</tr>
<tr>
<td>2</td>
<td>2004</td>
<td>Fair</td>
<td>Weak</td>
<td>Weak</td>
<td>Fair</td>
<td>Fair</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Good</td>
<td>Fair</td>
<td>Fair</td>
<td>Good</td>
<td>Fair</td>
<td>Good</td>
</tr>
<tr>
<td>3</td>
<td>2004</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Fair</td>
<td>Weak</td>
<td>Fair</td>
<td>Fair</td>
<td>Weak</td>
<td>Weak</td>
</tr>
<tr>
<td>4</td>
<td>2004</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>Good</td>
</tr>
<tr>
<td>5</td>
<td>2004</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Weak</td>
</tr>
<tr>
<td>6</td>
<td>2004</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Weak</td>
</tr>
<tr>
<td>7</td>
<td>2004</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
</tr>
<tr>
<td>8</td>
<td>2009</td>
<td>Weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>Very weak</td>
<td>NA</td>
</tr>
</tbody>
</table>

2. Concluding comments

In 2009, limited progress has been made towards achieving some MDGs, but for others there has either been stagnation or even some deterioration. Generally, progress falls short of expectations. It is important to note that virtually all challenges that existed in 2004 still exist in 2009. These challenges remain enormous. Since 1990, the population has continued to grow at an average rate of more than 2 percent per annum. This requires huge demographic investment. In the meantime, service delivery, especially in the area of health, has not been able to cope with the continuously increasing demand. As a result, certain key indicators, especially those related to maternal health and mortality, present a disastrous picture of the health situation in the country, and possibly by extension of development.

PNG continues to face serious law and order problems as well as many socio-cultural challenges, especially gender based violence that hampers the attainment of the MDGs. To these are now added the challenges resulting from climate change. Unfortunately, some of these challenges have become even more critical impediments for development than they were in the past. The most important challenge in 2009 is undoubtedly the HIV/AIDS epidemic, which threatens to undo all progress that has so far been made.

The government has tried to address the challenges through appropriate interventions detailed in its policies and plans. It is hoped that the drastic improvement in the economy will lead to improvement in PNG’s demographic and socio-economic indicators. This will require large investment in human development and service delivery.
APPENDIX A: NATIONAL TARGETS (NT) AND INDICATORS (NI)

The targets and indicators in this appendix are the national (tailored) ones incorporated in the Medium Term Development Strategy 2005-2010.

**MDG 1: Eradicate extreme poverty and hunger**

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value</th>
<th>Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1990</td>
<td>Recent Year</td>
</tr>
<tr>
<td>1</td>
<td>% below poverty line</td>
<td>30</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>Poverty gap ratio</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Share (%) of poorest quintile in national consumption</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Gini coefficient</td>
<td>0.50</td>
<td>0.50</td>
</tr>
</tbody>
</table>

**NT 1: Decrease by 2015, the proportion of people below the lower poverty line by 10 percent (using the 1996 national average figure of 30 percent as the benchmark figure)**

1. % below poverty line
2. Poverty gap ratio
3. Share (%) of poorest quintile in national consumption
4. Gini coefficient

**NT 2: Increase by 2015, commercial agricultural production by 10 percent and subsistence agricultural production by 34 percent**

1. Underweight births as a % of total births
2. % underweight children under five years of age
3. % of people below minimum level of dietary energy consumption*
4. % of total deaths associated with malnutrition#
5. % of children under age 5 with height-for-age z score below minus 2
6. % of children under age 5 with weight-for-age z score below minus 2

Notes: @ p = projected; NHIS = National Health Information System; MNS = Micro Nutrients Survey
* Data for monitoring NI 7 not collected by NHIS and in 1996 and 2006 DHS
# Death certificate is available for only a very small proportion of all deceased persons.
MDG 2: Achieve universal primary education

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1990</td>
<td>Recent</td>
</tr>
<tr>
<td>11</td>
<td>Gross Enrollment Rate (%) primary level (Pre-reform structure)</td>
<td>74</td>
<td>75</td>
</tr>
<tr>
<td>12</td>
<td>Cohort Retention Rate (%) primary level (Pre-reform structure)</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>13</td>
<td>Youth Literacy Ratio (age 15-24) (%) *</td>
<td>61</td>
<td>62</td>
</tr>
<tr>
<td>14</td>
<td>Adult Literacy Ratio (age 15+) (%) **</td>
<td>41</td>
<td>50</td>
</tr>
</tbody>
</table>

Notes: @ SS-DOE = Service Statistics Department of Education
* These literacy ratios have been estimated indirectly from census data concerning the highest grade completed, using a cut-off point of grade 3.
* Additional indicator adopted in the MTDS. This ratio is a key component of the HDI

MDG 3: Promote gender equality and empower women

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1990</td>
<td>Recent</td>
</tr>
<tr>
<td>15</td>
<td>GPI of students in primary education#</td>
<td>0.96</td>
<td>0.90</td>
</tr>
<tr>
<td>16</td>
<td>GPI of literate youths (age 15-24)#</td>
<td>0.81</td>
<td>0.91</td>
</tr>
<tr>
<td>17</td>
<td>GPI of literate adults (age 15+)#</td>
<td>0.75</td>
<td>0.80</td>
</tr>
<tr>
<td>18</td>
<td>% of persons age 10+ in wage employment in the non-agricultural sector that are women*</td>
<td>NA</td>
<td>29</td>
</tr>
<tr>
<td>19</td>
<td>% of persons age 10+ with money income from any source that are women</td>
<td>12</td>
<td>2000 (Census)</td>
</tr>
<tr>
<td>20</td>
<td>% of seats in national parliament, held by women</td>
<td>0.9</td>
<td>2009</td>
</tr>
</tbody>
</table>

Notes: @ SS-DOE = Service Statistics Department of Education
* Indicators 15, 16 and 17 initially referred to the sex ratio in stead of the gender parity index (GPI)
* The 2004 MDG TWG recommended that this indicator should be changed to wage employment in all sectors.
### MDG 4: Reduce child mortality

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value</th>
<th>Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1990</td>
<td>Recent</td>
</tr>
<tr>
<td>NT 8: Reduce the Infant Mortality Rate to 44 per thousand by 2015</td>
<td>Infant Mortality Rate (per 1,000 live births)</td>
<td>72*</td>
<td>57</td>
</tr>
<tr>
<td>NT 9: Reduce the Under Five Mortality Rate to 72 per thousand by 2015</td>
<td>Under Five Mortality Rate (per 1,000 live births)</td>
<td>115*</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>% of 1-year old children immunized against measles per year#</td>
<td>72</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>% of 1-year old immunized against TA (3rd dose) per year#</td>
<td>66</td>
<td>61</td>
</tr>
</tbody>
</table>

Note: @DHS = Demographic and Health Survey. NHIS = National health Information System
* Indirectly estimated from lifetime fertility data collected in the 1980 Census
# Immunization is a major determinant of early childhood mortality. These indicators are essential for the monitoring of MDG 4.

### MDG 5: Improve maternal health

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value</th>
<th>Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1990</td>
<td>Recent</td>
</tr>
<tr>
<td>NT 10: Decrease the maternal mortality ratio to 274 per 100,000 live births by 2015</td>
<td>Maternal Mortality Ratio (per 100,000 live births)</td>
<td>739</td>
<td>733#</td>
</tr>
<tr>
<td></td>
<td>% of pregnant women attending antenatal clinics</td>
<td>76</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>% of births attended by skilled health personnel*</td>
<td>50</td>
<td>52</td>
</tr>
</tbody>
</table>

Note: @DHS = Demographic and Health Survey
* This MMR has been estimated from 2006 DHS data using the sisterhood method. The estimate refers to 1994
*The initial target included traditional birth attendants. TBAs have not been included.
### MDG 6: Combat HIV/AIDS, malaria and other diseases

<table>
<thead>
<tr>
<th>NT</th>
<th>Description</th>
<th>Value</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Have controlled by 2015 and stabilized the spread of HIV/AIDS by 2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Incidence rate of HIV/AIDS per 1,000 per year</td>
<td>0.0</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>2008 (NHIS)</td>
<td>Imprecise</td>
</tr>
<tr>
<td>29</td>
<td>Prevalence rate (%) of HIV/AIDS</td>
<td>0.01</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>2008 (NHIS)</td>
<td>Imprecise</td>
</tr>
<tr>
<td>30</td>
<td>Prevalence rate (%) of HIV/AIDS for persons aged 15-49*</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>-</td>
<td>Imprecise</td>
</tr>
<tr>
<td>31</td>
<td>Deaths due to AIDS per year (no.)</td>
<td>NA</td>
<td>5,995</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>2007 (NHIS)</td>
<td>None</td>
</tr>
<tr>
<td>32</td>
<td>Prevalence rate (%) of HIV/AIDS for 15-24 year old pregnant women*</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>33</td>
<td>Orphans (age 0-17) due to AIDS per year (nr)</td>
<td>NA</td>
<td>3,730</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>2007 (NHIS)</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NT</th>
<th>Description</th>
<th>Value</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Have controlled by 2015, and either stabilized or reversed the incidence of pneumonia, TB, malaria and other diseases by 2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Incidence rate of pneumonia per 1,000 per year$</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>2008 (NHIS)</td>
<td>Imprecise</td>
</tr>
<tr>
<td>35</td>
<td>Incidence rate of TB per 1,000 per year$</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>2008 (NHIS)</td>
<td>Imprecise</td>
</tr>
<tr>
<td>36</td>
<td>Incidence rate of malaria per 1,000 per year$</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>(Source)</td>
<td>2008 (NHIS)</td>
<td>Imprecise</td>
</tr>
<tr>
<td>37</td>
<td>Case fatality rate (%) of pneumonia per year</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>38</td>
<td>Case fatality rate (%) of TB per year</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>39</td>
<td>Case fatality rate (%) of malaria per year</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Notes:**

- NHIS = National Health Information System
- *Both national targets lack precision and need to be refined. The vagueness of these targets is related to the very incomplete data base on HIV/AIDS*
- *In 2008, the age of 44.6 percent of new 5,084 HIV infected persons was not reported*
- $The NHIS records the number of persons dying from pneumonia, TB and malaria but not the incidence rate of these diseases. Even the death statistics are very incomplete since they only cover deaths that occur in health institutions.*
## MDG 7: Ensure environmental sustainability

### NT 12: Implement the principles of sustainable development through sector specific programs 2010 and no later than 2015

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value 1990</th>
<th>Recent Year</th>
<th>Target Year (Source)</th>
<th>Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>Land area covered by primary forest (%)</td>
<td>NA</td>
<td>63</td>
<td>2009 (FA and FAO)#</td>
<td>None</td>
</tr>
<tr>
<td>41</td>
<td>Primary forest depletion rate (%) per year</td>
<td>NA</td>
<td>-0.4</td>
<td>2009 (FA and FAO)#</td>
<td>None</td>
</tr>
<tr>
<td>42</td>
<td>Reforestation rate (%) per year</td>
<td>1</td>
<td>3</td>
<td>2009 (FA)</td>
<td>None</td>
</tr>
<tr>
<td>43</td>
<td>Land area protected to maintain biol. diversity (ha)</td>
<td>NA</td>
<td>157,000</td>
<td>2008 (DEC)</td>
<td>None</td>
</tr>
<tr>
<td>44</td>
<td>Marine area protected to maintain biol. diversity (%)</td>
<td>NA</td>
<td>NA</td>
<td>2000 (DEC)</td>
<td>None</td>
</tr>
<tr>
<td>45</td>
<td>Land area rehab. to ensure biodiversity (mines) (ha)</td>
<td>71</td>
<td>444</td>
<td>2000 (DEC)</td>
<td>None</td>
</tr>
<tr>
<td>46</td>
<td>GDP per unit of energy use (as proxy for energy efficiency)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>47</td>
<td>Carbon dioxide emissions (per capita)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
</tbody>
</table>

### NT 13: By 2020, increase commercial use of land and natural resources through improvements in environmentally friendly technologies and methods of production.

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value 1990</th>
<th>Recent Year</th>
<th>Target Year (Source)</th>
<th>Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>Land used for commercial purposes (%)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>49</td>
<td>Cultivable land used for agricultural production (%)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>50</td>
<td>Agricultural exports as % of all exports</td>
<td>NA</td>
<td>25</td>
<td>2008 (DAL)</td>
<td>None</td>
</tr>
<tr>
<td>51</td>
<td>Value of agricultural exports as a % of GDP</td>
<td>NA</td>
<td>19</td>
<td>2008 (DAL)</td>
<td>(None)</td>
</tr>
<tr>
<td>52</td>
<td>Value of non-agriculture exports as a % of GDP</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>53</td>
<td>% of comm. operations using sustainable practices</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
</tbody>
</table>

### NT 14: Increase to 60 % the number of households with access to safe water by 2010 and to 85 % by 2020 (as per definition from DOH)

<table>
<thead>
<tr>
<th>NI</th>
<th>Description</th>
<th>Value 1990</th>
<th>Recent Year</th>
<th>Target Year (Source)</th>
<th>Target 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>Districts that have implemented a water policy (%)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>55</td>
<td>Total meters of operating water pipes</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>56</td>
<td>Total number of clean water storage tanks and wells in use</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>57</td>
<td>Water pumps (down to the districts level) (nr)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>58</td>
<td>Liters of water supplied to users</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>59</td>
<td>Households with sustainable access to safe water source (%)</td>
<td>NA</td>
<td>16</td>
<td>2006 (DHS)</td>
<td>73</td>
</tr>
<tr>
<td>60</td>
<td>Households connected directly to safe water supply (pipe/tank) (%)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
<td>None</td>
</tr>
</tbody>
</table>
**NT 15: By 2020, to have achieved a significant improvement in the lives of disadvantaged and vulnerable groups in urban areas.**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>Rural to urban net migration (%)*</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>62</td>
<td>Households with access to electricity, safe water and sanitation, health and education services by geographic sector, as well as by CU type (%) &amp;</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>63</td>
<td>Unemployment rate (%) by geographic sector and by sex. x</td>
<td>NA</td>
<td>P: 2.8 M: 4.3 F: 1.3</td>
<td>2000 (Census)</td>
</tr>
<tr>
<td>64</td>
<td>Urban crime rate (%) including prostitution and drug trafficking</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>65</td>
<td>Rate of urban/peri-urban households with access to secure tenure</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>66</td>
<td>Population classified as vulnerable or disadvantaged by geographic sector (%)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>67</td>
<td>Households using wood as the primary energy source by geographic sector (%)</td>
<td>NA</td>
<td>NA</td>
<td>-</td>
</tr>
</tbody>
</table>

**Notes:**
- FA = Forest Authority; DEC = Department of Environment and Conservation; DAL = Department of Agriculture and Livestock; DHS = Demographic and Health Survey
- Other sources provide very different estimates
- Water supply to household or neighborhood
- Basic in-, out- and net-migration tables for urban areas based on 2000 Census can, but have not been produced
- Combination of access to these different services not available from 2006 DHS.
- Furthermore, survey data for the urban sector is not published by CU type
- This unemployment rate for persons in the urban sector has been derived using the ICLS definition. If the ILO definition is used, the unemployment rate is 13.6 %