MOZAMBIQUE

National Human Development Report 2005

Human Development to 2015

Reaching for the Millennium Development Goals

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Preface

The Millennium Development Goals (MDGs) were drawn up during the Millennium Summit held in New York on 6-8 September 2000, and consolidated through the "Road map towards the implementation of the United Nations Millennium Declaration: Secretary-General's Report to the General Assembly" in 2001.

The Millennium Declaration reflects the concerns of 147 Heads of State and Government (including from Mozambique), and of 191 countries, which took part in this largest meeting ever of world leaders.

Using the symbolic strength of the millennium "to meet the real needs of the people of the entire world", the world leaders restated their commitment to the values and principles of the United Nations, concerning the preservation of human dignity, equality and justice on a global scale.

"We shall spare no effort to free our fellow men, women and children from the abject and dehumanising conditions of extreme poverty to which more than a billion of them are currently subjected. We are committed to making the right to development a reality for everyone and to freeing the entire human race from want," stressed the Millennium Declaration.

To reach this desired end, the Millennium Declaration set out eight MDGs, which cover social and economic sectors and crosscutting themes which are basic for the eradication of poverty and hunger within states and for a global partnership appropriate in an interconnected world.

In order to measure progress towards attaining each MDG, specialists from the UN Secretariat, the International Monetary Fund (IMF), the Organisation of Economic Cooperation and Development (OECD) and the World Bank, established by consensus a framework of 18 targets and 48 indicators.

These indicators are essential instruments for guiding governments and states, the private sector and civil society organisations (CSOs) in defining national strategies and plans seeking to eliminate poverty and promote economic growth.

In the final analysis, the goal in view should be **human development,** understood, first and above all, as the possibility of people living the kind of lives they choose – and with the provision of the instruments and opportunities necessary for them to make their choices, as has been defined in the Human Development Reports, published annually by the UNDP since 1990.

Complementing the areas covered by the MDGs, the global Human Development Reports have, in recent years, strongly argued that the question of "expanding choices" is as much a political as an economic question – from the protection of human rights to democracy (UNDP, 2004).

The intrinsic relationship between this dichotomy and the MDGs seems evident: success in the struggle against poverty implies the strict application of the principles of good governance, which are rooted in transparency, accountability, strategic focusing and participation by all relevant stakeholders in taking decisions and carrying them through.

Mozambique has actively declared its commitment to these political principles, and to the MDGs, through PARPA, the government's five-year programme, and Agenda 2025. At regional level this commitment is manifest in the New Partnership for Africa's Development (NEPAD), which expresses the commitment by African leaders to the principles of democracy, the open economy, good governance, growth with justice, and the culture of peace.

A clear and strong political commitment from the Government of Mozambique seeking to reduce the prevalent levels of absolute poverty, since the end of the civil war in 1992, has resulted in an encouraging reduction in the Human Poverty Index (HPI) from 55.9 percent in 1997 to 48.9 percent in 2003 – that is, a 13 percent reduction in levels of privation, measured by the likelihood of surviving to the age of 40, acquisition of knowledge, and a decent living standard.

The commitment of the Mozambican government in adopting and effectively implementing a series of well articulated policies aimed at poverty reduction, has found an anchor of great importance from international development aid partners. This is the Programme Aid Partnership (PAP), through which the development aid partners have facilitated articulation and harmonization of the methods of financing poverty reduction, via a partnership based on frank and open dialogue. This experience is already seen as an example to be replicated in other African countries and beyond.

The present Mozambique National Human Development Report 2005, the fifth since 1997, was produced with this general context in mind: to pose the relevance of the MDGs and their close connection with national development strategies, while at the same time reflecting on the challenges that the country must face if it is to meet the Millennium targets by 2015.

While the government and the UNDP have been regularly producing joint reports on progress towards the MDGs, which basically evaluate the advances made in the country towards the established targets, at the same time as identifying the main challenges and priorities for action, this present report is an independent

intellectual reflection on this same challenge, making conjectures on the strengths, opportunities, weaknesses and threats that can be detected in specific areas covered by the MDGs.

The UNDP started the process of reporting human development in 1997 with SARDC Mozambique, which produced the first four quality reports (1998, 1999, 2000, 2001) as the implementing agency.

To guarantee broad participation in the process and the product, a partnership and consultation methodology was established. The National Statistics Institute (INE) has produced the data for the Human Development Index (HDI) indicators up to 2004. These form a reliable national statistical basis, which is essential.

The UNDP launched a competitive bidding process for a contract to produce a series of National Human Development Reports covering the period 2004-2006. The contract was again awarded to SARDC Mozambique, in partnership with the Higher Institute of International Relations (ISRI). Thus the present report results from preparation and production under a close partnership between ISRI and SARDC, working in close collaboration with the INE.

A Consultative Group of eminent persons, representing various spheres of Mozambican society, including academics and researchers, leaders of public institutions (of the State and civil society), media professionals and others, worked tirelessly, ensuring conceptual guidance and an effective methodology for the Technical Working Group of specialists in the various themes.

Structurally interdependent, the identification of the eight MDGs by the Millennium Project addressed merely technical ends, in order to visualise the challenges posed on the path to a better world for all by 2015.

For this reason, the methodological option taken for the present report has resulted in a document that, taken as a whole, evaluates – and above all, discusses: (i) the conditions of (under) development and war in Mozambique in 1990, the year that is the reference point for the MDGs; (ii) the structural and conjectural conditions of the present; (iii) the implications, in terms of the pace of growth and development, in order to achieve each of the eight MDGs by 2015; and, finally (iv) once the progress needed is identified, the probabilities of the country attaining each MDG.

In specific terms, the present report deals with the themes relevant to the following MDGs:

1. Eradication of absolute poverty and hunger;
2. Achieving universal basic education;
3. Promotion of gender equality and empowerment of women;
4. Reducing child mortality;
5. Improving maternal health;
6. Combating HIV and AIDS, malaria and other diseases;
7. Guaranteeing environmental sustainability; and
8. Building a global partnership for development.

Like all the human development reports, this is an independent study, intended to stimulate debate and discussion on a series of important themes that a general international consensus regards as essential for the reduction of absolute poverty by 2015, the date established for all countries as the target.

This report was prepared for UNDP by the following partner institutions:

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
AIDI	Integrated Care for Childhood Diseases
CAP	Knowledge, Attitudes and Practices
CSOs	Civil Society Organisations
DNA	National Water Board
ECA	Agricultural Marketing Strategy
EP1	Lower Primary Education
EP2	Upper Primary Education
EPC	Complete Primary School
ESAN	Food Security Strategy
FAO	United Nations Food and Agriculture Organisation
G8	Group of the seven most industrialised countries in the world (Canada, France, Germany, Great Britain, Italy, Japan and the United States), plus Russia
G20	Forum of Civil Society Organisations who participate in the Poverty Observatories
GATV	Counselling and Voluntary Testing Office (for HIV and AIDS)
GDI	Gender-related Development Index
GDP	Gross Domestic Product
GHDR	Global Human Development Report
HDI	Human Development Index
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
HPI	Human Poverty Index
HYCOS	Hydrological Cycle Observation System
IAF	Household Survey
ICM	Mozambique Cereals Institute
ICT	Information Communication Technologies
IDS	Demographic and Health Survey
IMF	International Monetary Fund
INE	National Statistics Institute
INGC	National Disaster Management Institute
IPCC	International Panel on Climate Change
ISRI	Higher Institute of International Relations
MICOA	Ministry for the Coordination of Environmental Action
MDGs	Millennium Development Goals
MISAU	Ministry of Health
MOPH	Ministry of Public Works and Housing
MOZAL	Mozambique Aluminium Smelter
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organisations
NHDR	National Human Development Report
OE	State Budget
OECD	Organisation for Economic Cooperation and Development
OPEC	Organisation of Petroleum Exporting Countries
PARPA	Action Plan for the Reduction of Absolute Poverty
PAV	Expanded Vaccination Programme
PEE I	Education Strategic Plan
PEE	Strategic Plan for Roads
PES	Economic and Social Plan
PNA	National Water Policy
PPP	Parity Purchasing Power
PPE	Education Strategic Plan
PQG	Government Five Year Programme
PRE	Economic Recovery Programme
PRSP	Poverty Reduction Strategy Paper
PVD	Developing Countries
QUIBB	Questionnaire on Basic Indicators of Well-Being
RAP	Annual Poverty Report
ROCS	Roads and Coastal Shipping Project
RSA	Republic of South Africa
SAAJ	Adolescent and Youth Friendly Services (for HIV and AIDS)
SADC	Southern African Development Community
SARDC	Southern African Research and Documentation Centre
SETSAN	Food and Nutritional Security Technical Secretariat
SISTAFE	State Financial Administration System
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
TB	Tuberculosis
TIA	Rural Household Survey
TMC	Child (under five) Mortality Rate
TMI	Infant Mortality Rate

Chapter 1

Mozambique and the Millennium Development Goals

Antecedents of the MDGs

The 1980s were a particularly bleak period for development, seen in a global perspective. The economic crisis that plagued most developing countries drew the world's attention to a serious and profound reflection on the need for an integrated and joint approach to the problems affecting over two-thirds of the inhabitants of the globe.

The causes of the crisis lay in a combination of internal and external factors. Among the internal factors, there were errors in the development and economic management policies adopted, while deterioration in the terms of trade for primary products, protectionist measures taken by developed countries against exports from the developing world, and the sharp increase in interest rates on the international market in the late 1970s, which thrust many developing countries into a foreign debt crisis, stand out among the external factors.[1]

The social dimension of the crisis became visible in the late 1980s, through the existence of millions of people suffering from chronic hunger, very high infant mortality rates, and low percentages of the population with access to clean water, education and health care. Students of socio-economic issues named this reality a crisis of development.

Development is defined by the World Bank (1991:31) as a process expressed in the sustainable increase in living standards that covers material consumption, education, health and environmental protection, regardless of gender, race, ethnicity, religion, region or country.

Since reasons of progress, peace and security, and international stability made it imperative to reverse the socio-economic picture displayed by developing countries, the United Nations undertook a series of initiatives in the 1990s, seeking the adoption of adequate visions and strategies to address the challenge. In this context, mention can be made of a series of conferences and summits, which resulted in undertakings from the international community and the adoption of concrete action plans, namely:

- The World Summit on Children, held in 1990, in New York;
- The World Conference on Education for All, which took place in 1990, in Jomtien;
- The UN Conference on Environment and Development, held in 1992, in Rio de Janeiro;
- The International Conference on Population and Development, organized in 1994, in Cairo;
- The World Summit on Social Development, held in 1995, in Copenhagen;
- The Fourth World Women's Conference, held in 1995, in Beijing;
- The World Food Summit, held in 1996, in Rome;
- The Second UN Conference on Human Settlements, held in 1996, in Istanbul;
- The United Nations World Summit on HIV/AIDS (UNGASS), held in 2000, in New York;
- The Millennium Summit, held in 2000, hosted by the UN in New York;
- The World Summit on Sustainable Development, held in 2002, in Johannesburg; and
- The Millennium Review Summit, held in 2005, at the UN in New York.

The need to place human beings at the epicentre of development which involves eradicating poverty, creating jobs, social integration free of preconception and discrimination, was the main focus of these United Nations initiatives.

The findings, recommendations and undertakings issuing from these series of UN initiatives, seeking to improve global development, culminated with the adoption of the Millennium Declaration in September 2000, during the Millennium Summit, held at the UN headquarters in New York.

The Declaration was adopted by all 189 member states of the UN, 147 represented by their heads of

1 The dominance of loan contracts at floating rates in the 1970s was one of the main causes of the crisis (for more details, see Krugman & Obstfeld, 1997: 710).

state or government. Later, all 191 UN member states adopted the Millennium Declaration.

The Declaration was followed by the adoption of the Millennium Development Goals (MDGs). These provide a common global vision of a world where the right of all peoples to development is respected. In general, the MDGs should be achieved over a period of 25 years, taking 1990 as the starting point.

In 2005, a Practical Plan for Achieving the MDGs, entitled *Investing in Development*, was published. This report makes precise recommendations to countries, governments, civil society organisations and international donors, on the practical actions needed to achieve the development targets envisaged for each of the eight MDGs.

Headed by Jeffrey Sachs, Director of the Millennium Project, the report teams travelled for three years through various regions of Africa, Asia, Latin America and other parts of the world, gathering information and contributions from academics, development experts, scientists, political leaders and policy makers, which resulted in drawing up a practical plan for attaining the MDGs.

Thus, in its overall vision, the report forecasts for 2015 a world dramatically different from that of today, if the MDGs are achieved: "More than 500 million people will be lifted out of extreme poverty. More than 300 million will no longer suffer from hunger… Rather than die before reaching their fifth birthdays, 30 million children will be saved. So will the lives of more than two million mothers."[2]

For each of the MDGs, there are targets and specific indicators that allow better assessment of performance by each country in the context of the international development framework, based on a common platform. There are 8 goals, 18 targets and 48 indicators. The objectives and the targets are fixed, while the indicators may undergo numerical changes resulting from an evaluation that better reflects reality.

Box 1.1 Millennium Development Goals

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

Importance of the MDGs as a development framework

The design of strategies for the advancement of developing countries has been the subject of deep reflections and a wide variety of suggestions. However, although the positions argued reflect different visions and viewpoints, it is common sense that the key to success for whatever strategy may be adopted lies, to a large extent, in partnership between the developing countries themselves on the one hand, and between them and the developed nations on the other.

Without any pretence of analysing the debate around the concept of development, it is important to recall that it is highly controversial and generally presupposes desirable economic and social progress. But the specific nature of each country in terms of the available natural resources, the technical skills of its inhabitants, culture, religion, geography and history, are determinant in judging what is desirable.

In this context, development seen from the perspective of one country may well be different from how it is understood by others, even when analysing the same reality. Starting from this assumption, the existence of differences in the vision and interpretation of the facts inherent in development is to be accepted, which frequently makes it difficult to establish a common platform of understanding in approaching the problems of developing countries.

The MDGs fill this gap. Indeed, the MDGs are a basis for a less controversial and more objective relationship between developed and developing countries in their responses to the current challenges of development, namely poverty reduction, improving health and education conditions, and promoting peace, human rights, gender equality and environmental sustainability.

Taking into account the recommendation to harmonise national and regional strategies with the MDGs, the definition of targets and indicators for each goal of this international framework allows better management, monitoring and evaluation of the national and regional strengthening of the economies of developing countries. On the other hand, the MDGs facilitate clear delimitation of the scope and level of intervention by developed countries in developing ones, in the context of their development cooperation policy.

2 In the UN Millennium Project, *"Investing in Development: A Practical Plan to Achieve the Millennium Development Goals,"* overview.

Aligning the MDGs to national strategies and regional development initiatives will make it possible to undertake with some ease international comparison of the performance of the economies of developing countries, and hence determine priorities and levels of assistance to them from the international community. The Millennium Project report of Jeffrey Sachs stressed, "For the billion-plus people still living in extreme poverty, the MDGs are a life and death issue. Extreme poverty can be defined as 'poverty that kills', depriving individuals of the means to stay alive in the face of hunger, disease and environmental hazards" (Sachs, 2005, p 4).

It is also important to stress the multiplier effect of the MDGs. An example of this is the fact that the willingness expressed by the international community, within the context of the MDGs, to support the African continent is one of the premises of the New Partnership for Africa's Development (NEPAD).

Other, no less important, examples were the high level forums of Monterrey on Development Finance, the Rome Declaration on Harmonisation,[3] and the Paris Declaration on the Effectiveness of Aid[4] – ownership, harmonisation, alignment, results and mutual responsibility – held in March 2002, February 2003 and March 2005, respectively. Development challenges took primacy at these meetings, mainly focusing on mobilising resources to achieve the MDG targets. Also in this context, the summit of the G8 took place in Gleneagles, Scotland, in July 2005 – that is, the seven most industrialised countries in the world, plus Russia. Among others, the points agreed by the G8[5] dealt with development in Africa, and questions linked to climate change. This summit preceded the Millennium Review Summit held in New York, in September 2005.[6]

The Mozambican context

Mozambique is one of the countries that have recorded high rates of economic growth since the late 1990s. As from 1995, GDP began to grow very significantly, and this growth was in excess of 10% in 1997, 1998 and 2001. Over the same period, and particularly as from 1997, other macro-economic indicators also showed the country's good economic performance. Between 1997 and 2003 the country experienced an average annual economic growth rate of about 8%, and the government managed to ensure control over inflation, and currency stability.

This scenario has created an environment propitious for investment, both national and foreign. The country has been attracting large-scale investments such as MOZAL.[7] This is an aluminium smelting company of mixed capital – namely Australian through BHP-Billiton, Japanese through Mitsubishi, South African through the Industrial Development Corporation (IDC), and Mozambican through the State (4%). It is estimated that, once it is producing at full capacity, MOZAL's contribution to GDP, including from its indirect effects, will be about 10%.

The flow of debt (interest and amortization of capital)[8] and of profits[9] makes its impact on the national income very modest. MOZAL has the status of an Industrial Free Zone, and is therefore exempt from all indirect taxes. The debt service and the transfer of profits also limit improvement in the balance of payments.

Since this is a capital intensive industry, the impact of MOZAL in terms of employment[10] does not meet the expectation and needs of an economy with a very high unemployment rate, as is the case of Mozambique. This has been the subject of countless reflections and debates on what type of investments (labour intensive vs capital intensive) are the priority, taking into account the socio-economic reality of the country. But, in general terms, MOZAL has proved important for Mozambique, not only because of the weight of its production in the GDP, but also for what it represents for the increase in confidence of major foreign investors in the Mozambican market.

Administrative barriers that limit the growth of the private sector in Mozambique have hindered macro-economic advances. Removing these constraints is

3 www.worldbank.org/harmonization/romehlf/documents/Rome Declaration.pdf
4 http://www.oecd.org/dataoecd/11/41/34428351.pdf
5 For further details on the G8 and its summits, see http://www.g8.gov.uk
6 http://www.un.org/summit2005, or www.runic-europe/portuguese/calendar/archive9-10-2005.htm
7 Construction of MOZAL began in 1998, and it entered production in June 2000. Investment in the first phase was 1.3 billion US dollars. Later, a further billion dollars was invested to double MOZAL's productive capacity as from 2004 – that is, from a quarter of a million to half a million tons of aluminum ingots a year.
8 Fifty per cent (50%) of the investment in MOZAL in Phase I came from loans and 12% from subordinate loans. Own capital was 38% of the total investment, shared between Billiton (47%), Mitsubishi (25%), the IDC (24%), and the Mozambican state (4%).
9 Only 4% of the profits, when realized, will be for the Mozambican government.
10 It was the factory's construction phase (including the expansion phase) that absorbed most labour. But when the smelter is producing at full capacity its capital intensive nature becomes clear.

imperative in order to sustain the high growth rates of recent years, thus allowing the country to respond to its countless development challenges.

The Mozambican government defines as the priority for its governance the reduction of absolute poverty and relaunching economic and social development. The strategy to attain this goal is enshrined in the Action Plan for the Reduction of Absolute Poverty (PARPA), the executive's main instrument that puts the short- and medium- term Government programme into operation. Apart from this, the government also has at its disposal Agenda 2025, a document on a long-term vision of development for Mozambique, and the strategic options for attaining the country's development objectives, produced jointly by state and non-state actors.

In 2001, the government approved the Action Plan for the Reduction of Absolute Poverty (PARPA) for the 2001-2005 period.[12] The specific objective of PARPA is to reduce the incidence of poverty from about 70% to less than 60% in 2005.[13] The PARPA priority areas are the following: (i) education; (ii) health; (iii) agriculture and rural development; (iv) basic infrastructure; (v) good governance, and (vi) macro-economic and financial management.

The main priorities in pursuing the objectives of PARPA are:

- improving the quality and establishing conditions for increased access to education and healthcare (in the case of health one should also stress greater efforts in combating endemic diseases, such as HIV and AIDS, malaria, diarrhoeal diseases, tuberculosis and leprosy);
- increasing the opportunities for income generation, particularly for households;
- rehabilitation and construction of basic infrastructure;
- decentralisation and removal of bureaucratic obstacles in public administration, as well as strengthening the capacity and efficiency of the legal and judicial system;
- maintaining low levels of inflation;
- mobilization of budgetary resources additional to national capacity;
- promotion of international trade; and
- better management of foreign and domestic debt.

Implementation of this plan has been marked by achievements that have had a positive impact, judging from the results achieved in poverty reduction.

Human capital as the key to success of development strategies is one of the main government priorities in implementing the programme. Hence the primacy of the education and health sectors in putting the government programme into operation through PARPA, reflected in the distribution of the General State Budget by sector. Significant investments in these sectors are of key importance for human development in Mozambique, because they favour an increase in longevity, of knowledge and, albeit indirectly, of income as measured by real per capita GDP.

Box 1.2 Defining poverty in Mozambique

In Mozambique, PARPA I defines poverty as "the inability of individuals to ensure for themselves and their dependents a series of minimum basic conditions for subsistence and well-being, according to the norms of society."

In its 2004 Annual Poverty Report (RAP), civil society challenged this definition, on the grounds that it thrusts onto citizens and their families the responsibility for their poverty, although it is known that there are poor people capable of ensuring the basic conditions for subsistence and well-being but who are prevented from doing so.

Thus the 2004 RAP proposes a new definition, in which poverty is seen as "the impossibility, because of incapacity or lack of opportunity, of individuals, families and communities, of gaining access to the basic minimum conditions, according to the basic norms of society."

The national poverty line is set at the level of particular nutritional standards, established through measuring the consumption value of foodstuffs equivalent to 2,150 kilocalories per person per day, together with non-food needs, and imputed values for the use of durable goods such as housing. This excluded consumption of goods provided free of charge by the public sector, and of those produced at home (INE 2005).

In monetary terms, these needs are expressed as expenditure that varies between 5,473.00 MT and 19,515.00 MT per person per day, equivalent to 21.8 and 78 US cents respectively, at the December 2005 exchange rate.[11]

Current stage of the MDGs in Mozambique

Since Mozambique adopted the MDGs the government has been concerned to adjust its programmes

11 The variations depend on the reality of the prices of foodstuffs in the various regions of the country covered in the IAF sample and their patterns of consumption.

12 The 2001-2005 PARPA is Mozambique's first PRSP (Poverty Reduction Strategy Paper). This document was preceded by the 2000-2004 PARPA, regarded as an interim PRSP. PARPA II, which is currently being drafted, should be implemented from 2006 to 2009.

13 The 1996/1997 Household Survey (IAF) found that 69.4% of the Mozambican population was living below the poverty line.

and development plans to this international framework. In the balance sheets of those plans there has been a concern to undertake a reflection on the progress made towards the MDG targets.

Taking as our reference point the balance sheet of the Economic and Social Plan (PES) of 2004, the current scenario in Mozambique may be presented in the following terms.

Goal 1 Eradicate extreme poverty and hunger

Target 1 *Halve the proportion of people living below the national poverty line.*

Target 2 *Halve the proportion of people who suffer from hunger.*

As mentioned earlier, the incidence of poverty fell to 54% in 2002/2003, against 69.4% recorded in 1996/1997. This evolution makes it possible to nourish hopes of achieving the above-mentioned targets, particularly if the economy continues to grow at an average annual rate of 8%, as has happened in recent years.

Goal 2 Achieve universal primary education

Target 3 *Ensure that all children, boys and girls alike, will be able to complete a full course of primary schooling.*

The net school attendance rate in the lower cycle of primary education EP1,[14] recorded in 2004, was 75.6%. At first sight, this figure is very positive for the country to march firmly in direction of the millennium goals, particularly when we consider that this indicator was only about 43.6% in 1999. However, this reality is darkened by the fact that repetition rates remain high, reaching 21% in 2004.

It thus seems pertinent to link quantity and quality in visualising the strategies for pursuing this goal.

Goal 3 Promote gender equality and empower women

Target 4 *Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015.*

The proportion of girl pupils attending school remains lower than that of boys, despite the government's adoption of an approach focused on eliminating gender disparities in access to education in the context of PARPA. In 2003, 45.3% of pupils in EP1 and 40% in EP2 were girls. These percentages underwent almost no change in 2004, when the number of girls in EP1 was 45.9% and in EP2 40.7%.

If we bear in mind that women are the majority of the Mozambican population, these differences reflect a much more serious reality than the numbers indicate.

Goal 4 Reduce child mortality

Target 5 *Reduce by two-thirds the under-five mortality rate.*

Data from the 1997 Demographic and Health Survey (IDS) indicate that child mortality, reflecting the probability of dying before the age of five, was 219 per thousand live births. In subsequent years there has been a series of actions by the health sector, particularly the extension of vaccination coverage, which resulted in a reduction in deaths in this age group to 178 per thousand in 2003.

According to the INE, this 18% improvement is a positive indication of the chances of the country achieving the millennium goals.

Goal 5 Improve maternal health

Target 6 *Reduce by three-quarters the maternal mortality rate.*

It is estimated that the maternal mortality rate, which indicates the number of maternal deaths for each 100,000 live births, was 1,065 in 1995. However, the latest data on record, from the Household Survey (IAF) of 2003, indicated a very significant reduction, with the ratio falling to 408 per 100,000 births.

Mozambican specialists in this field regard this development as a great advance in the direction of achieving the MDGs.

Goal 6 Combat HIV and AIDS, malaria and other diseases

Target 7 *Halt and begin to reverse the spread of HIV and AIDS, the incidence of malaria and other major diseases.*

Target 8 *Halt the incidence of malaria and other endemic diseases, and reverse the current situation.*

The spread of HIV and AIDS remains a very worrying reality in Mozambique, and there are still no signs that allow us to see any reversal of this picture. In

14 EP1: Lower primary education (teaches first to fifth grade); and EP2: upper primary education (teaches sixth and seventh grades).

1999, AIDS killed 41,000 people, and estimates point to a growth trend in the following years. The HIV prevalence rate, among people aged between 15 and 49, in 2004 reached 16.2%. According to the INE data, there were very probably more than 225,000 new infections in 2005, though by 2010 the figure is expected to drop to 223,000 new infections a year. If we consider that, in general, actions to fight against the pandemic have proved ineffective, there are reasons to question this projection.

The strategy for combating HIV and AIDS adopted by the government rests on holding education, information and communication campaigns, establishing conditions for counselling and voluntary testing, and treating pregnant women with antiretroviral drugs to prevent vertical transmission of the virus (that is, transmission from mother to child). In 2004 about 4,000 women benefited from this treatment.

The medical literature shows that tuberculosis is one of the infections that most readily appear in HIV-positive people. In Mozambique, as in many other sub-Saharan African countries, HIV and AIDS have been provoking a continual growth in cases of tuberculosis. Data from the Ministry of Health indicate that in 1998 one out of every three cases of tuberculosis was associated with HIV and AIDS. By 2004 this relation had risen to one in every two cases of tuberculosis.

Faced with this picture, the 55th meeting of the WHO Regional Committee, held in Maputo in 2005, declared that tuberculosis is an emergency in Africa.

As with HIV and AIDS, so in relation to malaria and other diseases there does not seem to be enough reliable information for a reflection of the current reality in the light of the MDGs. However, some data can be noted that show a trend for the number of malaria cases to increase. In 1999 there were 2.3 million cases, and five years later estimates were for 4.4 million cases. As for tuberculosis, the data available and the situation described above show that, if the country intends to start reducing the burden of this disease, and reverse the current tuberculosis situation, moving towards the indicators defined for 2015, greater attention must be paid to this endemic disease, particularly in the communication strategies adopted.

That is, it is very important that the education and information messages on HIV and AIDS shine more light on the TB/AIDS link, showing the strong connection between the diseases.

Goal 7 Ensure environmental sustainability

Target 9 *Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.*

Target 10 *Halve the proportion of people without access to safe drinking water.*

Target 11 *Improve significantly living conditions of slum dwellers.*

The conditions of extreme poverty in which the majority of the Mozambican people still live are expressed in enormous pressure on natural resources, since these are the main resources for the survival of most households. At the same time, a growing and uncontrolled expansion of the urban centres results in the continual degradation of the living conditions of their inhabitants, including in terms of sanitation and access to clean drinking water.

In fact, the most recent data indicate a worrying reduction in the percentage of people with access to piped drinking water inside their homes, in the neighbourhood, from a public standpipe, or from a protected well. In 2001, about 67% of the urban population had access to safe drinking water, but this figure dropped to 58% between 2003 and 2005 (INE, 2005). This fact must reflect great population pressure on urban areas, due to the phenomenon of migration from the countryside to the cities.

This data shows that Mozambique faces strong challenges if it is to meet the targets envisaged for this goal by 2015.

Goal 8 Develop a Global Partnership for Development

Seven targets were established for this goal, with the following fundamental purposes:

- *Development of an open and just international trading system;*
- *Addressing the special needs of the Least Developed Countries;*
- *Addressing the special needs of landlocked developing countries and small island developing states;*
- *Deal comprehensively with the debt problems of developing countries, in order to make debt sustainable in the long term;*
- *Guarantee decent and productive work for young people;*
- *Probe access to affordable essential drugs in developing countries; and*

- *In cooperation with the private sector, make available new information and communications technologies.*

The basic argument for this goal lies in the fact that the development of a country surpasses its own internal institutional capacity, and also becomes a function of the structure of the international community. The way in which states, multinational companies and international organisations handle their exchanges and interact with each other influences a country's individual development capacity.

Thus, in the case of Mozambique, a country that is highly dependent on foreign aid, the development of effective and coordinated partnership frameworks has proved to be of the greatest importance, with the purpose of channelling aid towards the objectives of the fight against poverty.

Mozambique's development partners have designed and been involved in a highly participatory system of dialogue and coordination, in the context of the struggle against poverty. A group of 17 donor countries, known as the G-17, currently provide support directly to the Mozambican state budget. The reason for direct budget support is to ensure efficient and effective financial backing for the implementation of PARPA. This coordination scheme, recognised by some multilateral cooperation institutions as "an excellent example of partnership," was established on the basis of a Memorandum of Understanding signed with the government in 2004.

This Memorandum lays down the principles, terms and operations for the Programme Aid Partnership, one of the largest aid programmes in Africa, in terms both of volume and of the number of donor agencies involved. (UNDP, 2005) Its development and expansion to other development aid partners could garner positive results for this objective.

Calculating progress towards each MDG in Mozambique

According to the Global Human Development Report (UNDP, 2004), progress toward each goal is assessed by comparing the Actual Annual Progress (PAA) if the current trends prevail until 2015, with the Annual Progress Required (PAR) to meet the goal, assuming the hypothesis of linear progress.

The document distinguishes between an assessment of actual progress and an assessment of the progress required. The difference between the two measures shows the potential the country has to reach, with greater or lesser probability, the targets established for each of the eight MDGs. The calculation formulas are explained in Technical Note 1.

The observed value for the goal of reducing the under-five mortality rate by two-thirds means that Mozambique is making slow or reversible progress towards this MDG, since the actual progress towards it is less than the progress required to reach the target. The same conclusion can be drawn regarding the goal of ensuring that all children can complete a full course of primary education, where the current progress towards the goals is less than the progress required. The situation is most critical in upper primary education (EP2) where the actual annual progress rate (0.48%) is about 12 times lower than the annual rate of progress required (5.56%).

Data collection, monitoring and evaluation of the MDGs

At the start of its term of office, the government lays down directives for its actions in steering the course of the country over a five-year period. This is the design of the government's Five Year Programme, an instrument that presents the vision and the targets that guide government action. Implementation and monitoring of the programme is undertaken through the annual plans named the Economic and Social Plan (PES), and the State Budget (OE), the numerical expression of the planned activities.

The ministries and the National Institute of Statistics (INE)[15] supply quantitative data, which the government uses to draw up balance sheets of the PES and State Budgets that are presented to the Assembly of the Republic (Parliament). Since the reduction of poverty is the main objective of the government, the balance sheet of the PES is an instrument to monitor and evaluate PARPA. Apart from this instrument, the government began, in 2003, to draw up an annual report on poverty in Mozambique, in which quantitative and qualitative sector and thematic data on PARPA are presented. These reports are the basic documents reflecting on the level and results of implementation of this national poverty reduction plan in the Poverty Observatory – a forum in which the government, civil society and international cooperating partners take part.

In the framework of the necessity of coordinating the instruments of national, regional and global plan-

15 Through instruments such as statistical yearbooks, the Household Survey (IAF), and the Demographic and Health Survey (IDS), etc.

Table 1.1 Progress towards each MDG in Mozambique

Goals	Indicator	1990 or closest year with available data (t_0)	Most recent year with available data (t_1)	Change required (α)	Values of the indicator for (t_0)	Values of the indicator for (t_1)	Year in which goal should be reached (t_{ODM})	Assessment of actual annual progress (%)	Assessment of annual progress required (%)
Eradicate extreme poverty and hunger	Halve the proportion of people whose income is less than one dollar a day	1997	2003	-1/2	69.4	54.1	2015	-3.67	-2.78
	Share of the poorest fifth in national consumption	1997	2003	-1/2	29.3	20.5	2015	-1.03	-2.78
	Proportion of children under 3 years old below normal weight	1997	2003	-1/2	26.1	25.9	2015	-0.13	-2.78
	GDP per capita (PPP dollars)	1991	2004	1/2	614.9	1640.6	2015	12.83	2.08
Reduce by 2/3 the under 5 mortality rate	Under five mortality rate per 1,000 live births	1991	2004	-2/3	151	111.9	2015	-1.99	-2.78
Improve maternal health	Reduce by ≤ the maternal mortality rate per 100,000 births	1997	2003	-3/4	0.015	0.0041	2015	-12.13	-4.17
Ensure that children everywhere will be able to complete a full course of primary schooling	Net rate of primary school enrolment (EP1+EP2) (%)	1990	2004	1	42.67	4.03	2015	3.912	4.00
	Net rate of EP1 enrolment (%)	1990	2004	1	43.5	75.6	2015	4.06	4.0
	Net rate of EP2 enrolment (%)	1997	2004	1	2.3	5.6	2015	0.48	5.56
Achieve gender equality in education	Ratio between girls and boys in primary and secondary education (%)	1990	2004	1	43.9	88.9	2015	5.73	4.00

Table 1.1 continued

Goals	Indicator	1990 or closest year with available data (t_0)	Most recent year with available data (t_1)	Reduction required (α)	Values of the indicator for (t_0)	Values of the indicator for (t_1)	Year in which goal should be reached (t_{ODM})	Assessment of actual annual progress (%)	Assessment of annual progress required (%)
Halve the proportion of people without sustainable access to safe drinking water	Population with sustainable access to and improved water source (%)	1997	2003	-1/2	15.3	35.7	2015	4.014	2.78
Halve the proportion of people without access to adequate sanitation	Population with sustainable access to improved sanitation (%)	1997	2003	-1/2	23.8	44.8	2020	4.604	2.174

ning adopted by the government, the MDGs are reflected in PARPA. In this context, reflections on the implementation and results of PARPA to some extent end up enshrining the monitoring and evaluation of the MDGs. Furthermore, in 2002 and 2005 the United Nations system in Mozambique, in partnership with the government, produced the first and second reports on progress towards achieving the MDGs.

In general, it can be said that the capacity for monitoring and evaluating the MDGs in Mozambique is relatively weak, as noted in Table 1.2

This table suggests the need for substantial improvement in following and analyzing the results of the policies aimed at achieving the MDGs, particularly those concerning the satisfaction of basic needs and reproductive health.

Table 1.2 Capacity to monitor and evaluate the MDGs

OBJECTIVE	EXISTING CAPACITY FOR Gathering data	Statistical follow-up	Statistical analysis	Integration of statistics into policies	Assessment of annual progress required
Extreme Poverty	Strong	Strong	Fair	Fair	Fair
Hunger	Fair	Fair	Fair	Weak	Weak
Universal Primary Education	Strong	Fair	Fair	Fair	Fair
Gender Equality	Fair	Strong	Strong	Weak	Weak
Child Mortality	Strong	Strong	Strong	Fair	Fair
Maternal Health	Fair	Fair	Fair	Weak	Weak
HIV and AIDS	Fair	Fair	Fair	Fair	Fair
Malaria and other Diseases	Fair	Weak	Fair	Fair	Fair
Environmental Sustainability	Weak	Weak	Weak	Weak	Weak

Source UN & GoM (2005). Relatório sobre os Objectivos de Desenvolvimento do Milénio (Report on the Millennium Development Goals)

Table 1.3 Relationship between the MDGs, PQG/PARPA, AGENDA 2025 and NEPAD

MDG (Target)	PQG 2005-2009 or PARPA 2006-2009 (Focus)	Agenda 2025 (Focus)	NEPAD (Focus)
MDG1 Eradicate extreme poverty and hunger Halve the proportion of people whose income is less than one dollar a day Halve the proportion of people who suffer from hunger	Reduce the incidence of absolute poverty from 70% (1997) to less than 60% (2005)and less than 50% (2010) Reduce household vulnerability and chronic food insecurity Eradication of absolute poverty, reduction of social inequalities, and reduction of development imbalances between the country's regions Increase agricultural and livestock productivity and the incomes of rural households	Need to ensure adequate food security Increase the production and productivity in the rural areas	Achieve and sustain an annual average growth rate of GDP of above 7%, between 2001 and 2015 Improvement in agricultural productivity, with particular attention to small farmers and to women Guarantee food security for all and increased access by the poor to adequate diet and nutrition
MDG2 Achieve universal primary education Ensure that all girls and boys will be able to complete a full course of primary schooling	Guaranteed access to basic education Improved quality and efficiency of education Reduce by 10% the illiteracy rate among adults and young people, currently estimated at 54% Guarantee that all primary schools teach the five grades of EP1 by 2009 Ensure that over 450,000 pupils are in first cycle secondary education, and more than 70,000 in the second cycle, by 2009	Expansion of primary, secondary and tertiary education Guaranteed access to basic education for all of school age by 2015	Improvement of the curricula Introduction of Information Communication Technologies (ICTs) in primary schools
MDG3 Promote gender equality and empower women Eliminate gender disparity in primary and secondary education, preferably by 2005 Eliminate gender disparity at all levels of education no later than 2015	Elimination of gender disparities in access to education Strengthen the introduction of the gender perspective in the design and analysis of national development policies and strategies	Economic, social and political empowerment of women	Special attention to reducing poverty among women Increasing women's skills Elimination of sexual disparities in school enrolment
MDG4 Reduce child mortality Reduce by two-thirds the under-five mortality rate	Improve child health, and prevent the main endemic diseases through vaccinations Reduce the lack of micro-nutrients among children	Reduction of child malnutrition	Guarantee the support needed for the sustainable development of an effective healthcare system
MDG5 Improve maternal health Reduce by three-quarters the maternal mortality rate	Improve access to and quality of women's health services (increased coverage of ante-natal, post-natal and family planning consultations)	Reduce the maternal mortality rate	Guarantee access to reproductive health services to all who need them Guarantee the support needed for the sustainable development of an effective health care system

Table 1.3 continued

MDG (Target 2015)	PQG/ PARPA (Focus)	Agenda 2025 (Focus)	NEPAD (Focus)
MDG6 Combat HIV/AIDS, malaria and other diseases Halt and begin to reverse the spread of HIVand AIDS, the incidence of malaria and other diseases	Reduce the number of new HIV infections from the current level of 500 a day to 350 a day in five years, and 150 a day in 10 years Prevention of HIV infections Reduce the impact of endemic diseases on the health of the population, particularly HIV and AIDS, tuberculosis, leprosy and malaria Care for individuals living with HIV and AIDS Reduction of tuberculosis mortality, morbidity and transmission Reduction in deaths from malaria among vulnerable groups (supply of insecticide treated bed nets, etc)	Reduce the incidence of HIV and AIDS, malaria and other endemic diseases	Strengthen programmes to halt the spread of transmissible diseases Train the public so that people may act to improve their own state of health and achieve health literacy Encourage cooperation between doctors and practitioners of traditional medicine
MDG7 Ensure environmental sustainability Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources Halve the proportion of people without sustainable access to safe drinking water Achieve a significant improvement in the lives of at least 100 million slum dwellers	Promotion of the sustainable use of water, through adequate maintenance of existing infrastructure, and promotion of small and medium sized dams Guarantee security in land tenure, particularly for family producers, and promote improved land management Create an environment favourable to sustainable management of forests and wild life by the private sector and local communities Increased supply of clean drinking water and provision of sanitation in urban and rural areas Reduction of water supply costs	Support the creation of other modes of life in the countryside Promote improved use of natural resources	Promote measures against the degradation of natural resources and encourage environmentally sustainable production methods Guarantee of sustainable access to drinking water and to sanitation, particularly for the poor Planning and management of water sources
MDG8 Develop a Global Partnership for Development Develop an open, rule-based, non-discriminatory trading and financial system Deal comprehensively with the debt problems of developing countries In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries In cooperation with the private sector, make available the benefits of new technologies, especially information and communication technologies	Develop a medium and long term strategy for sustainability of domestic and foreign public debt Strengthen the public debt control, registration and management system Observe and apply the principles of the United Nations Charter, the Constitutive Act of the African Union, and the SADC Treaty	Active participation of Mozambique in the main multilateral institutions (International Monetary Fund, World Bank Group, World Trade Organisation, United Nations, African Union and SADC) Use of Information Communication Technologies	Renegotiation of trade agreements; exploitation of preferential trading arrangements (e.g. AGOA) Commitment to the HIPC initiative and other debt relief mechanisms of the Paris Club Establish an independent mechanism to assess the performance of donor and recipient counties Production of cheaper generic drugs regionally

Relationship between the MDGs, PQG, PARPA,[16] Agenda 2025 and NEPAD

The main instruments of national and regional planning and development, namely the PQG/PARPA, Agenda 2025 and the New Partnership for Africa's Development (NEPAD) express the framework for pursuing the Millennium Development Goals.

The MDGs, the PQG/PARPA, Agenda 2025 and NEPAD are instruments in the same process – the process of establishing appropriate conditions for relaunching the economy and promoting the economic and social development of Mozambique. The interventions of the various stakeholders in the context of these initiatives, plans and programmes should be integrated and coordinated, as far as possible, so as to make rational use of the available financial, material and human resources, and draw maximum benefit from them.

Challenges: From political undertakings to action

In its capacity as a member of the United Nations, Mozambique took part in the Millennium Summit in 2000, and signed up to the international undertaking to achieve the MDGs. The country was immediately faced with the need to translate its commitment into concrete actions.

The government has been committed to harmonising its governance plan with the MDGs and other regional development plans and strategies. By way of example, from 2004, the balance sheets of the Economic and Social Plan have been presented in a structure which includes a short reflection on the country's performance in the framework of attaining the MDGs. Apart from this, the alignment of PARPA, as the plan enshrining the government's strategy for reducing absolute poverty, to the MDGs is an undeniable reality, as illustrated in Table 1.3.

There is some scepticism as to the possibility of the least developed countries achieving the MDGs, given their economic and political stage, and the prospects for this evolving. Although it belongs to this group of countries, Mozambique does not present an entirely bleak picture, judging by the macro-economic performance of the country, and the progress made in the social areas in recent years, some of which are worthy of note. But to have a more realistic image of the current status, it seems pertinent to identify the needs to be met, if the country is really to reach the MDGs, taking into account the evolution of the indicators since 1990. It is important to draw up budgetary estimates, to assess the national response capacity, and the needs in terms of official development assistance.

Mozambicans must appropriate the MDGs. And this will only become a reality when the goals are widely known, and when a sense of responsibility for achieving them is developed among citizens. It is important that mastering matters on the MDGs in Mozambique should not be restricted to circles in the national capital, and possibly some individuals in the provincial capitals, as has been the case so far. The Millennium Campaign – an exercise in advocacy and in disseminating information about the MDGs, in which the UN system, the government and civil society institutions are the actors, and which began in July 2005 – is a priority vehicle for changing this scenario, as long as it rests *de facto* on participatory methodologies, and is implemented on a national scale.

The Poverty Observatory, set up in 2003, should also come into the strategy seeking Mozambican appropriation of the MDGs, since it brings together various approaches to the economic and social process of the country, as we shall see in detail in Chapter 7 of this report.

16 The PQG (2005-2009) will be operationalized by PARPA II (2006-2009) on an annual basis.

Chapter 2

Updating Human Development in Mozambique

Introduction

This chapter analyses the human development indicators, which provide an assessment of the achievement of Mozambique in general and of the country's administrative regions in particular, in the various areas of human development in the period 2000 to 2004.

The chapter is divided into two main parts. The first summarises the evolution of human development in Mozambique covering the 2000-2004 period, based on the behaviour of the main indicators for measuring the concept, and resorting to official statistics and methodologies that make it possible to compare Mozambique's level of human development to that of other countries.

The second part of the chapter analyses the evolution of human development and its components in the regions of Mozambique. The difference between this and the previous section lies in the fact that the first adopts scrupulously the methodology of the Global Human Development Reports (GHDR), which allows the resulting indicators to be comparable with those of other countries and the figures published in the GHDR.

The second section resorts to an adaptation and adjustment of the methodology to allow comparison between the various administrative regions within Mozambique.

It is important always to bear in mind the difference between the two methodologies used in calculating the indicators, since this implies that, in practical terms, the final figures for the Human Development Index (HDI) calculated in the two sections are not comparable.

The main difference in methodology lies in the use, in the first case, of real per capita Gross Domestic Product (GDP) converted into PPP dollars, which makes it possible to compare the level of human development in Mozambique with that of other countries. The HDI for the interior of Mozambique uses real per capita GDP in nominal meticais, applying a deflator which allows comparison between years along the series under analysis.[17]

Table 2.1 Human Development Index for Mozambique, 2000-2004

Basic Data[a]	2000	2001	2002	2003	2004*
Life expectancy at birth	44.3	45.0	45.6	46.3	46.7
Adult literacy rate (%)	43.3	44.4	45.4	46.4	47.2
Combined gross enrolment rate (%)	31.6	34.5	36.4	38.3	42.3
Real GDP per capita (PPP dollars)[b]	996.3	1179.8	1374.0	1487.2	1640.6
Calculation of the HDI					
Life expectancy at birth index	0.322	0.333	0.343	0.355	0.362
Educational index	0.394	0.411	0.424	0.437	0.456
Adult literacy index	0.433	0.444	0.454	0.464	0.472
Combined primary, secondary and higher education enrolment index	0.316	0.345	0.364	0.383	0.423
Real per capita GDP index ($PPP)	0.384	0.412	0.437	0.451	0.467
Human Development Index	0.366	0.385	0.402	0.414	0.428

a) Maximum and minimum values: *see* Technical Note III
b) Estimates based on the PPP conversion rate of the World Bank, *World Development Report*
* Estimates of the GDP and of the literacy rate for 2004 subject to change in later editions

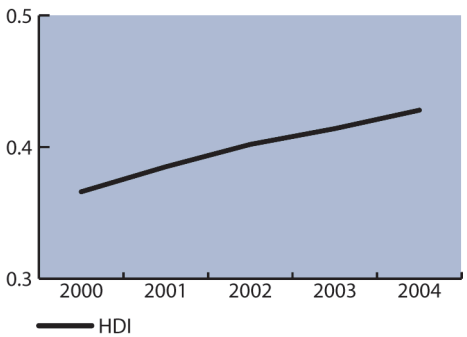
Human Development in Mozambique 2000-2004

The HDI is a composite measure which analyses the average achievement of a country in three basic areas of human development:

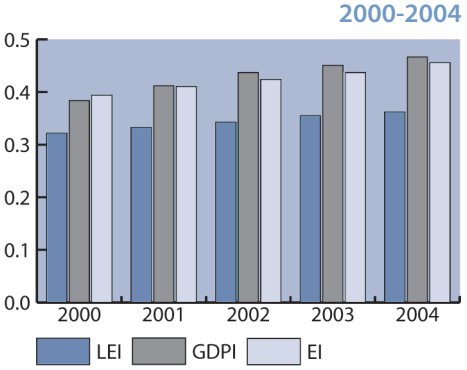
- A long and healthy life, as measured by life expectancy at birth;
- Knowledge, measured by the adult literacy rate (with a weighting of two-thirds), and by the combined primary, secondary and higher education enrolment rate (with a weighting of one-third);

17 We draw the reader's attention in particular to the importance of this key aspect to avoid the habitual misunderstanding of, on the one hand, comparing the two figures obtained with the two methodologies and, on the other, of comparing the figures for the regions with those for other countries.

Graph 2.1 Evolution of the HDI in Mozambique, 2000-2004

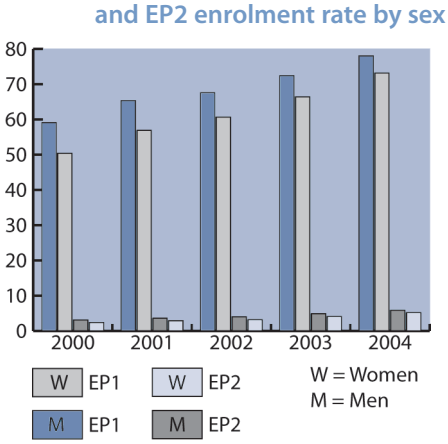


Graph 2.2 Evolution of the components of the HDI, 2000-2004



LEI = Life Expectancy Index
GDPI = Real GDP per capita Index
EI = Educational Index

Graph 2.3 Evolution of net EP1 and EP2 enrolment rate by sex



- A decent living standard, measured by GDP per capita (in PPP dollars).

The performance of the HDI is expressed as a figure between 0 and 1. A figure for the HDI near to 1 shows a better level of attaining human development than an HDI near to 0. The methodology for calculating the HDI is shown in Technical Note III appended to this report.

Graph 2.1 illustrates the trend for increase in the HDI and its main indicators, while showing that Mozambique still has a long path ahead to realize the capacities of its citizens.

In Table 2.1 it is estimated that the HDI has evolved from 0.366 in 2000 to 0.428 in 2004, equivalent to an annual average growth of about 4%, which expresses a positive evolution, during the period under analysis, of one or all components of the HDI. Indeed, during this period:

- The GDP grew on average by 9.2% a year, which expresses substantial economic gains for a decent standard of living.
- The adult literacy rate advanced from 43.3% in 2000 to 46.4%, according to the results of the Household Survey conducted by the INE between July 2002 and June 2003, and it is believed that this rate will be still higher in 2005, since an increase in those attending literacy classes across the country of about 50.7% is envisaged, when compared with 2004 (PES, 2005).
- The gross combined primary, secondary and tertiary school attendance rate also had an average annual growth of about 7.6% between 2000 and 2004, which expresses a greater capacity to absorb pupils through the expansion of both the public and the private school network.
- There is also a modest average gain of 1.3% in longevity, measured by life expectancy at birth, due fundamentally to interventions in the health sector and improved nutritional status, despite the pressures imposed by the HIV and AIDS epidemic.

Graph 2.2 strengthens the previous analysis and shows clearly that all components of the HDI, during the period under analysis, had a positive evolution, even though the variables that form the indicators used in the index are, by their very nature, not subject to substantial variations in a short period of time.

In disaggregated terms, the most dynamic indicators have normally been the GDP index, which reflects recent economic gains; and the joint school

attendance rate, which expresses the gradual, but substantial, increase in the number of places in the country's educational network, particularly as from 1995 (NHDR, 2001).

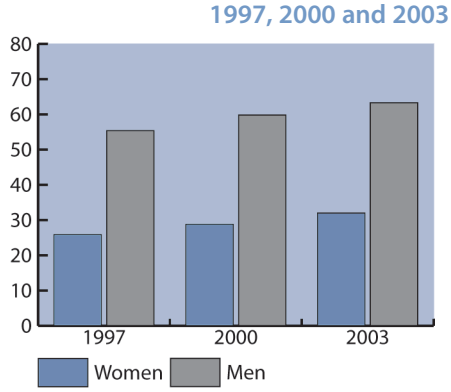
It is estimated that about 3.6 million pupils are attending EP1 in 2005, which is an increase of about 18% when compared with 2004. In the same period, the number of EP2 pupils will grow by 25% compared with 2004 (PES, 2005). Thus the trend towards strong growth in this level of education, noted since the 1995 school year, and particularly as from 2000, is being maintained. As a result the gross attendance rate at this level has risen from 42.7% in 2004 to 47.0% in 2005.

Obviously this all represents a trend induced by the increased supply in the education system. To illustrate this perception, it is enough to note, by way of example, the school coverage forecasts, namely that the net EP1 attendance rate will rise from 75.6% in 2004 to 79% in 2005, and that the gross admission rate will increase by 19.1%, rising from 137.6% in 2004 to 156.7% in 2005 (PES, 2005).

One fact that should be stressed is the growth in the net attendance rate of girls in both EP1 and EP2. In fact, as Graph 2.3 shows, the net attendance rate for girls in EP1 has risen from 50.4% in 2000 to 73.2% in 2004, and from 2.4% to 5.2% in EP2. Over the same period the attendance rate for boys rose from 59.1% to 78% in EP1, and from 3.1% to 5.9% in EP2.

These results revive the hope that, although there is still a long way to go, Mozambique is, in relative terms, taking an important step in reducing the deprivations of its population (UNDP, 2001).

Graph 2.4 Comparative evolution of the literacy rate, 1997, 2000 and 2003



Graph 2.4 illustrates the growth in the literacy rate among adult women, compared with men, over the period 1997 to 2003.

The GDI of Mozambique

The Gender-related Development Index (GDI) is a composite index that measures average attainment in the three basic dimensions captured in the HDI – a long and healthy life, knowledge, and a decent standard of living – adjusted to reflect the inequalities between men and women. That is, the GDI adjusts average attainment to reflect inequalities between men and women in the three dimensions of human development.

Like the HDI, the GDI is expressed as a figure between 0 and 1. When the GDI is equal to 1, it reflects maximum attainment in the basic capacities with perfect equality between men and women (though no country has ever achieved this figure). On the other hand, a GDI approaching zero reflects a larger gulf between the development attainments of women and of men. The methodology used in calculating the GDI is shown in Technical Note IV appended to this report.

The first finding on analysing the data in Table 2.2 and Graph 2.5 is the existence of disparities in attainment between women and men, as the historic figures for the GDI over the 2000-2004 period show. The figure for the GDI in 2004, still well below 0.5, shows the long journey that must be travelled towards reducing the disparities in attainment between the two sexes.

Graph 2.6, in showing the comparative evolution between the HDI and the GDI between 2000 and 2004, confirms the trend to parallel evolution between the two indicators of human development, which does at least suggest that the gap in the levels of attainment between men and women has not widened (NHDR, 2001). Indeed, while the HDI recorded an average annual growth of 4.0% between 2001 and 2004, for the same period, there was an average annual growth of 4.5% in the GDI.

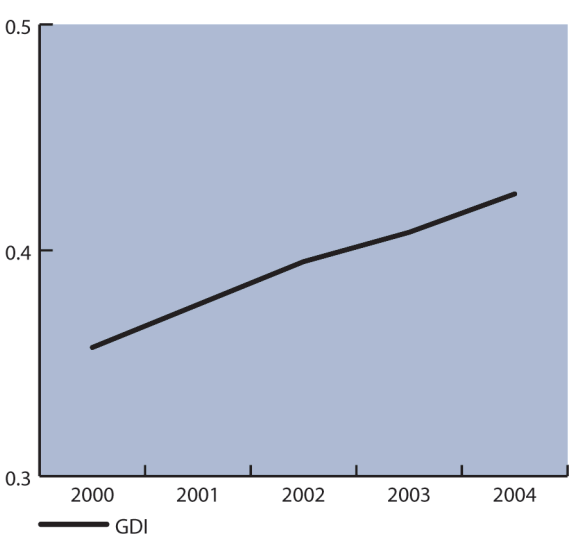
The conclusion that may be drawn from this result is that, since the disparities between men and women are not increasing, the policies intended to promote the advancement of women, particularly as regards access to education, health and other social services, are making steps towards reducing the gap between the development attainments of the two sexes. Graph 2.7 shows the evolution of the gap between the human development attainments of men and women.

Table 2.2 Gender-related Development Index for Mozambique, 2000-2004

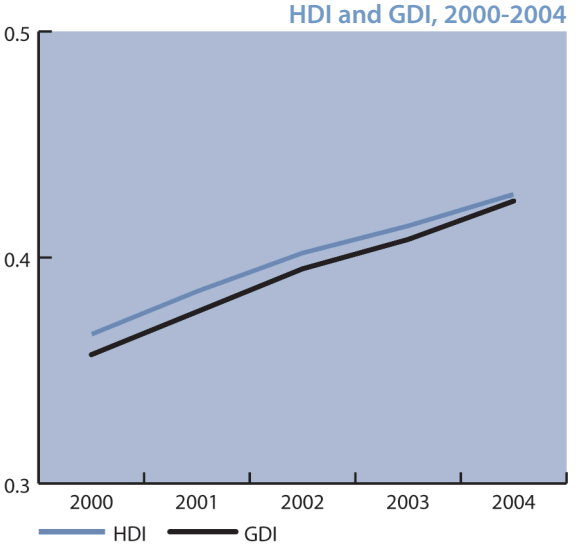
Basic Data[a]	2000	2001	2002	2003	2004*
Life expectancy at birth	44.3	45.0	45.6	46.3	46.7
Women	46.1	46.8	47.5	48.2	48.6
Men	42.5	43.2	43.8	44.4	44.8
Adult literacy rate (%)	43.3	44.9	46.4	46.4	51.3
Women	28.8	28.8	32.0	32.0	33.8
Men	59.8	59.8	63.3	63.3	69.7
Combined Gross Enrolment Rate (%)	31.6	34.5	36.4	38.3	42.3
Women	29.6	33.0	35.4	37.9	42.3
Men	40.9	44.0	45.9	47.8	52.4
Real GDP per capita (PPP dollars)[b]	996.3	1179.8	1374.0	1487.2	1640.6
Women	880.6	1043.6	1216.4	1317.6	1454.7
Men	1121.4	1326.9	1544.0	1669.8	1840.4
Calculation of GDI					
Life expectancy at birth	0.322	0.333	0.343	0.355	0.362
Women	0.310	0.322	0.333	0.345	0.352
Men	0.333	0.345	0.355	0.365	0.372
Equally distributed life expectancy index	0.320	0.332	0.343	0.354	0.361
Educational index	0.394	0.411	0.424	0.437	0.456
Women	0.291	0.310	0.327	0.340	0.366
Men	0.535	0.545	0.569	0.581	0.612
Equally distributed educational index	0.368	0.388	0.407	0.421	0.451
Real adjusted per capita GDP index ($PPP)	0.384	0.412	0.437	0.451	0.467
Women	0.363	0.391	0.417	0.430	0.447
Men	0.403	0.432	0.457	0.470	0.486
Equally distributed real per capita GDP index	0.381	0.409	0.435	0.448	0.464
Gender-related Development Index	0.357	0.376	0.395	0.408	0.425

a) Maximum and minimum values: *see* Technical Note IV
b) Estimates based on the PPP conversion rate of the World Bank: *World Development Report 2000/2001*
* Estimates of the GDP and of the literacy rate for 2004 subject to alteration in later editions

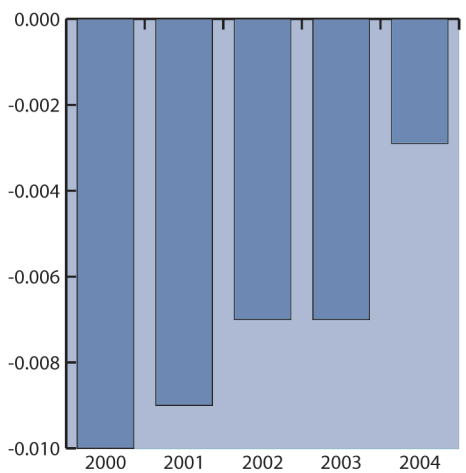
Graph 2.5 Evolution of the GDI, 2000-2004



Graph 2.6 Comparative evolution of the HDI and GDI, 2000-2004



Graph 2.7 Gap between the HDI and GDI, 2000-2004



Human development in the regions of Mozambique

Estimated GDP disaggregated by province

One of the innovations of the Mozambique NHDRs is the possibility of showing the HDI broken down by provinces and by regions, which allows us to evaluate the performance of the economic and social indicators in the various administrative regions of the country, using the instruments that measure human development. A fundamental step in reaching this goal is the disaggregation of the GDP by provinces and regions. This section analyses the economic indicators within Mozambique, more specifically the GDP by provinces and regions.

The assessment of human development in the provinces took as its starting point the methodology adopted in the previous National Human Development Reports to estimate the contribution made by each of the 11 administrative regions to the economy.[18] The methodology used which made it possible to break down the GDP for 2000-2004 by provinces is shown in Technical Note II, appended to this report.

In general, the estimates of economic activity show that the performance of the provinces has not evolved in a uniform fashion. The results in Table 2.3 show that the average annual rate of real growth of the GDP in the 2000-2004 period varies between 5.4% (Gaza province) and 18.9% (Maputo province). However, although all provinces show noteworthy real growth, only three of them (Niassa, Inhambane and Maputo province) are above the national average of about 9.2%.

The strong average growth of the economy in Maputo and Inhambane provinces in the period under analysis can be attributed to the construction sector, because of the expansion of the aluminium smelter (Mozal II), and the building of the pipeline that links Inhambane province to South Africa, and later to the manufacturing industry sector, because of the increase in Mozal's productive capacity resulting from the take-off of the second phase of aluminium production, and the start of the exploitation of gas at Temane in the first quarter of 2004.

In regional terms, the results of the economic performance over the period under analysis continue to show heavy economic concentration in the southern region of the country, with an average of about 47% of real production. In this, Maputo City stands out with a contribution in real terms of about 20.8%. The central zone follows, with a contribution of 32%, and finally, the northern zone with 21% of national production. The contribution by region is summarized in Graph 2.8.

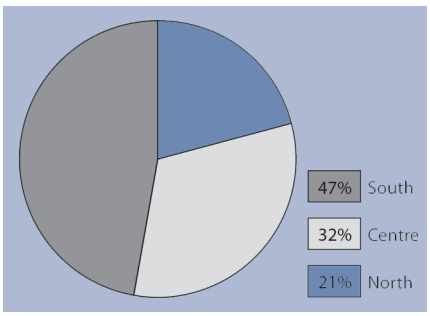
Sofala and Zambezia provinces in the centre, and Nampula in the north lead in their respective zones, with average contributions of 10.9%, 11.2% and

Table 2.3 Evolution of the GDP by provinces, regions and the country

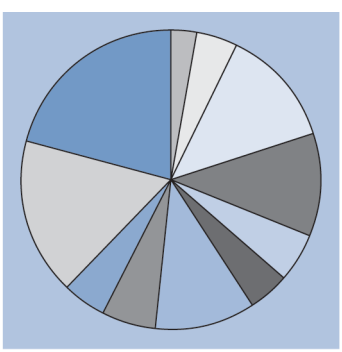
Regions/Provinces	Rate of Growth by Volume (%)				
	2001	2002	2003	2004	Average
North	7.3	8.3	11.5	3.4	7.6
Niassa	10.7	11.1	9.9	7.2	9.7
Cabo Delgado	9.4	8.2	12.0	3.9	8.4
Nampula	5.9	7.8	11.6	2.4	6.9
Centre	10.1	6.5	9.1	5.3	7.8
Zambézia	10.8	7.3	8.8	4.7	7.9
Tete	10.3	8.6	5.3	8.6	8.2
Manica	6.6	4.4	10.8	2.4	6.0
Sofala	11.0	5.8	10.4	5.8	8.2
South	18.0	9.2	5.6	10.9	10.9
Inhambane	4.4	11.6	8.1	22.0	11.5
Gaza	5.0	4.9	8.2	3.4	5.4
Maputo province	43.0	14.4	1.2	16.8	18.9
Maputo city	8.6	5.1	8.5	4.2	6.6
Mozambique	13.1	8.2	7.9	7.5	9.2

18 Note that due to a slight modification in the methodology of regionalization of national values, the GDP estimates in this NHDR are not directly comparable to the series of GDP in previous NHDR. The estimates for 2004 are still tentative, and are thus subject to alterations in later NHDRs.

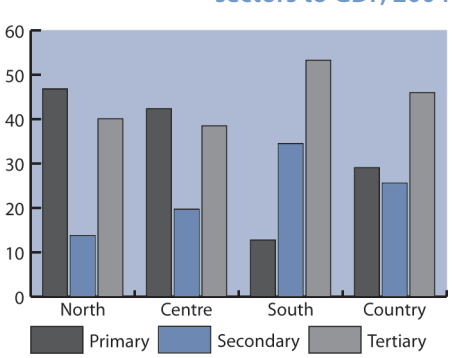
Graph 2.8 Average contribution to GDP by regions at constant prices, 2000-2004



Graph 2.9 Average contribution to GDP by provinces, 2000-2004



Graph 2.10 Contribution of the sectors to GDP, 2004



12.8% respectively. The remaining provinces contribute between 2.9 (Niassa) and 4.4% (Cabo Delgado). The contribution of each province is shown in Graph 2.9.

Aside from the information depicted in Graph 2.9, the contribution of each region and province to the country's economy is influenced by the respective real growth rates.

The southern zone, despite the floods which struck in 2000, and which account for the low contribution of agriculture to the GDP in 2000, shows the highest average growth rate of the three regions of Mozambique, with 10.9%, which is 1.7% above the national average. The provinces of Inhambane and Maputo contributed with rates of average annual growth of 11.5% and 18.9% respectively. The central and northern zones also had noteworthy growth rates, of 7.8% and 7.6% respectively, even though these were below the national average.

Among the sectors which contributed most to the real average growth rate of 10.9% in the southern zone in the period under analysis, the construction and manufacturing industries stand out, thanks to the contribution of the Pande/Temane natural gas and Mozal II aluminium smelter mega-projects.

From the perspective of showing the degree of specialization, estimates allow us to note that agriculture remains the activity with the greatest weight in the economy, both at national and provincial levels. But its share is declining, in favour of other sectors, mainly manufacturing industry and trade, thanks to the contribution of the mega-projects, which already have a visible impact on the manufacturing industry and, as from 2004, on the extractive industry.

At the level of the regions, Graph 2.10 shows the dominance of the primary sector in the northern area with a contribution of about 43%, a little higher than in the central zone (39.1%), but four times higher than the contribution of this sector to the GDP of the southern zone (10.0%). The south is mostly dominated by the tertiary sector with a contribution that is 11.3% higher than the national average, and almost 20% higher than the contribution of this sector in the northern and central zones.

As mentioned above, the strong contribution of the manufacturing industry in the south (Table 2.4) is explained by the increase in the productive capacity of Mozal, with the take-off of Phase II of aluminium production as from the second half of 2003.

Table 2.4 Contribution of areas of activity within the sectors

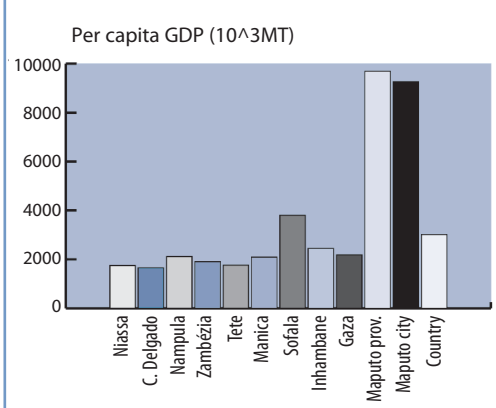
Sectors	North	Centre	South	Country
Primary	42.8	39.1	10.0	25.9
Agriculture	42.8	39.1	10.0	25.9
Secondary	23.8	25.7	29.5	27.0
Industry	6.5	9.6	17.7	12.6
Construction	9.7	6.4	9.2	8.4
Tertiary	39.4	38.6	59.5	48.3
Trade	19.9	18.1	25.1	21.6
Transport and Communications	3.9	6.1	12.8	8.7

The performance of the transport and communications sector results from the dynamic recorded in passenger air traffic, thanks to the holding of international events. Also worth noting is the performance of communications, with the aggressive stance taken by the operators of fixed and mobile phone networks, driven by the entry into the market of the second mobile phone operator (PES, 2004).

GDP per capita by province

In terms of real GDP per capita, Maputo province shows average figures that are three times higher than the national average, and five to six times higher than the per capita GDP of Niassa, Cabo Delgado, Zambezia and Tete. As Graph 2.11 shows, Maputo city and Sofala province also show real per capita GDP that is higher than the national average – but Maputo city has a per capita GDP that is twice as high as that of Sofala.

Graph 2.11 Average real per capita GDP by provinces and the country, 2000–2004



Evolution of the HDI and the GDI

The data from the period under analysis allow us to note that the level of human development, both national and in the administrative regions, is continuing to rise gradually, as a result of economic and social performance, which has been expressed in the positive evolution of both the HDI and the GDI (Table 2.5).

In fact, the national HDI grew by about 13% between 2000 and 2004. Over the same period, the GDI experienced parallel behaviour, with growth of about 15%. Though all provinces underwent noteworthy growth rates in their GDIs between 2000 and 2004, only five of them (Niassa, Cabo Delgado, Nampula, Zambezia and Inhambane) had growth rates higher than the national average, with Zambezia showing the greatest rates of growth for both HDI and GDI (31% and 33%). Graph 2.12 shows the evolution of the cumulative growth rates of the HDI and the GDI of the 11 administrative regions in the period 2000-2004.

A further fact of note is that four of the five provinces whose rates of growth, of both HDI and GDI, are above the national average are located in the central and northern zones. Zambezia in the centre has growth rates of 31% and 33% respectively, and Cabo Delgado in the north has 20.4% and 25.4%.

This growth is attributed to efforts made in education (both public and private), in the expansion of access to education and improved quality of schooling. Graph 2.13 shows the cumulative contribution by provinces for each HDI indicator in 2000-2004.

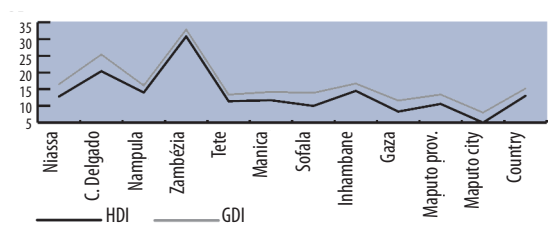
From this, it can be concluded that, on average, education contributes most to achieving human development and reducing disparities between women and men, followed by income, and finally by life expectancy (Graph 2.14). However, despite the noteworthy growth rates of both HDI and of GDI in the central and northern zones, it is the south which presents the best performance, in terms of both HDI and GDI, with figures above the national average, as Graph 2.15 shows.

Maputo city heads the southern zone with an HDI and a GDI almost double the national average. The centre is headed by Sofala province with an HDI that is also above the national average. Finally, the northern zone is headed by Niassa, but with an HDI and GDI that are below the national average (Graph 2.16).

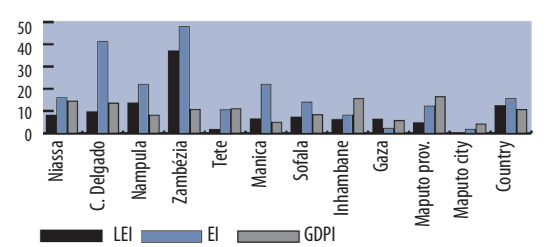
Table 2.5 Rates of growth of the HDI and GDI, 2000-2004

Province/Region	Growth Rates (%) HDI					Growth Rates (%) GDI				
	2001	2002	2003	2004	Accumul.	2001	2002	2003	2004	Accumul.
North	4.4	3.7	2.9	2.7	14.5	4.8	4.4	3.7	3.9	17.9
Niassa	4.9	2.6	1.6	3.2	12.8	5.3	3.5	2.6	4.2	16.5
Cabo Delgado	5.0	5.9	5.3	2.9	20.4	5.5	7.0	6.6	4.1	25.4
Nampula	4.4	3.6	2.6	2.8	14.0	4.7	3.7	2.8	4.0	16.1
Centre	4.6	3.9	3.0	2.8	15.1	3.2	4.5	3.3	4.0	16.0
Zambézia	7.6	9.6	8.0	2.7	30.8	8.1	9.6	7.9	3.9	32.9
Tete	3.8	2.2	1.2	3.7	11.4	2.7	4.2	1.3	4.7	13.4
Manica	3.6	2.5	2.3	2.8	11.7	3.9	2.8	2.6	4.1	14.2
Sofala	3.6	2.1	1.1	2.8	10.0	4.0	3.3	2.0	3.9	13.9
South	3.7	2.0	0.6	2.2	8.8	8.1	2.7	0.9	3.2	15.6
Inhambane	2.8	7.7	0.9	2.4	14.5	3.0	9.1	1.8	2.0	16.7
Gaza	3.6	1.4	1.0	2.1	8.3	4.2	2.2	0.9	3.8	11.6
Maputo province	5.7	1.5	0.8	2.3	10.6	6.0	2.1	0.9	3.9	13.4
Maputo city	1.8	1.0	0.5	1.6	5.0	2.2	1.9	0.7	3.0	8.0
Country	4.9	2.9	1.8	2.8	13.0	5.2	3.6	1.9	3.7	15.2

Graph 2.12 Accumulated variation of the HDI and GDI, 2000–2004

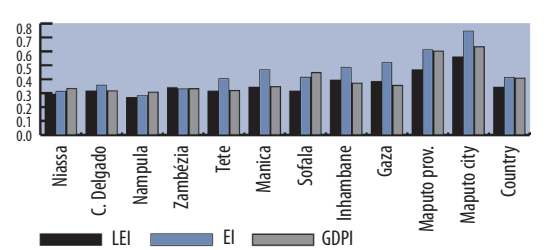


Graph 2.13 Accumulated growth of the HDI components, 2000–2004



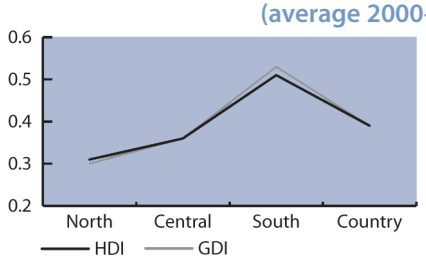
LEI = Life expectancy index EI = Educational index GDPI = GDP per capita index

Graph 2.14 Comparison of HDI indicators (average 2000–2004)

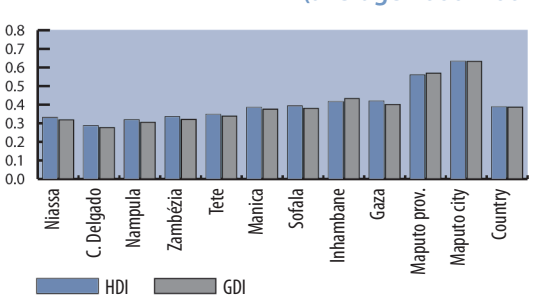


LEI = Life expectancy index EI = Educational index GDPI = GDP per capita index

Graph 2.15 Comparative average of the HDI and GDI by region (average 2000–2004)



Graph 2.16 Comparison between HDI and GDI by provinces and the country (average 2000–2004)



Chapter 3

Economic Growth and Poverty Reduction

The first Millennium Development Goal (MDG) contains two targets:

- Halve the proportion of the population living below the absolute poverty line; and
- Halve the proportion of people suffering from hunger.

For the first target, there are three indicators:

- The percentage of people living below the national poverty line;
- The poverty differential ratio (incidence *x* absolute poverty); and
- The share of the poorest fifth in national consumption.

The starting point for the millennium goals is the year 1990. But in the Mozambican case, the 1990 data is not very reliable – and in some cases it does not exist. So it has been considered more prudent to use, as a basis for analysis, the 1997 data from the first national survey on poverty and well-being in Mozambique undertaken by the government.

The second poverty assessment in Mozambique was held in 2002/3 and showed that over the intervening six years Mozambique had recorded a significant reduction in absolute poverty (Chapter 2).

A further indicator that measures poverty is the Human Poverty Index (HPI). According to this indi-

Table 3.1 Situation of MDG1 and some economic indicators

MDG1: Eradicate extreme poverty and hunger

Targets (1990-2015)	Indicators	1997 Urban	1997 Rural	1997 Total	2003 Urban	2003 Rural	2003 Total	2015 Target
Halve the proportion of people whose income is below the absolute poverty line	1) Percentage of the population living below the poverty line	62.0	71.3	69.4	51.5	55.3	54.1	44.0
	2) Poverty differential ratio (incidence x absolute poverty)			29.3			20.5	n/a
	3) Share of the poorest fifth in national consumption			6.5			6.1	n/a
Halve the proportion of people who suffer from hunger	4) Proportion of children below normal weight (under five years old)	14.8	30.7	26.0	15.2	27.1	23.7	17.0
	5) Percentage of the population with a diet below the minimum calorific level			n/a			n/a	n/a
Economic indicators GDP/per capita (US$)				217.0			259.0	
Rate of economic growth (%)				11.1			7.8	

cator, human poverty in Mozambique fell from 55.9 in 1997 to 48.9 in 2003 (that is, a fall of 13%).

The HPI is an indicator that weighs survival privation, through the percentage of people who do not live to the age of 40; privation of knowledge (that is the percentage of adults who are illiterate); and composite privation of an adequate living standard. This final indicator is given by the simple arithmetical average of the percentage of the population without safe drinking water, the percentage without health services, and the percentage of children under three years old who are moderately or severely under weight.

The link between growth and poverty reduction

Economic growth, under MDG1 may be considered as a crosscutting process for reaching almost all the other MDGs, given the intrinsic relationship between them, or, as FAO notes:

"Reduction in hunger and malnutrition leads to increased productivity and household income; improved education; gender equality and the empowerment of women; reduction in vulnerability to diseases, and reduction in infant mortality; improvement in maternal health; increased resistance to HIV/AIDS, malaria and other diseases; reduced pressure on the environment and greater participation in trade and development." (FAO, 2005)

In Mozambique, the overall development strategy is grounded in the Action Plan for the Reduction of Absolute Poverty (PARPA), implementation of which adheres to the Economic and Social Plan (PES) and the State Budget (OE), documents that are drawn up annually by the government, and approved by the Assembly of the Republic.

Based on an analysis of the data from the Household Survey of 1996/1997, PARPA regarded the following as the main determinants of poverty:

- Slow growth of the economy up to the early 1990s;
- Poor educational level of household members of an economically active age, particularly the women;
- High rates of dependency in households;
- Low productivity of family agriculture;
- Lack of job opportunities within and outside the agricultural sector;
- Weak development of infrastructures, particularly in rural areas.

Arising out of these findings, the poverty reduction strategy in Mozambique is based on "six priorities for the promotion of human development and the creation of an environment favourable to rapid, inclusive and wide-ranging economic growth:"

- Education;
- Health;
- Agriculture and rural development;
- Basic infrastructure;
- Good governance, and
- Macroeconomic and financial management.

The basic assumption is that rapid economic growth is an important condition for poverty reduction over the medium and long term.

Economic performance

As mentioned in the previous chapters, from 1996 to 2004 Mozambique recorded a markedly positive macro-economic performance. The average growth rate in this period was 8.5% per year. This growth was accompanied by a decline in the incidence of absolute poverty of around 15.3% from 1996/97 to 2002/03.

Economic growth was due to stabilization of the macroeconomic environment, far-reaching economic liberalization, adoption of various institutional and structural reforms, such as liberalizing the exchange rate, and the foreign trade system, the gradual reduction of customs tariffs, and reduced state intervention in the economy.

The fiscal system was modernized and simplified, and the capacity of the tax administration improved, at the same time as improvements and greater transparency were introduced in the budgetary management procedures.

The aim of an average annual GDP growth rate of 8% advocated by PARPA I was achieved in the 1997-2003 period, which does not mean that all the basic macro-economic objectives included in PARPA I

Table 3.2 GDP, real variations in percentages, 1992-2004

(Average of periods indicated)

	1992-1996	1992-2004	1996-2004
Real GDP	3.1	6.5	8.5
Agriculture	6	6.2	6.6
Fisheries	0.7	1.3	2.6
Industry	5.6	16.4	22.5
Services	3.5	5.3	5.8

Source World Bank, 2004

were met, particularly those conducive to a reduction in poverty indices such as:

- Vigorous investments in education, health and infrastructure;
- Substantial productivity gains in agriculture, particularly in the family sector, conducive to a rapid average annual growth of the sector as a whole of about 8%;
- Strong improvement of public institutions that support the operation of markets, including legal reform and the reduction of administrative barriers;
- A rapid growth in exports, from a low starting point, derived from an expansion of agricultural production, an increase in mega-projects, and maintenance of a competitive exchange rate;
- Continued liberalization of foreign trade, particularly in the Southern African Development Community (SADC);
- Rapid and wide-ranging growth in trade, transport and non-governmental services, driven by agriculture, foreign trade and public works.

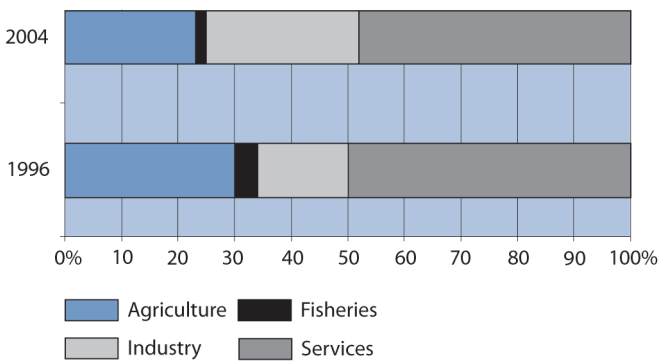
The reforms in the macro-economic environment greatly attracted:

- foreign private capital, so that mega-projects such as the aluminium smelter, natural gas, and soon, the Chibuto heavy mineral sands, have resulted in tripling the country's exports in three years; and
- the support of the international community, whose assistance on grant or soft loan terms today covers half of public expenditure, and which amounted to around US$ 641 million annually between 1998 and 2004 (IMF, 2005).

Mozambique's economic growth was accompanied by a change in the composition of the GDP (Graph 3.1). The share of industry in the total GDP grew from 16% in 1997 to 27% in 2003, while that of agriculture declined from 30% to 23% in the same period. This is an important phenomenon, bearing in mind that the agricultural sector provides employment and economic support to over 70% of the economically active population, while services, including the government, employ 15% of the work force, and industry only 5%.

The economy's growth trend, based essentially on the growth of industry, reflects the behaviour of investments in the country, which grew at an annual average of 11% in the 1997-2003 period, thus higher than the average economic growth rate, as mentioned previously. This was greatly influenced by Foreign Direct Investment (FDI) in the mega-projects mentioned above.

Graph 3.1 Composition of GDP, 1996 and 2004 (percentage)



The impact of economic growth on poverty reduction

Numerous studies have shown that the impact of economic growth on reducing hunger and poverty depends both on the nature of the growth, and on its scale and intensity. A World Bank analysis on India, for example, shows that growth in the rural areas and in agriculture had a much greater impact on poverty reduction than was achieved by urban and industrial growth. The same relationship was found in Botswana and in Peru (FAO, 2005).

In the case of Mozambique, the 22.5% growth in the industrial sector between 1997 and 2003 was mainly driven by the mega-projects which, by their very nature, have little effect on poverty, since they create few jobs and their tax contributions are relatively modest due to the large fiscal exemptions granted to them.

Growth in the agricultural sector was 6.6%, resulting mostly from an increase in cultivated area, rather than from an increase in productivity. But bearing in mind that this sector supports and employs 70% of the active population, its effect on poverty reduction in the rural areas was direct. The scale can be assessed by:

- the 27% increase in per capita income from cash crops between 1996/97 and 2002/03;
- the percentage of households owning radios, which rose from 27% in 1997 to 49% in 2001;

- the percentage of households owning a bicycle which rose from 12% to 27% in the same period; and,
- the formal indicators such as the poverty incidence and the human poverty index which will be analysed below.

Creation of an appropriate environment for macro-economic stability

An appropriate macro-economic environment is a key requirement for rapid economic growth that is sustainable over the medium and long term and, subsequently, for job creation.

Mozambique has designed and is implementing a programme of public sector reforms, the objective of which is to gradually increase the ratio of tax revenue to GDP, strengthen the efficiency of tax administration and broaden the tax base. The promotion of economic activity in general, and investment in particular, includes:

- the elimination of cascading taxes that increase at every stage in the sales chain, replacing them with Value Added Tax (VAT) in 1999;
- rationalizing fiscal incentives with the approval of a new Code of Fiscal Benefits for Investment in 2002;
- replacing the previous taxes on income with a new corporate tax (IRPC) for companies, and a new personal income tax (IRPS).

The programme of tax reforms has made it possible to reduce dependence on revenue from foreign trade. Tax revenue has risen (Table 3.2), an important step towards the economic opening advocated by the MDGs. In fact, tax revenue as a percentage of GDP rose from 9.9% in 1996 to 11.3% in 2004.

However, an increase in development aid is still one of the basic assumptions for attaining the MDGs. This aid should be preferentially channelled to the state budget, in order to ensure coordination in prioritising how it is to be used. Thus efficiency of this aid also depends on the management of public finances, which involves improving budgetary programming, execution, control and transparency, and a guarantee that public expenditure is more efficient.

In short, in the context of PARPA II, in order to guarantee that macro-economic stability is balanced with strong and wide-ranging economic growth, moving in the direction of achieving the MDGs, it is necessary to apply the following measures:

- **Continue consolidating the fiscal system,** reducing pressure on exchange rates, to increase the mobilisation of budgetary resources, and manage public expenditure so as to reduce dependence on foreign aid in the medium to long term and improve tax administration.
- **Maintain a stable monetary policy,** given the continual and large flows of foreign aid, using a mixture of instruments, such as the issue of treasury bonds, and foreign exchange auctions, in order to avoid excess liquidity and the consequent volatility of interest rates.
- **Improve the business environment**, by adopting more flexible labour legislation linked to a competitive social security system, a judicial system that is more pro-development and responsible, and a more transparent legal system.
- **Implement a rural development strategy** that promotes labour intensive sectors, especially in agricultural activities that have developed world markets, by developing the infrastructures necessary for agricultural activity, rural finances, and an increase in the capacity of local governments.

Eradication of hunger: Promotion of a policy with an integrated approach

In order to eradicate hunger – that is, to fight against poverty – we must understand its distribution and dynamic across the country.

In general, poverty in Mozambique, as measured by the HPI, fell from 55.9 to 48.9, which is a drop of 12.5%. Poverty is not uniform throughout the country, but increases from south to north.

Human poverty in Mozambique by region

In absolute terms, from 1997 to 2000, poverty, as measured by the HPI, was reduced more in the central region (-6.1) and the north (-5) than in the south (-4). From 2000 to 2003 the reduction was smaller but with the same trend: central region -2.8, north -2.5, and south -2.1.

However, in relative terms, the south shows the greatest poverty reduction: 11% from 1997 to 2000 and 6% from 2000 to 2003, while the central and northern regions showed, respectively, 10% and 8% from 1997 to 2003, and 5% and 4% from 2000 to 2003. In general terms, the poverty rates in the three regions are drawing closer.

Box 3.1 Reducing poverty means reducing hunger

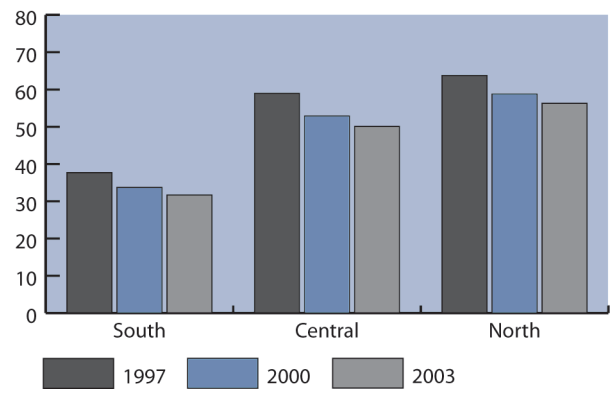
Hunger is directly related to poverty; in general, about 80% of the expenditure of the poor goes towards buying food. Thus poverty reduction mainly means reducing hunger. Furthermore, food depends to a large extent on agriculture, and on agricultural marketing.

In Mozambique marketed agricultural production tripled between 1990 and 2004, rising from 199,000 to 585,000 tonnes. This growth was due to a rise in the marketing of grains (maize, rice and sorghum) from 104,000 to 305,000 tonnes. Cassava and sunflower marketed production also more than tripled, from 24,500 to 100,000 tonnes, and from 1,000 to 4,500 tonnes respectively. The marketed production of beans quadrupled, rising from 13,700 to 70,000 tonnes; while that of groundnuts increased 7.5 times – from 4,700 to 40.000 tonnes. There was a 12% decline in copra production due to lethal yellowing disease, while cashew nut production almost doubled (rising from 22,500 to 43,000 tonnes).

The average annual growth of agricultural marketing was 8%, while that of agricultural production was 6.6%. This means there was a slight decline in production intended for household consumption, in favour of a greater cash crop dynamic.

The combination of food and non-food (cash crop) agriculture is important, because the latter increases the purchasing power of the population, thus allowing monetisation of the countryside, and the acquisition of goods that households may not produce themselves. The association of agriculture with livestock production is also important, in order to achieve a more balanced diet.

Graph 3.2 Human Poverty Index by region,1997–2003



Graph 3.3 Human Poverty Index in the southern region,1997–2003

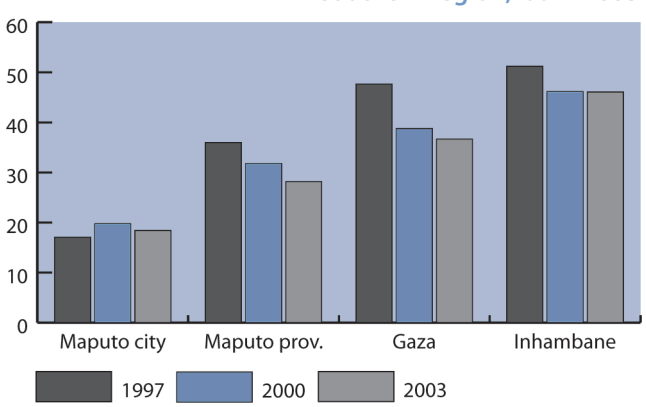


Table 3.3 Human Poverty Index by regions and by provinces

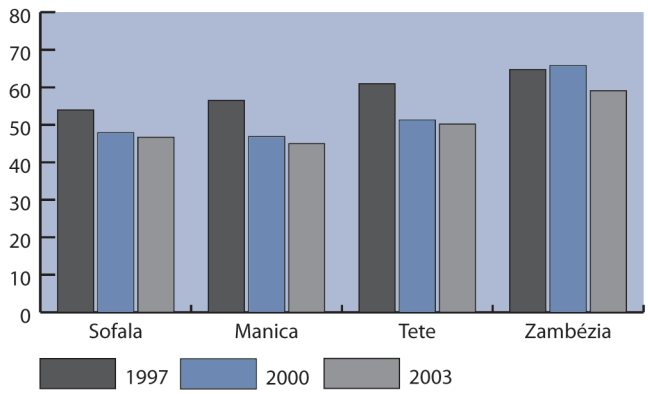
	1997	2000	2003
North	63.8	58.8	56.3
Niassa	61.2	53.2	55.9
Cabo Delgado	67.1	62.8	57.6
Nampula	63.0	60.5	55.5
Centre	59.0	52.9	50.1
Zambézia	64.8	65.8	59.1
Tete	61.0	51.3	50.2
Manica	56.5	46.9	45.0
Sofala	54.0	47.9	46.7
South	37.7	33.7	31.7
Inhambane	51.2	46.2	46.1
Gaza	47.7	38.8	36.7
Maputo prov.	36.0	31.8	28.2
Maputo city	17.1	19.8	18.4
Mozambique	55.9	50.9	48.9

In the southern region, poverty also grows from south to north. The low Human Poverty Index in the south is greatly influenced by Maputo city, whose HPI is below 20%. Maputo and Gaza provinces have recorded a gradual reduction in poverty, while Inhambane reduced poverty from 1997 to 2000, with the situation registering no noteworthy alterations in the subsequent period, from 2000 to 2003.

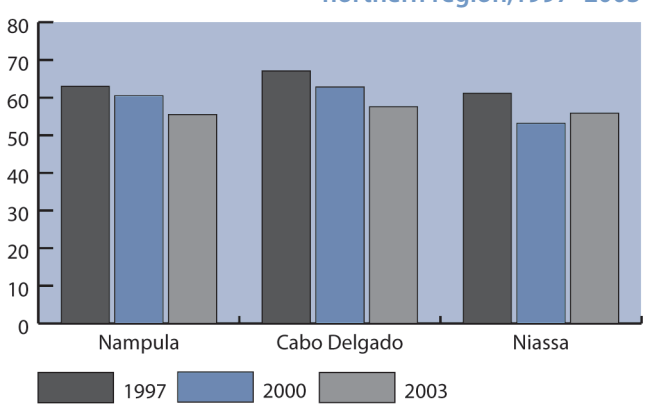
In the central region, the average provincial poverty increases gradually from Sofala, Manica, and Tete to the poorest province in the country, Zambezia. Roughly speaking, all the provinces reduced human poverty from 1997 to 2003. In Zambezia, poverty increased slightly from 1997 to 2000, but there was a significant reduction in 2003.

In the northern region, the three provinces show more or less similar levels of poverty, although

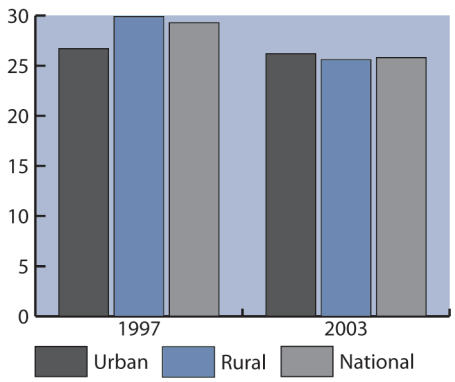
Graph 3.4 Human Poverty Index in the central region,1997–2003



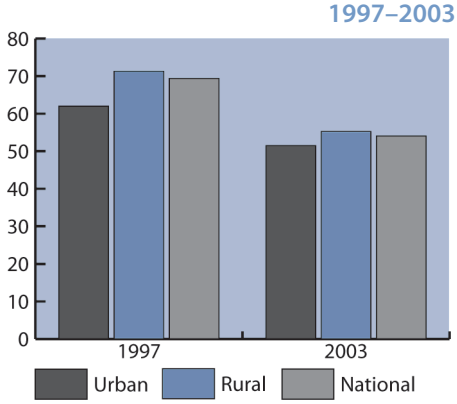
Graph 3.5 Human Poverty Index in the northern region,1997–2003



Graph 3.6 Human Poverty Index, 1997–2003



Graph 3.7 Comparison of the percentage of people living below the national poverty line, 1997–2003



Nampula and Cabo Delgado have slightly higher levels than that of Niassa. The HPI declined gradually from 1997 to 2003 in Nampula and Cabo Delgado, while in Niassa it fell from 1997 to 2000, and then rose again from 2000 to 2003.

Thus, while in the southern region poverty increases from south to north, with Maputo city the least poor, with an HPI lower than 20%, and Inhambane the poorest province with an HPI greater than 40%, in the central and northern regions, poverty is distributed in a more uniform fashion, varying from about 45% in Sofala to about 60% in Zambezia.

Human poverty in Mozambique in urban and rural areas

Human poverty in Mozambique also varies between urban areas and the countryside. In 1997 it was clearly greater in rural zones than in urban ones, measured both by the Human Poverty Index and by the incidence of human poverty, two complementary ways of measuring human poverty. By 2003, the human poverty index had fallen sharply in the rural areas, and was lower than in urban areas. This affected the national human poverty index. In urban zones, the HPI has remained virtually constant.

During the period under analysis, there was a reduction in the gap between urban and rural poverty. In 1997, the percentage of the urban population below the national poverty threshold was 62%, while in the rural areas the figure was 71.3%. In 2003, those percentages were 51.5% and 55.3% respectively. Thus in the countryside poverty fell by 16 per-

centage points, while in urban areas it fell by only 10.5 percentage points.

The difference between urban and rural zones fell from 9.3 to 3.8 percentage points. Thus the number of people below the poverty threshold has fallen nationally, and the difference between urban and rural areas has been cut. The fact that poverty has fallen at a sharper pace in the countryside than in the towns may be related with agriculture, given that the rural population depends heavily on agriculture.

The reduction in poverty between 1997 and 2003 may also be confirmed by the poverty differential ratio (incidence x absolute poverty), which fell by 30%, from 29.3% to 20.5%.

In short, it can be said that, in Mozambique in general, poverty increases from the south to the north, and from urban areas to rural ones; that poverty fell significantly from 1997 to 2003, and that it fell more in the countryside than in the urban areas, establishing a positive trend of greater balance, due mainly to the increase in agricultural production.

Current growth rhythms of the economy, and attaining MDG1

There is no fixed relationship between economic growth and poverty reduction. Many factors are behind the fact that there is no linear relation between these two aspects, but perhaps the most important are the type of growth and the way in which the nation's wealth is distributed.

A study undertaken by Reddy and Heuty (2005) established that the elasticity between poverty reduction and the increase in wealth is -1.4. Considering this elasticity, a country needs an average economic growth of 2% a year from 1990 to 2015 in order to cut poverty by half.[19]

In the case of Mozambique, considering the period 1997 to 2003, the GDP per capita evolved from US$ 217 to US$ 259,[20] and the incidence of poverty fell from 69.4% to 54.1%, which corresponds to an elasticity of -0.8779. Maintaining this elasticity, Mozambique would need an average annual per capita GDP growth rate of more than 3.1% in order to achieve the first Millennium Goal, if the form of distribution of the national wealth remains constant. This assumption is important since from 1997 to 2003, the rate of economic growth showed a tendency to decline, and inequalities in general increased, as measured by the Gini coefficient,[21] which rose from 0.40 to 0.42.

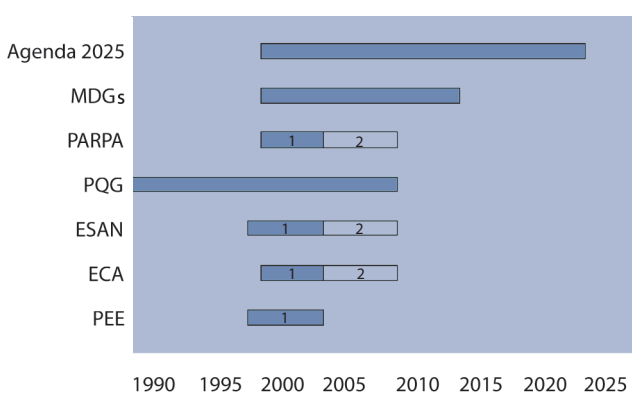
Development policies and strategies in Mozambique

In Mozambique, several policies and strategies of national, regional and global scope, aimed at economic development and poverty reduction, overlap. The most important are: PARPA, Agenda 2025, the PQG, NEPAD, the MDGs, the Food Security and Nutrition Strategy (ESAN), the Agricultural Marketing Strategy (ECA), and the Roads Strategy (PEE).

Apart from PARPA and the PQG, there are multisector programmes, through which the government establishes priorities and coordinates actions in the struggle against poverty, such as, for example, the ESAN, ECA and PEE.

The temporal distribution of the various policies and strategies is shown in the following graph.

Graph 3.8 Time spans of the various national or adopted programmes and strategies

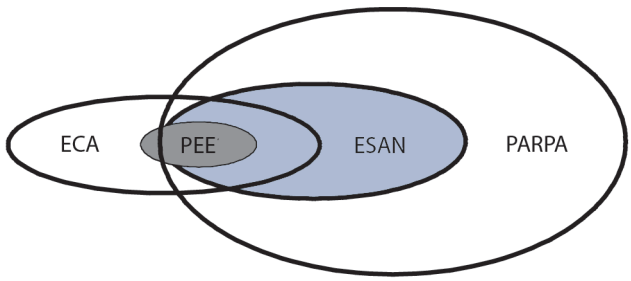


19 Starting from the general formula of economic growth, we have $H/2 = H*(1-0.014*g)^n$. Where H represents the percentage of people below the national poverty threshold; "g" is the rate of growth and "n" is the number of years, in this case 25 (= 2015 – 1990). It is clear that "g" is independent of the initial poverty level (H), and it is established that the final level is equal to H/2. Solving the equation gives the result that g = 1.95%, that is, approximately 2%.

20 From 1991 to 2004, the average growth in per capita GDP, in US$ PPP, was 7.8% a year, rising from 614.9 to 1,640.6.

21 The Gini coefficient is a concentration measure. It varies between 0 and 1: it is zero when in all classes there is equal distribution of a particular attribute by the elements under study, and it takes the maximum value when the entire attribute is concentrated in individuals of one class.

Graph 3.9 Overlap in contents of the various national policies and strategies



In terms of the inclusiveness of the activities envisaged in each of the national policies and strategies, PARPA[22] covers almost all the activities envisaged in the other national strategies mentioned, as shown in Graph 3.9.

Between ESAN and ECA, a third of the activities are common to both, namely the areas of (i) availability of foodstuffs and (ii) economic and physical access to food on the part of the public. Also, the bodies involved in implementing them are, to a large extent, the same. Furthermore, both ECA and ESAN recognize the need to rehabilitate access roads in order to attain their objectives.

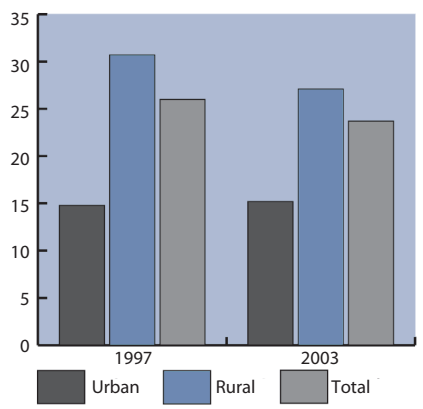
The rehabilitation of access routes is managed in accordance with the PEE. While practically all roads contribute to trade, it is doubtful whether some of them contribute directly to food security and nutrition, particularly those that are in cities and towns. But certainly most roads contribute to the fight against poverty.

Almost all the food security activities are envisaged in PARPA, while only some of the ECA activities are covered by this Plan. These three programmes are inter-sectoral, which means they involve several state bodies both in programming and in implementing the tasks.

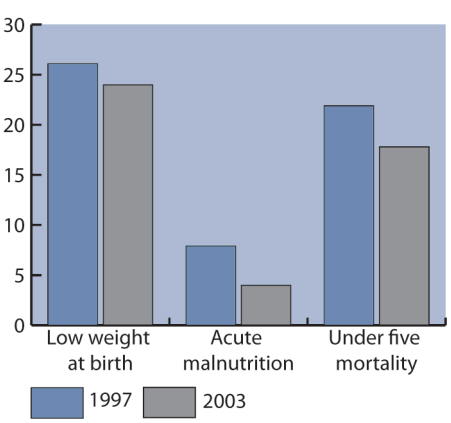
Excluding the PEE, which has an executive programme and a specific budget managed by a government body (the Ministry of Public Works and Housing, MOPH), these other programmes do not have their own budgets. It is expected that the various bodies involved in these programmes should use their own resources, allocated to them in the state budget, to implement the respective activities.

It may be considered, in short, that in general the various national plans and programmes converge on the priority objectives of fighting poverty, eradicating hunger, and guaranteeing food security, although it is always necessary to improve the strategic approach. A further relevant aspect is that all the plans and programmes refer to the importance and urgency of rehabilitating and building infrastructure, particularly communication routes, for national development.

Graph 3.10 Percentage of children under five who are below normal weight



Graph 3.11 Comparison of nutrition indicators in 1997–2003



Source SETSAN

22 PARPA II generally provides greater involvement of the public and private sectors, and of civil society.

The imperative link between nutritional and agricultural interventions

One of the indicators of extreme poverty is the number of children who are underweight. While the situation has remained practically constant in urban areas, with a slight rise, the situation in the countryside has improved, with a decline of three percentage points in the proportion of underweight children, from 30.7% to 27.1% as shown in Graph 3.10. Despite this, the situation in the rural areas remains bad, and is worse than the situation in the towns, where the number of children below normal weight is 15%.

The government strategy that deals most consistently with the nutritional problem is ESAN, which has already set as its target, in conformity with the MDGs, to reduce by half, *between 1990 and 2015 the percentage of the Mozambican population who suffer from hunger and chronic malnutrition.*

ESAN approaches the problem of food security in three directions, and the first two directions are strongly related to agriculture:

- availability of foodstuffs;
- physical and economic access to food; and,
- biological use of food, as well as cross-cutting activities such as the fight against AIDS.

Sufficient availability of foodstuffs, in adequate amounts and of good quality, means increasing the indicator of the supply of food energy per capita expressed in kilo-calories. Several sectors, including agriculture and trade, participate in improving food availability in any particular region.

In order to improve physical and economic access to food, the purchasing power of the population, particularly the rural population, must be increased, and the production of food for own consumption and for sale must also be improved.

The nutritional situation in the country improved between 1997 and 2003: low weight at birth fell from 26.1% to 24%, and acute malnutrition from 7.9% to 4%, while the mortality rate among children under five fell from 219 to 178 per 1,000 live births.

The first objective of the government's five year plan is *"the reduction of the levels of absolute poverty, through the promotion of rapid, sustainable and wide-ranging economic growth, focusing attention on creating an environment favourable to investment and the development of the national business class, and the incidence of actions in education, health and rural development."*

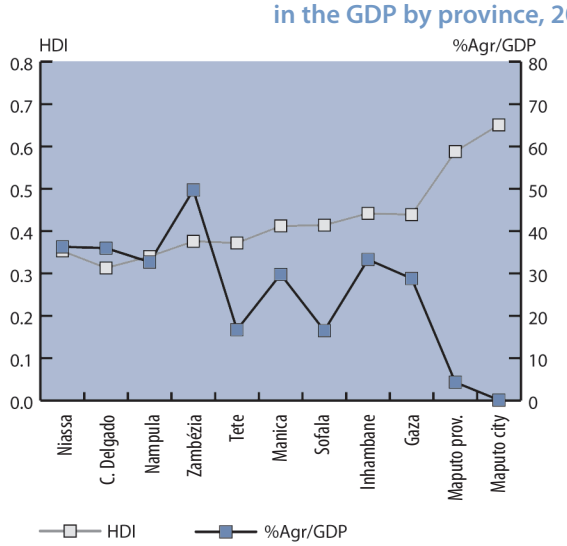
The specific government programme for agriculture is PROAGRI, which defines as its goal: *"To contribute towards improving food security and poverty reduction, by supporting the efforts of small scale agricultural producers, the private, governmental and non-governmental sectors, seeking to increase productivity, agro-industry and the market, within the principles of sustainable exploitation of natural resources."*

The need to prioritise agriculture in budgetary allocation

Mozambique is essentially an agricultural country, with about 70% of its population living in the countryside, but contributing only about 20% of the GDP. This reflects low agricultural productivity. There is a high negative correlation (R = -0.79) between the HDI and the percentage of agriculture in the GDP of the provinces. In general those provinces where agriculture accounts for a high percentage of GDP are those that have the lowest human development indices – that is, they have higher levels of poverty.

Despite its low productivity in Mozambique, agriculture is fundamental for national development. The importance of agriculture in the economic development of developing countries is stressed by many authors (see, for example, Delgado 1998), and for several reasons:

Graph 3.12 Correlation between HDI and the percentage of agriculture in the GDP by province, 2004



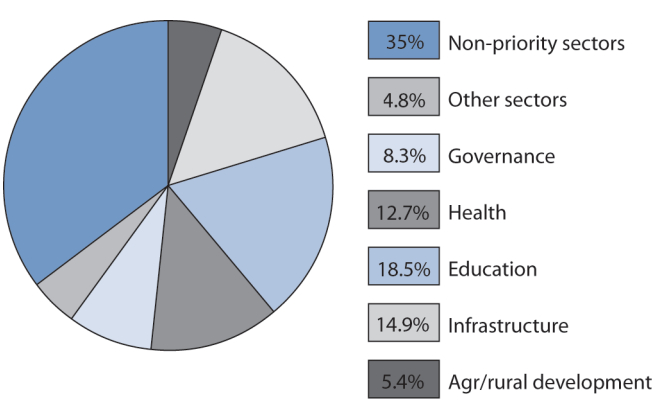
- Agriculture directly benefits the greater part of the population.
- More than 80% of the expenditure of the poor is spent on food. An increase in agricultural productivity reduces the real cost of food, and thus increases the income of the population in general.
- Increased income obtained through the reduced cost of food increases the competitiveness of the economy on the world market, because it does not derive from an increase in wages.
- The increase in income from agriculture has a relatively high multiplier effect on various economic and social activities.[23]
- Agriculture is more efficient than other sectors in generating added value under conditions of shortage of capital.

The importance of agriculture justifies greater support from the government so as to make the sector competitive. Taking the national and international situation into consideration, the recommended type of support is indirect, in the form of building institutional and physical infrastructures, given that the current trend is to abolish direct subsidies.

Of the sectors regarded as priority in government expenditure, the largest share goes to education, followed by infrastructure and then health. Governance is in fourth place, and agriculture and rural development in fifth. This is the same share as "Other priority sectors", which includes social welfare, labour and employment, mineral resources and energy. The interconnection between sectors is very large, but perhaps that which brings most benefit to agriculture is the sector of infrastructure, which includes roads, water supply and public works.

It is difficult to propose a change in the order of priority, taking into account the great shortcomings in all sectors, but it would be appropriate to increase the share for agriculture to 10% in accordance with the promise made by African leaders at the July 2003 summit of the African Union held in Maputo.

Graph 3.13 Allocation of resources in State expenditure, as average percentage, 1998–2004



Investment in market-related infrastructure

Market-related infrastructures are those linked to (i) agricultural development; (ii) with surface transport, namely roads, railways and ports; and, (iii) with storage capacity.

Agricultural infrastructure

There can be no marketing of national agricultural produce without the agricultural produce. And the basic element for the development of agriculture is water.

The Mozambican climate is predominantly semi-arid, with 80% of the country classified as semi-arid tropical, and 15% as the sub-humid zone. The extremes, that is, the arid and humid areas, constitute respectively 2% and 3% of the country's total area.

Average annual rainfall varies from 800 mm to 1,400 mm in the northern region, and from 600 mm to 800 mm in the south of the country. The annual average evapotranspiration is 1,280 mm and the regions with the highest water deficits are south of the Save river, the northern part of Manica province, and the south of Tete province.

The risk of losing harvests that depend on rain-fed agriculture exceeds 50% south of the Save river, reaching over 75% in Gaza province. The northern and central regions are, in general, more favourable for rain-fed agriculture, and here the risk of harvest loss declines to between 5% and 30%.

For this reason, the most important infrastructures for agriculture are those related to water man-

23 Tarp et al (2002) indicate that, for the case of Mozambique, agriculture has a multiplier of 2.75 for various activities, while the multiplier from industry is 1.81. In relation to merchandise, agriculture has a multiplier of 3.14, and industry 2.47; as for inputs, the multiplier from agriculture is 1.72 and from industry 1.01; for companies agriculture presents a figure of 0.58 and industry 0.46; while for households the agriculture multiplier is 1.67 and that of industry 0.97.

Box 3.2 Where are the 36 million hectares of arable land in Mozambique?

Questions are sometimes raised about the fact that Mozambique is not self-sufficient in agricultural products, although it possesses an estimated area of 36 million hectares of arable land. Indeed, for a population estimated at 19.5 million inhabitants, this amounts to almost two hectares of arable land per capita.

Compared with the United States, which only has 0.78 hectares of arable land per capita, there is no doubt that we have a lot of land. But in the United States a wide variety of agricultural products are produced and are exported. Some producers are even paid not to cultivate their land!

A further heavily used statistic is that, of the total arable area, only four million hectares are being used (about 11%), which implies severe under-use of the land. Furthermore, the land underused is, for the most part, the land most appropriate for agriculture. Faced with these paradoxes, there are profound questions to be considered, namely:

What are the crop yields on the cultivated land?
Taking maize and rice as examples, the yields are below what would be desirable, if we take the production in other countries as a reference point. While yields of maize and rice in Mozambique are about one tonne/hectare, in other countries maize yields reach 10 tonnes/hectare (USA) and 7 tonnes/hectare (China, Zimbabwe); rice yields reach 8 tonnes/hectare (USA, Korea) and 2.5 tonnes/hectare (Tanzania, and average of several Asian countries).

Thus in Mozambique a much larger area of land is needed to produce the same quantity of maize and rice that China, Zimbabwe, Tanzania and the USA produce on a hectare.

Furthermore, central and northern Mozambique produce when rain falls regularly, but also suffer serious losses, because of the impossibility of adequate storage or of moving the grain to deficit areas, usually in the south. This situation is made worse by the lack of capacity for post-harvest processing.

Thus the problem of agricultural production in Mozambique should not be seen only in terms of arable land that is not used, but principally in terms of the productivity of the cultivated area, which mainly depends on water management infrastructure, agro-industry and feeder roads.

Where is the arable land located?
The location of the arable land is very important, since it determines to what extent the producers can make use of the services that support production and marketing. However fertile the land may be, if it is a long way from water sources for irrigation, the term "arable" merely reflects a potential that cannot be achieved.

It is well known that that the amount of irrigated land in Mozambique is very low. This is because there has not been much investment in irrigation infrastructure (construction and rehabilitation), and because of the location of arable land in areas that cannot be irrigated. Only 120,000 hectares are equipped for irrigation (3% of the potential), and of these only 35,000 hectares (one per thousand of the potential) are in operation.

What technologies are available?
Other discussions have centred on the lack of technologies appropriate to production. Unless the lack of technologies refers to access and not to knowledge, the problem deserves deeper analysis. Probably, the major constraint concerns the availability of inputs for producers to implement technologies they have long known about. All producers know that irrigation and fertiliser increase crop yields, but where are the water, the fertiliser, the improved seeds, and agricultural credit, and all the rest? And the rest here does not include subsidies to agriculture, a highly controversial matter.

If agriculture is not regarded as a business, then it makes a great deal of sense that it be subsidised in a world food supply perspective. Someone has to produce to feed the world. However basic it may appear, it is necessary to remind everyone that, since the time of the hunter-gatherers has passed, our food comes almost exclusively from agriculture. The entire world is not about to abandon it, just because it is a less profitable activity than other undertakings.

Mineral resources or advanced industry may allow a country to acquire the consumer goods that it needs, but there must be somebody producing food. And since the Mozambican state budget is dependent on foreign aid, it is logically unsustainable to think about subsidising national agricultural production. The result would be national production competing with the production of the same countries that have donated the funds used to subsidise it!

It is not that the rice producers of Chokwe or the Zambezi Valley have forgotten what they did to obtain high yields before independence and in the first post-independence years. It is not that the peasants have not assimilated the knowledge transmitted by rural extension agents of various origins in recent years. Certainly where there is much to be learned is in post-harvest conservation technologies and in those technologies that add value to agricultural produce. Implementation of production, conservation and processing requires public and private investments of various kinds.

Apparently the 36 million hectares are only "potentially arable". If the term "arable" is duly qualified, then we will know what we can expect from the land we have.

Table 3.4 Irrigation schemes in Mozambique by class and functionality

Class	Equipped (ha)	Operational (ha)	Use (%)
A (<50 ha)	6,490	2,862	44.1
B (50-500 ha)	19,960	4,089	20.5
C (>500 ha)	93,550	28,049	30.0
Total	120,000	35,000	29.2

Source Ministry of Agriculture, 2003

Table 3.5 Irrigation schemes in Mozambique by class and province

	A %	B %	C %
Cabo Delgado	1	0	0
Niassa	0	0	0
Nampula	5	10	0
Zambézia	2	14	1
Sofala	2	0	43
Manica	8	16	0
Tete	8	4	0
Inhambane	1	3	0
Gaza	1	13	25
Maputo	74	39	31
Total	100	100	100

Source Ministry of Agriculture, 2003

agement, such as irrigation schemes. An estimated 120,000 ha of land (3.3 % of the potential area) is equipped for irrigation but only 35,000 ha (about 1% of the potential area) are in operation. Irrigation schemes are classified as A, B and C, depending on their size.

Irrigated land is concentrated in certain areas: 75% in Maputo and Gaza provinces, 22% in Sofala and Zambézia, and only 3% in the remaining provinces. About half the operational irrigated area is used for sugar plantations.

Given the limitations of water management infrastructures, agricultural production depends on rain, in a situation where cyclical droughts and floods are characteristic of the country's major rivers.

The lack of infrastructure is worsened because about 60% of the surface water (the main source for irrigated agriculture) comes from international rivers.

Apart from its normative and regulatory functions, the state should concentrate on:

- Ensuring integrated water management for multiple purposes in agriculture;
- Promoting irrigated agriculture and the respective research into and adaptation of appropriate technologies (empowering the development of irrigation systems for small scale producers);
- Encouraging and promoting expansion of commercial agriculture;
- Promoting decentralisation, de-concentration and greater participation by beneficiaries, communities and local authorities in the integrated management of water resources, and in the management and operation of infrastructure; and
- Stimulating the development of irrigation potential through building new medium and large irrigation systems.

Communication routes

The second important question in terms of infrastructures concerns feeder roads. The regional transport policy, advocated in the SADC Protocol on Transport, Communications and Meteorology (1996), establishes as the main objective freedom of circulation of people and goods among the countries of the region. However, this goal has not yet been achieved because the bilateral agreements needed to implement this principle do not yet envisage cabotage between the member states.

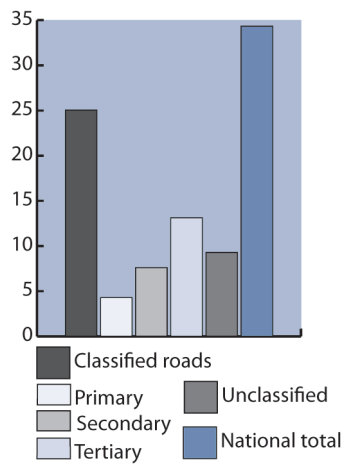
Other important aspects to the protocols are the establishment of transport systems that provide efficient, economic and fully integrated infrastructures and operations, and the standardisation of tariffs and fees to make the transport market more competitive among the member countries.

Among the surface transport systems, the one that is most heavily used is the railway, which carries 77% of the total cargo, followed by the roads with 13% and shipping with 10%. The growth in cargo transport has been irregular over the past five years, and is strongly influenced by events in neighbouring countries.

National and international road transport has been liberalized. However, national road fees are higher that those applied by the neighbouring countries, which serves as a barrier to the entry of foreign transport operators.

In Mozambique, there are 34,332 km of roads, of which 25,051 km (73%) are classified. Of these 17,2% are primary, 30,4% secondary, 52,4% tertiary and 22% local. Most of the roads, even if classified,

Graph 3.14 **Road classifications in Mozambique**



Source Ministry of Transport and Communications, 2004

are not paved (82%) and have seasonal traffic. In general, tertiary roads connect districts, and primary and secondary roads connect provinces.

The railway infrastructure was designed to connect the three regions of the country to neighbouring countries. Thus, there exist CFM-South, CFM-Centre and CFM-North. The first connects Maputo to South Africa, Swaziland and Zimbabwe. The second connects Beira to Zimbabwe and the third, Nampula to Malawi.

The basic infrastructure for maritime transport are the ports. In Mozambique there are three categories of ports: primary, secondary and tertiary. The primary ports are those of Maputo, Beira and Nacala. The secondary ports are Quelimane, Inhambane and Pemba. The primary ports offer better services and have a greater capacity to receive ships, while the secondary ones face many operational difficulties, such as lower productivity, serious limitations in accommodating large vessels and in terms of equipment for handling cargo. The tertiary ports need investment for rehabilitation and buoys, particularly Pebane, Chinde and Angoche.

The railways were built to connect Mozambique to the neighbouring countries, and so the only means of linking the north and south of the country is maritime transport, via the principal and secondary ports.

Since the tertiary ports operate defectively, the connections between the districts to the principal and/or secondary ports are by road (most of the roads are only passable seasonally), and by railway in the areas where one exists. Rail transport connecting the centre and the south passes through Zimbabwe, making it extremely expensive.

In the short term, routes must be rationalised, by prioritising maritime and rail transport, which are cheaper than road transport. This means that current operational and security problems must be solved. In order to make Mozambican agricultural products competitive on the national and international markets, the state must intervene to reduce port and rail tariffs. Such price reduction will increase the amount of cargo carried, and eventually compensate in part for the fall in revenue resulting from lower tariffs.

In the long term, investments are needed for the total rationalization of the transport of agricultural goods in the country. The first condition is to design means of proper bulk transport, that is, of goods that are not bagged. This reduces transport costs and eliminates the cost of bagging. In a merely indicative manner, we mention below some investments that would make a difference to transport costs:

- Rehabilitate roads connecting grain-producing districts to the main roads, to the rail stations and to the ports;
- Rehabilitate the tertiary and secondary ports so as to increase their use;
- Rehabilitate the railways;
- Study the hypothesis of liberalizing internal cabotage of road and maritime transport, in the development corridors and in the main ports respectively;
- Standardise road, rail and maritime transport fees and tolls at SADC level;
- Standardise the capacity of SADC roads.
- Rehabilitate the ports and set up port silos;
- Expand the railways.

The rehabilitation of roads, bridges and ports is being undertaken under specific projects. These should be made compatible with the need to prioritise agricultural areas and connections with rail and maritime transport.

Apart from rationalisation and the use of bulk transport, a political measure that would have a great impact in reducing costs would be the liberalization of internal cabotage, that is, the opening of the domestic market to international operators, thus increasing competition.

Storage

The third major question in agricultural marketing is storage. The state's storage capacity is managed by the ICM. Total capacity is 190,500 tonnes of grain, equivalent to about 6% of consumption.

The ICM possesses 498 warehouses with a total grain storage capacity of 187,195 tonnes, concentrated in the areas with greatest agro-ecological potential – that is, in the centre and north, with 44% and 34% of the ICM storage capacity respectively. The provinces with greatest capacity are Zambézia and Gaza, with 17% each, followed by Nampula with 15%, Tete with 12% and Cabo Delgado with 11%.

The storage problems can be solved with the building of silos, both inside the country, in the areas with the greatest agricultural production, and in the ports so as to increase storage capacity and reduce transaction costs.

Table 3.6 ICM storage capacity by province and region

	Unit	Storage Capacity (t)	%
Southern Region		40,930	22
Maputo	24	4,100	2
Gaza	47	31,480	17
Inhambane	11	5,350	3
Central Region		82,250	44
Sofala	31	8,700	5
Manica	35	18,075	10
Tete	57	23,125	12
Zambézia	67	32,350	17
Northern Region		64,015	34
Nampula	112	28,885	15
Niassa	61	14,530	8
Cabo Delgado	53	20,600	11
Total	498	187,195	100

Source Ministry of Industry and Trade, 2004

Dealing with the question of micro-finance

In recent years, micro-finance has been given some prestige internationally. The Washington "micro-summit" in 1995 made official a movement that was already replete with experiences of financing the "non-bankable" strata of the population, roughly inspired by the Grameen Bank in Bangladesh.

According to analysts and researchers into rural finance, there is an enormous demand for savings services from small farmers and rural households, and these groups believe that the availability of such services would have a major impact on improving financial management, and on the quality of life of the rural population.

In Mozambique an estimated 69%[24] of the total population has agriculture as its main income-generating activity. Yet very little is yet known about the level of savings of rural households and petty rural enterprises in Mozambique. The lack of information on the level of income that these rural households obtain or produce during the year, as well as other relevant information on the activities they undertake, makes it difficult to estimate the savings potential of the rural areas. However, some empirical evidence and work that has not yet been systematised shows with some insistence that the rural demand for micro-finance services is very large.

It is on this basis that the Mozambican government, through the central bank, has in recent years been reviewing the main legislation of the sub-sector in order to bring it into line with the rapid pace of its development, and also to create windows making it possible to bring financial services to the rural areas.

After the introduction of the Economic Recovery Programme (PRE) in 1987, reforms to the Mozambican financial system, together with other economic changes, culminated in a positive response from the national and foreign private sector, leading to the appearance of several kinds of financial institutions and services (Table 3.7).

Table 3.7 Evolution of the Mozambican financial system

	1987	1998	2004
Commercial Banks	3	8	13
Credit Cooperatives	0	4	7
Financial Leasing Companies	0	1	3
Representation Offices	0	4	1
Foreign Exchange Bureaux	0	23	21
Micro-credit Institutions	0	0	45

Source Bank of Mozambique, 2005

24 Corresponding to 13.4 million out of a total population of 19.4 million according to INE 2005.

Licensed micro-finance institutions are mostly located in the country's capital, Maputo. They are dedicated to financing projects that give a rapid return, in trade, and do not present themselves as a desirable complement to banking institutions. Thus micro-finance activity in Mozambique is an important challenge given the universal results obtained elsewhere in the world.

Of the 10 largest micro-finance institutions or projects in the country, only one and its network of local credit associations provide credit for agricultural production. The others are characterised by repayment periods that do not allow investment in agriculture and livestock, but only in trade, although this sector does not occupy most of the rural population and is not the largest generator of income.

In addition to credit, rural households in Mozambique also seek savings facilities and appropriate financial services. Studies show that rural dwellers in the country can save when a service is available that is adequate to their needs. In this respect, regulation is a very important factor for developing financial institutions and practices that can offer services to petty producers with seasonal incomes.

Operating in the micro-finance sub-sector in the countryside is very different from being in the towns. In Mozambique, choosing to operate in rural areas means agreeing to be patient and persevering in terms of the investment to be made, and the time it takes to achieve profitability, and to obtain institutional and financial sustainability, for profitability is much slimmer than in the peri-urban areas where there is a greater concentration of clients and a greater rotation of loans.

But the countryside can generate attractive and regular income if investments in infrastructure are made so that household farming may also embark on private commercial ventures. This effort involves concerted actions between the donor community and Mozambique with clear and detailed plans for irrigation and water management, marketing and market access, research for improvement of seeds and increased soil fertility, sustainable management of natural resources, and guarantee of the right to land.

There is a need, therefore, to set up a financial institution with mechanisms to promote and make viable the activities of citizens and national producers, and to act as a catalyst in attracting savings and in rural credit. This concern was duly presented and argued in Agenda 2025.

Job creation

The report of the Millennium Project entitled *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals,* argues that the private sector is an important partner in achieving the MDGs, since *"long term poverty reduction in developing countries will not happen without sustained economic growth, which requires a vibrant private sector."* The report notes that in low-income countries, most of the labour force is employed in rural agriculture so the fastest way of advancing growth would be through the transition from subsistence agriculture to commercial agriculture.

The gains would be felt not only in GDP growth, but also in job creation, since agriculture is labour intensive. A further finding of the report is the existence of a significant informal sector in the urban areas, which should switch to formal employment in globally competitive industry, trade or services. But these industries or services should preferably be export driven and labour intensive, unlike the mega-projects that, although aimed at export markets, are capital intensive.

In the case of Mozambique, the employment panorama is identical to that described by the report. Based on the 2nd Population and Housing Census1997, more than 70% of the Mozambican population is rural. This proportion was certainly affected by the gradual process of post-war resettlement, with migration of people from the cities and towns back to the countryside, as a sense of security returned.

As from 2000, after the floods, another trend must be taken into account – namely rapid urbanisation in Mozambique, in line with population trends over the entire world. This new trend has a major impact on employment in the cities, with strong growth in the informal sector to confront urban unemployment.

In 2002/2003, the census of enterprises carried out in Mozambique supplied more exact data on formal employment and unemployment, in the public and private sectors. This census shows that, of the more than seven million inhabitants of working age in Mozambique, only 521,000 are in

formal employment, of whom about 173,000 are in public administration, 302,000 are in the private sector, and 46,000 are in the non-governmental and international organisations. The private sector thus employs 60% of the people in formal employment.

The most important finding of this census is that less than 10% of the active population has a formal job, and thus the informal sector absorbs 90% of the economically active population in Mozambique. This data reflects the great importance that the informal sector has in the economy. Thus any employment policy must take into account the role of this sector.

If we consider that over 70% of the population is rural, then over 70% of this informal sector is in the countryside, in line with the fact that most of our agriculture takes place in the family sector. Agriculture employs more than 70% of the active population, and mostly in an informal manner. Thus, job creation policies should be aimed at rapid economic growth through increased productivity in the agricultural sector, and the transition from subsistence agriculture to commercial agriculture. In addition, special attention should be paid to the labour intensive industries that process agricultural products, given their double impact on the economy, through job creation and adding value to agricultural production.

Job creation through the intensive use of labour should also take markets into account, and hence this same production should be aimed at export markets. That is, food processing sectors should have as their primary goal to ensure food security in Mozambique, but in order to guarantee their sustainability they should also produce for the world market, and should be globally competitive from the viewpoint of technology, productivity, quality and price. But this must be accompanied by a strong component of transfer of technology, to guarantee globally competitive levels of productivity and quality.

The transfer of technology requires the capacity to absorb this new technology, which assumes educational levels that create this learning capacity. It also assumes very high levels of interaction with the outside world, which is only possible with access to communication and transport infrastructures.

The reduction of unemployment via economic growth, and hence the resort to the intervention of the private sector, also requires that macro-economic policies be brought into line, so that they encourage labour intensive rather than capital intensive production.

As noted earlier in this report, the average annual economic growth of 8.5% in the last 10 years in Mozambique was due essentially to:

- growth of 22.5% a year in the industrial sector, which came from two mega-projects (Mozal and Sasol) and from the Cahora Bassa hydro-electric dam;
- growth in the cultivated area in agriculture which resulted in an annual average growth in the sector of 6.6%; and,
- the unquantified effect of the activity of NGOs and donors.

It is noteworthy that the country is more attractive to capital intensive rather than labour intensive investments. So it becomes necessary to make the country attractive also to projects and investments that rest on the intensive use of labour.

One of the basic prerequisites for this is a healthy labour environment, based on more flexible labour legislation, with a very flexible legal environment for young people seeking their first job, as regards the wages offered, the time span of the contract, hours worked, holidays, and redundancy payments.

Transfer of technology *vs* appropriate technology

The current dynamic of technological advance has ensured growing levels of efficiency and effectiveness of development agents, particularly in the industrialized countries, given their privileged position in production of and access to technologies.

The low level of productivity is one of the common characteristics of the economies of the least developed countries, and one of the main factors behind their negative economic and social picture. Greater and better use of science and technology is the key to changing this scenario and re-launching these economies to the development platforms advocated by the MDGs.

There is no single definition of the concept of technology, and the focus in the debate on the matter has varied over time, as is also the case with the concept of development. This reality influences the entire theoretical conception of the relationship between technology and development, an indispensable ele-

ment for understanding the social and economic dynamics of contemporary societies

In a simplistic way, Stewart, cited by Colman and Nixon, defines technology as the combination of *"skills, knowledge and procedures for producing, using and making useful things"* (1986: 371). This definition leads us to understand that technology has two main components, namely the *process* of production and the *product* produced, which are associated with organizational and management capacities and skills, as well as innovation and creativity.

Development theory takes the concepts of technology, and interprets them in the perspective of their correlation with development. In this context, the debate arises about the need for technology that is appropriate to the reality in which it is placed. This is a matter of vital importance, and must therefore always be borne in mind when defining policies and strategies for the transfer and choice of technologies, in the relations between the countries of the North and the South, and between the countries of the South themselves.

The government's adoption, in 2003, of a science and technology policy is an important catalyst for stimulating the economic and social dynamic of Mozambique in a world currently facing the challenges of globalization. The general objective of this instrument of governance is to develop an integrated system for the production and management of knowledge directed towards national needs so as to stimulate sustainable development. In specific terms the policy seeks to:

- Develop an integrated, dynamic and good quality, integrated research and innovation system;
- Strengthen the national education and professional training system in the area of creating scientific and technological capacities;
- Develop the innovative capacity of the national productive sector; and
- Develop a system for disseminating and communicating scientific and technological knowledge, also making use of the new Information Communication Technologies (ICTs).

The government's commitment to implementing the technology policy in the context of achieving the MDGs is beginning to take shape with the integration of the scientific and technological component into PARPA, as shown in Table 3.8.

Translating the objectives of the technology policy into concrete activities to implement them may appear more complex than defining the focus of a sector approach. It is thus necessary to establish results-driven partnerships between the government, the private sector, civil society, and the cooperating partners.

Table 3.8 Integration of science and technology into PARPA II

Sector/Area of PARPA	Objective of Technology Policy
Agriculture	• Promote the use of ICTs to make the marketing of produce from small producers efficient • Encourage the use of ICTs in land management and in integrated district and provincial planning • Promote private investment in developing low-cost production techniques • Stimulate the use of ICTs to gather and disseminate local rural contents to reduce vulnerability
Roads and other infrastructure	• Promote initiatives of innovation and transfer of technology appropriate to the conditions of communities in building and maintaining infrastructure
Health	• Promote the use of ICTs to support distance consultations • Coordinate and promote the development of appropriate technological solutions and the use of information and communications systems to improve the management, efficiency and quality of the services provided
Education	• Ensure increasing use of ICTs in the spread of information and knowledge in schools • Stimulate the use of ICTs in the design, production and implementation of distance learning programmes • Develop education quality control systems
Water and sanitation	• Promote the use of ICTs in spreading knowledge for capacity- building in sanitation and in water economy • Guarantee growing and generalised use of ICTs in the management of fresh water reservoirs
Gender	• Ensure that ICT services are accessible to both men and women • Promote the use of ICTs in girls' education
Food security	• Promote the use of ICTs in monitoring and generating data on food security.

Source Adapted from the matrix drawn up by the National Directorate of Statistics and Cooperation of the Ministry of Science and Technology

Chapter 4

Challenges of Education

Introduction

The scientific and technological changes of recent years have been altering the forms of organisation of production and of societies. In this context, access to education and the production of knowledge are indispensable conditions for the development of individuals and of societies.

Educational level is one of the indicators of the capacity a society has to solve its problems, provide its members with decent living conditions, and guarantee its sustainable development.

More than ever, education is one of the essential factors for promoting human development. Education should contribute to the development of men and women as human beings – that is, endowed with knowledge, skills, attitudes and values, with the ability to discern, and the self-sufficiency to make conscious choices that allow them to improve their living conditions and to participate actively in society.

Basic education should promote in children the knowledge, skills and values which, apart from contributing to their human development, provide the foundations for future learning which they will need throughout their lives if they are to be conscious and self-sufficient citizens, active participants in building a just society that is scientifically and technologically equipped to offer its members decent and sustainable living conditions. Thus, education is a fundamental human right of men, women, boys and girls.

Attaining universal primary education is the second MDG, which establishes the target that, by 2015, all children of both sexes should have concluded basic education.

To reach this goal is a major challenge for many countries, particularly those whose educational levels are still very low, as in Mozambique. Despite the efforts undertaken in recent years which have raised considerably the number of children attending school, there are many children, mainly in the centre and north of the country, and girls in particular, who are still outside the school system.

Box 4.1 The Dakar Framework of Action

Over a hundred million children, mostly in the developing countries, still do not have access to school. This lack of basic education means that the youngest strata of society have fewer choices and opportunities, and at the same time it becomes ever more difficult for the developing countries to confront poverty and disease.

The current targets and objectives for education are basically those set down by the World Education Forum, promoted by UNESCO, which met in April 2000 in the Senegalese capital, Dakar, under the theme "Education for All: Meeting our Collective Commitments".

The Dakar World Forum reaffirmed the commitment from governments to meet the targets of the World Declaration on Education for All (Jomtien, 1990), based on the Universal Declaration of Human Rights and the Convention on the Rights of the Child. These establish that all children, young people and adults have the human right to benefit from an education that will meet their basic learning needs in the best and fullest sense of the term, an education that includes learning to know, to do, to live together and to be.

The Dakar Framework established the following six targets:

- Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;
- Ensuring that by 2015 all children, particularly girls, children in difficult circumstances, and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality;
- Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programmes;
- Achieving a 50% improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;
- Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality; and,
- Improving all aspects of the quality of education and ensuring excellence so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

The starting point for charting progress towards reaching the MDGs is the year 1990, to be achieved over 25 years. In 1990 Mozambique was at war, a war that for 16 years laid waste to many of its perspectives and development plans. In the education sector in particular, this condition meant a significant

regression, bearing in mind that in 1981, Mozambique was reaching universal primary school attendance and most children aged 7-10 years were at school.

Mozambique promised at Jomtien (1990), at Dakar (2000), and in other UN conferences to continue the struggle to ensure basic education of good quality for all its citizens.

The current environment of peace, political stability, and the economic recovery of the country favour the establishment and development of the human and material conditions that demand that universal primary education is ensured. However, the obstacles and challenges are enormous. Resources are scare and in large measure dependent on international cooperation.

Today, as in the past, the commitment and creativity of the government and of citizens is the fundamental condition for children and adults, Mozambican men and women, to enjoy the effective right to basic education.

Universal Primary Education

Access to basic education

In the early 1990s, the Mozambican educational system, still suffering from the constraints imposed by the war and by structural adjustment, was stagnating, unstructured and fragmented. About 50% of the primary schools had been destroyed, mostly in rural areas in the centre and north of the country.

In the early 1990s, a trend towards declining rates of attendance in primary education (EP1 and EP2) continued. In 1992, the gross and net rates of attendance in EP1 reached their lowest levels, of 55.6% and 38.8%, respectively (UNDP, 2000: 42).

The same trend was recorded in EP2. The gross attendance rate fell from 17% in 1990, to 14.4% in 1996. In the first half of the 1990s, the attendance rates at both levels showed how far Mozambique was from attaining universal primary schooling. In 1996, more than 40% of Mozambican children aged between 6 and 12 were not at school.

Added to the limitations of coverage was the extremely flimsy nature of the educational resources that most schools faced, particularly those in rural areas. The schools, without text books for either pupils or teachers, without exercise books, without chalk, without blackboards, would find it difficult to guarantee the basic conditions for an environment appropriate to good quality teaching and learning processes.

In 1995, the government approved the National Education Policy (PNE), prioritising basic education (for children and adults) in its strategy for the recovery and renewal of the education system. From the perspective of implementing the PNE, the First Education Strategic Plan (PEE1) was developed and approved in 1997. This advocated, as central objectives, the expansion and improvement of the quality of education, particularly of basic education.

PEE1 identified the human and material resource possibilities and those that were needed for its implementation; and offered strategies for the involvement and participation of social sectors and international cooperating partners. Joint efforts by the government and civil society, with technical and financial collaboration from multilateral international bodies and various donor countries, made it possible to begin and develop the recovery, rehabilitation and expansion of basic education. The effects of this began to be felt as from the second half of the 1990s.

In its goals of expanding and improving basic education, PEE1 gave priority to the educational needs of girls and women, thus taking seriously the principle that the education system should promote gender equity, as a decisive factor for social equality, for fighting poverty and for human development.

As from 1997, school attendance rates (gross and net) grew substantially and rapidly. They show the effects and results of several programmes, including the rehabilitation and building of schools, as well as the increase in the number of teachers trained.

The gross attendance rate, in EP1, rose from 76.2% in 1997 to 121.2%, in 2004. The attendance of girls also rose, but remained lower than the attendance rate among boys. As from 2004, this difference tended to shrink. There was also a growth trend in EP2, where the attendance rate rose from 20.7% in 1997 to 42.7% in 2004. At this level too the attendance rate for girls grew. However, in EP2, the difference between boys' and girls' attendance rates is greater, and is tending to worsen, in favour of boys.

On the other hand, there is a promising growth trend in the net rate of EP1 attendance, which reached 83.4% in 2005, indicating that 100% for both sexes may be reached in the near future. However, there are considerable regional differences in attendance rates. For example, in 2004

Nampula and Sofala provinces recorded the lowest net rates in the country, of 59.1% and 71.2%, respectively, while the highest were recorded in Maputo province and city, with 99.3% and 99.9%, respectively. This difference is also significant in terms of gender (Graph 4.1).

The net attendance rate among girls reached only 57.5% in Nampula and 66.0% in Cabo Delgado, while in Maputo province and city they reached respectively, 101.3% [25] and 103.7%.

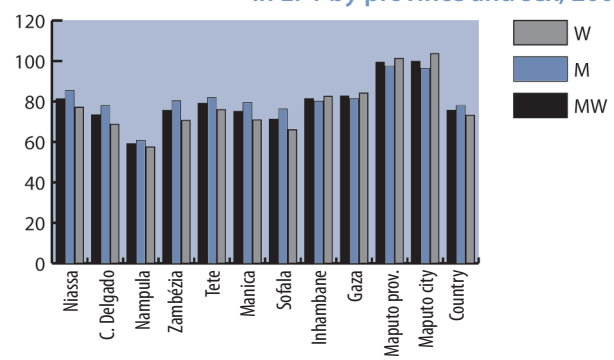
Apart from regional and provincial differences, consideration should also be given to the disparities between rural and urban areas. In 2002, the gross attendance rate in urban areas reached 125.6%, while in the rural areas it remained at 81.2%. In terms of gender, the net attendance rate among girls in rural areas was 48.1% while among boys it was 57%. But in urban areas this rate was 75.6% for the girls against 76.2% for the boys. So it can be concluded that gender differences in school attendance are worse in the rural areas.[26]

Education sector programmes seeking to reduce regional and gender disparities look in particular at the specificities of Cabo Delgado, Nampula, Zambézia and Sofala provinces, where there is a considerable imbalance between their school infrastructure and the number of people of school age. In most of these provinces, the girls' attendance rate is lower than the national average.

Between 1997 and 2004, the number of pupils attending EP1 almost doubled, from 1,745,049 to 3,071,564, of whom 45% were girls. In EP2, over the same period, pupil numbers grew from 153,115 to 409,279, of whom 40% were girls (Graph 4.2).

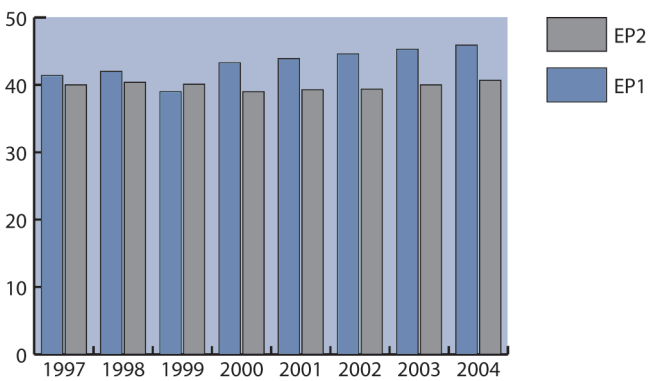
Between 1995 and 2004, the number of EP1 chools grew by more than 100%, from 4,167 to 8,373. In 2004, there were 1,116 EP2 schools, which was an increase of 21% compared to those existing in 1995. But this number is insufficient to accommodate all the pupils who should graduate from 5th grade. If, as envisaged, the effectiveness of EP1 is being improved, the school infrastructures available for EP2, in both rural and urban areas, will be insufficient. To attain complete primary education, major investments will be needed in building schools for this second level of primary education, and implanting the model of complete primary schools must be encouraged.

Graph 4.1 Net rate of school attendance in EP1 by province and sex, 2004



MW = men and women M = men W = women

Graph 4.2 Evolution of the percentage of girls in EP1 and EP2



The number of teachers working in EP1 has grown considerably, from 24,575 in 1995, to 46,636 in 2004. In EP2, the number of teachers has risen from 3,053 in 1995, to 10,506, in 2004.

However, in both levels the trend is for a decline in the percentage of teachers trained: in EP1, in 2004, only 55.9% of the teachers were trained and in EP2, 66.4%; whereas in 1995, 75.3% and 92.9% respectively had been trained. This shows that the installed capacity of the training institutions, although it has increased in recent years, is not able to keep up with the rapid growth in pupil numbers. This obliges the education sector to recruit teachers from secondary education graduates, who have no educational training. This means there is a risk of expanding basic education at the cost of its quality.

25 The net rate should not exceed 100%. So there may be quality problems with the demographic data.

26 The data has been taken from *Inquérito Demográfico e de Saúde (Demographic and Health Survey) 2003.*

Furthermore, there is an imbalance between the growth in pupil numbers and infrastructural and teacher hiring constraints, leading to a worsening of the pupil-teacher ratio, particularly in the urban areas.

A further consequence of this imbalance is that the amount of time pupils spend at school is reduced to three hours a day. To attend to the growing number of pupils, the schools – again, mostly in the urban areas – are forced to organise teaching into three shifts. This reduction in the time available makes it difficult to carry out the school curriculum fully, and also creates problems of managing and making the most of teachers' work in terms of hours taught versus wages earned.

To summarise, the growth in EP1 and EP2 attendance rates suggests a trend towards improving access to basic education. This growth was made possible thanks to school building and teacher training programmes. In this area, it can be noted that the education sector pays particular attention to the provinces with the worst shortfalls and to the rural areas.

While the growth in EP1 seems to show that Mozambique is on the path to reach the Millennium Development Goals at least quantitatively, the low level of efficiency is still an obstacle to be overcome. Furthermore, there are certain circumstances that may be reducing the effects of the expansion of basic education.

Box 4.2 Fighting the school drop-out rate

The government has abolished all fees for basic education and is undertaking a programme of direct financial support to schools – two measures that are strictly in line with the "Activities with Immediate Impact", recommended by the Practical Plan to Achieve the MDGs (Sachs, 2005).

However, the practice persists of many school managements collecting monetary contributions from families, justifying this as a way of improving educational conditions and providing teaching materials. It is important that control mechanisms be set up to prevent these additional costs of education, particularly for the poorest families, leading to children dropping out of school.

For reasons of survival, the poorer a family, the greater the probability that its children will abandon school. That is why schools should not worsen still further the vulnerability of these families, particularly in the rural and peri-urban areas.

A further factor that leads to poor children, and particularly girls, dropping out of school is the practice of using school uniforms that has become so widespread in the country, contrary to one of the "Rapid Impact Actions" recommended to reach the Millennium Goals.

In the urban areas, because of the shortage of school buildings, pupils enrolled in EP2 are channelled to night classes, where school management and educational conditions are poor, which are factors that can also lead to students dropping out.

The increase in the number of orphans whose parents have died from AIDS is a further situation that deserves attention from the government and from civil society. Many of these orphans, without specific support programmes, will probably never enter school, or will rapidly drop out. This vulnerable group of children, if not properly cared for, is a potential source for the reproduction and increase of illiteracy.

Effectiveness and quality of basic education

There is a tension, which is difficult to overcome, between the growth of educational opportunities and the quality conditions required for an effective teaching-learning process.

The growth and expansion of primary education is not being accompanied by greater effectiveness and efficiency. There is massive waste in EP1, where a high percentage of pupils only complete this level after repeating at least one year. Only 13.3%[27] complete the level without ever repeating a grade. Furthermore, the conclusion rate[28] of 5th grade is 46.8% and 27.7% for 7th grade, which means that the great majority of pupils do not complete these grades at the right age, due to the large numbers who repeat years, the existence of EP1 schools that do not offer all five grades of this level, and the prevalence of late entry into 1st grade, particularly in rural areas.

The transition rate from EP1 to EP2 in 2004 was 93.5%; that is, of a total of 201,108 graduates from 5th grade in 2003, 188,065 pupils were enrolled into 6th grade. This means that, although the EP2 school network is not proportional to that of EP1, most children who completed 5th grade have a place in EP2. But if the indices of effectiveness were to improve in EP1, as is expected with the introduction of the new curriculum, a major challenge will be created for EP2 schools to accommodate the pupils who have just concluded 5th grade.

These challenges will be still greater in the countryside, where the majority of school pupils live, although, in recent years, the number of primary

27 This figure was obtained through a reconstituted cohort, using the flow rates (promotion and repeat) for both sexes ascertained between 2003/4.

28 The *conclusion rates* express the relation between the number of graduates and the population of the age group in which the children, in theory, should complete that level of education – 10 years old for 5th grade and 12 years old for 7th grade.

schools offering both levels of education, the so called Complete Primary Schools (EPCs)[29] has grown. The expansion of this model integrating the two levels of primary education may contribute significantly to increasing EP2's capacity coverage in the coming years.

The EP1 and EP2 pass rates have evolved positively in recent years, though the percentages are still low. Between 1997 and 2003, the pass rate in EP1 rose from 58.5% to 67.2% and in EP2, from 51.7% to 61.6%. Both rates are low, if we consider that in every 100 pupils, more than 30 have failed (Table 4.1).

In 2004, very probably due to the automatic promotion from one grade to the next, introduced under the new curriculum, the pass rates rose considerably: in EP1 to 77.5% and in EP2 to 81.8%, which is a growth of 10 and 20 percentage points, respectively. Attention should also be drawn to the fact that in 2004 the historic differences in girls' and boys' pass rates practically disappeared.

It may be queried whether these rates express meaningful changes in the teaching-learning process, which have produced positive effects, or whether they are simply the result of the application of automatic promotion. Assessment of the pupils to be made at the end of the various cycles may show whether the alterations introduced under the new curriculum have contributed to improving the effectiveness and efficiency of basic education.

The repeat and failure rates, apart from reducing the impact of the programmes aimed at expanding basic education, imply a huge waste of the scarce resources available. Greater effectiveness in the teaching-learning process, apart from being a factor improving the quality of education, is a fundamental condition for speedier expansion of the educational supply at these levels of schooling, since by reducing the repeat rate, it frees places for pupils who otherwise remain outside of school, particularly in EP2.

Furthermore, over the years the repeat rate in EP1 has remained much the same, over 25%. But recently the repeat rate, in both EP1 and EP2 has shown a tendency to fall, although it remains above 20%. There are no studies that have investigated the factors causing the persistence of this phenomenon. How can we explain this persistence, despite the changes over time in the training and upgrading of

Table 4.1 Evolution of pass rates (%), by level and sex, 1997-2004

Level	Sex	1997	1998	1999	2000	2001	2002	2003	2004
EP1	MW	58.5	61.1	62.9	64.0	63.8	65.1	67.2	77.5
	W	56.2	59.0	61.0	62.1	62.1	64.2	66.5	77.3
	M	60.1	62.6	64.2	65.4	65.1	65.8	67.8	77.6
EP2	MW	51.7	57.7	60.5	61.8	62.0	63.1	61.6	81.8
	W	48.8	55.1	57.3	59.6	59.1	61.1	59.7	81.1
	M	53.7	59.4	62.7	63.2	63.8	64.5	62.9	82.3

MW = men and women M = men W = women

Table 4.2 Evolution of repeat rates (%), by level and sex, 1997-2004

Level	Sex	1997	1998	1999	2000	2001	2002	2003	2004
EP1	MW	24.9	25.2	23.9	22.8	23.0	23.3	22.2	20.8
	W	26.3	26.3	24.6	23.2	23.6	23.7	21.9	20.6
	M	24.0	24.4	23.3	22.6	22.6	23.0	22.5	20.9
EP2	MW	28.4	28.4	24.9	22.8	22.0	22.1	19.5	20.3
	W	30.9	30.8	27.0	24.6	24.0	23.8	20.3	21.3
	M	26.7	26.7	23.5	21.6	20.8	21.0	18.9	19.7

MW = men and women M = men W = women

29 By a local initiative, as from 1995 the model of "Complete Primary Schools" was developed, initially in Gaza province, which integrates the two levels of schooling (EP1 and EP2) into the same educational area. This allows a certain acceleration in the pace and breadth of EP2 coverage. In 2004, there were 710 EPCs throughout the country. This model, integrating the two levels of primary education into the same institutions, apart from shortening the distances between the homes of the EP2 pupils and the school, this significantly reduces among the pupils the negative social and emotional effect that passing from one level of schooling to another can have when this occurs in a different geographical and educational context.

teachers and of school directors, and in the distribution of school textbooks and other resources?

Very probably, this phenomenon, remaining almost unaltered since the mid-1970s, is related to what happens inside the classroom. That is, it has to do with the educational processes and environment in which teaching and learning take place. Large classes may also contribute to the repeat rate, taking into account that many teachers do not have the means, knowledge and experience to lead the teaching-learning process in this context.

It should be stressed that there is a higher repeat rate among girls than boys. Is this phenomenon not only connected with the fact that girls, for cultural reasons, have domestic duties that sometimes clash with their school tasks, but also, and fundamentally, an effect of the attitudes and practices of teachers, resting on the assumption that girls' ability to learn is less than that of boys? In this regard, we should query to what extent the school might be contributing towards reproducing the assumptions that are still dominant in society.

The dropout rate has been declining from 1990 to 2004, with some oscillations, between 10% and 8% at both levels of primary education. The repeat and dropout rates may be linked to several factors. Some related with the educational system, such as the long distances between the schools and the pupils' homes, the poor capacity for educational management in the schools and the irrelevance of the content being learned for the families.

Others are related to the socio-cultural context of the school: poverty may lead families to pull their children out of school in order to guarantee ways of survival. In the particular case of girls, domestic work, premature marriage and early pregnancy are factors leading them to drop out of school.

The challenges involved in attaining universal basic education are also concerned with expanding the school network, particularly for EP2. If the growth in EP1 recorded in the past few years continues, and if its effectiveness is improved, then it is very probable that, by 2015, Mozambican children aged between 6 and 10 will all be in school. But the same cannot be said for EP2 which, despite its recent, significant growth, may face major challenges to accommodate all the pupils who finish EP1.

Furthermore, to attain the MDGs, growth and expansion of the school network are not sufficient. It is also necessary to improve the quality of education – that is, the school must guarantee that pupils really do acquire the knowledge, skills and attitudes envisaged by the school curriculum.

The government's Five Year Programme (2005-2009) recognises the importance and urgency of promoting greater effectiveness and efficiency in the education services, and lifting their quality, reducing the drop-out and repeat rates, and ensuring reduced gender disparities.

In this sense, basic quality education promotes the blooming in the individual of the human potential indispensable for improving individual and family living conditions, and for the economic, social and cultural development of the country.

The indicators used to measure the effectiveness of education – the pass, failure and drop-out rates – give us information on the results, but they

Box 4.3 How can schools be made relevant in the fight against poverty?

Dropping out of school may find some consistency and rationale, when what is learnt at school has no relevance or meaning for the life of the family. Frequently factors internal and external to the education system work together, combining and interacting, ensuring that pupils, both girls and boys, first fail, and later on drop out of school.

A good quality education should promote and guarantee the effective acquisition of significant learning. It is not enough that the pupils are enrolled and follow particular educational programmes to obtain certificates. It is a matter of the effective learning of relevant and necessary knowledge, skills, attitudes and values so that pupils may be inserted within society and participate actively and consciously there.

A quality education promotes in pupils the self-confidence and capacity to make conscious choices, which are basic requirements for human development. It is because of this that expanding basic education without quality will not produce the expected effects in terms of human development and poverty reduction.

A good quality basic education is the foundation on which the future intellectual and cultural development of the human person is built. A basic learning of quality should ensure that the learner acquires and appropriates the essential tools that allow him or her *"to survive, develop his capacities to the full, live and work with dignity, participate fully in development, improve the quality of his life, take informed decisions and continue learning."* (Jomtien, 1990)

do not explain the processes through which these phenomena occur. They also neither identify nor evaluate the factors that assist or prevent the pupils, boys and girls, from reaching, or otherwise, the educational objectives advocated by the school curriculum.

Unmasking the factors behind this phenomenon requires analysis of school management and particularly of educational practice in the classroom. There are no rigorous studies on the various factors that determine the repeat and dropout rates in basic education, and which end up producing school failure. Research, with a multidisciplinary and holistic approach, might help inform and develop draft programmes and actions to reduce these rates, thus making the performance of this level of the education system more effective and efficient.

In terms of intervention, activities aimed at improving school and educational management should be prioritised.

One of the fundamental pre-requisites for raising the quality of education concerns the good educational and social performance of the teachers. Thus their training and updating should, as a matter of priority, seek to improve their pedagogical performance in the classroom, and their relationship with the community, which will also contribute to recognising and valuing teachers' work.

In recent years, the education sector has introduced new teacher training curricula, particularly in the mid-level training institutions, and has undertaken several on-the-job training programmes as part of introducing the new basic education curriculum and new educational supervision. In this context, strengthening the Zones of Pedagogical Influence (ZIPs) has been promoted, in order to make them a school for training, and for exchanging and spreading the good experiences among teachers.

However, the impact of these initiatives and programmes is not yet felt in the performance of the teacher in the classroom. In the teaching-learning process, methods centred on the activity of the teacher still predominate.

From the social point of view, the teachers are not very active, due in part to an inadequate perception of the role of the school as a factor in community development, and therefore the need for greater interchange between the community and the school.

In this context, we must ask whether the training and upgrading of teachers deals with these themes in a pertinent way, and to what extent the methods used advocate a change in pedagogic practice. We should also query whether the training courses themselves, using methods that are not very active, do not end up strengthening the didactic-pedagogical methods that have been prevalent in schools up to now, thus losing the opportunity for these courses to become a space for promoting pedagogic change and innovation.

The growth needed to attain universal basic education presupposes a considerable increase in the number of teachers who must be trained. Traditional training courses in their respective institutions have already shown their limitations in training the number of teachers who must be hired each year. Well-designed programmes of distance learning could, in a few years, promote a wide-ranging improvement in the teachers.

The education sector, based on the experience undertaken by the Teacher Improvement Institute, should look into the possibility of investing more in distance learning. Technological advances applied to education, make it possible and viable to expand and broaden, with quality, the various levels and types of education.

The recovery and expansion of basic education has included programmes aimed at improving its performance, effectiveness and efficiency, and to promote its quality. Among others may be cited the transformation in the basic education curriculum, which is trying to make it relevant and meaningful for the students and their families, as well as upgrading the skills of school directors, in order to improve school management.

School Councils have been set up with the aim of promoting community participation and involvement in school management. Bringing schools closer to the community allows an interchange of knowledge and experience, contributing to greater socio-cultural insertion of the schools and to improving the quality and relevance of the education they offer.

But the results achieved so far are out of proportion to the human and material investment in these programmes, which shows how qualitative changes are complex, and that their effects can only be felt over the medium and long term. The education sector should therefore persist with those programmes that seek to improve the quality of basic education.

However, special attention should be paid to monitoring and evaluating their impact on the sys-

tem's various levels and bodies, from central planning and management down to the schools.

In the context of decentralisation, the education sector should strengthen the development of management capacity, teacher training, educational supervision, and monitoring and evaluation at provincial and district level and in the schools themselves.

Particular attention should be given to implementing the new basic education curriculum, which introduces changes that seek to improve effectiveness and quality. It must be ensured that teachers accept the new curriculum as an instrument and guide to orienting their educational practice so that they may transform the schools into centres of pertinent and meaningful learning for the lives of the pupils, their families and communities, and thus contribute to the human development of the new generations.

Minimising the impact of HIV and AIDS on the education system

Mozambique has a population of about 19.5 million, of whom 44.8% are under 15 years old. The youth population – that is, those aged between 15 and 24 - constitute 32.2% of the population. Thus, there are 6.3 million young people. Of these, 4.5 million are students at all the levels of education.

In basic education alone, there are more than 50,000 teachers. A study undertaken by MEC and the INE points to a loss of 17 - 20% of the current contingent of teachers by 2010 (MINED, 2002a:4), which means that MEC will lose about 9,200 teachers in 10 years. The same study concludes that to reverse this scenario, it will be necessary to train 25% more teachers than those envisaged in the plans. At the same time, the UNAIDS report estimated that 1.3% of pupils would lose their teachers by 2009, showing how much AIDS will affect the country's supply of education, and thus the goal of attaining not only universal primary education, but also gender equity by 2015.

Linked to this loss of teachers, there could be deterioration in the quality of education as a result of the gradual loss of trained teachers, increased absenteeism among teachers, and the potential for reduced resources of parents and communities. In turn, this means that parents may cease to send their children to school, and orphans may also cease to attend school.

Furthermore, although the data used in monitoring HIV is not entirely reliable, the measured HIV prevalence indicated an increase in 2004, reaching 16.2% of the population. According to this data, a large number of the new infections – 46% — occur in the 10-24 year age group (MINED, 2002a: 4).

In this area, the education sector faces a great challenge – on the one hand, it must provide young people with knowledge and prevention skills, and on the other create conditions to attract into the system young people currently outside of school. It must also provide the teachers with knowledge and prevention skills for themselves and to teach to their pupils.

Note that this age group includes recently trained and hired primary teachers, and pupils at the various levels. This indicates, therefore, that HIV and AIDS are becoming a major constraint on education. It is important to pay particular attention to the teachers, because of their vulnerability, the need to care for them and/or replace them, and the fact that they are a group which, by their profession, should influence the behaviour of children. Teachers can thus be an important vehicle for sharing knowledge and skills concerning preventing and fighting HIV and AIDS in the school and in the community.

Faced with this situation, under the transformation of the basic education curriculum, the education sector is introducing, in a cross-cutting approach, contents concerning Sexual and Reproductive Health of Adolescents/Sexually Transmitted Diseases (SSRA/DTS)/HIV and AIDS. Under this approach, the education sector will:

- undertake a prevention programme for its own professionals;
- promote non-formal education and extra-curricular activities to develop life skills; and,
- develop a communication strategy for children and youths, as well as defining coherent policies for mitigating the impact of HIV and AIDS, in coordination with cooperating partners.

At the same time, the education sector is promoting the use of health services, Counselling and Voluntary Testing Offices (GATVs), Counselling in SSRA/DTS/HIV and AIDS, and the use of condoms. However, it has not given due consideration to a very important vulnerable group, namely the orphans who, as well as losing their parents, are very probably losing the possibility of protection and of remaining at school.

Despite the efforts and programmes mentioned, results are not yet visible. Risky behaviour continues among both teachers and pupils. Persistence is needed in implementing the strategies defined and, following monitoring and evaluation, to improve them continually, so that the present prevalence rates may fall considerably, while raising awareness of positive living, including the importance of nutrition.

The situation of orphans should be treated as a priority, bearing in mind that the number of orphans is expected to rise in the coming years. This could damage Mozambique's attempts to attain both universal primary education and gender equity, since it is usually the girls who leave school to care for parents who have fallen ill with AIDS.

Promotion of gender equality

Socio-cultural factors that influence girls' education

At all levels of the education system, girls are less likely to enter and remain at school, but their disadvantage first emerges and is consolidated in the initial years of schooling. Despite the programmes and efforts undertaken by the education sector in favour of equity in access to basic education, in 2004, as a national average, girls accounted for 45% of pupils in EP1, 40% in EP2 and in the first cycle of secondary education, and 37% in the second cycle of secondary education. These differences in access to school by girls are worse in the northern and central provinces.

However, between 1999 and 2003, enrolment in EP1 increased by 36%, while the gross admission rate advanced from 74% to 110%. The gains were greater for girls, which led to a reduction in the gender gap in primary education enrolment, particularly in the initial grades. EP2 enrolment increased by 89%, while enrolment in secondary education more than doubled. This growth was supported by progress in rehabilitating existing schools, and in building new ones (MINED, 2003b:2).

As a result, by 2004, girls came to account for 45.9% of the pupils enrolled in EP1, ensuring that gender equity was virtually achieved in first grade. But despite this apparent success, girls continue to be those who fail more, and the majority of those who fail, repeat grades and drop out of school.

There are several factors that contribute to gender disparity in school attendance. Some are to do with the school itself, while others concern the socio-cultural context. Among factors internal to the school that contribute to increased gender disparity in attendance, one that must be mentioned is the irrelevance of the learning provided at school, which demotivates parents from sending their children, and particularly their daughters to school.

Families, and particularly those with the lowest level of schooling, see nothing useful in school learning, since this makes little or no contribution to improving their living conditions. Very few manage to obtain a job that provides them with wages to meet their needs and the school has not equipped them with skills and abilities that enable them to create alternatives for their survival.

Furthermore, the teaching medium is Portuguese, a language that most children, particularly in the rural areas, do not speak when they enter school. Right from the start, this is a major constraint and limitation, and may have a negative impact on children's willingness to stay at school, since learning becomes more difficult and painful. According to teachers, the pupils are unable to express themselves in Portuguese until fifth grade.[30]

At school, children enter a world that is foreign and distant from their day-to-day lives, where the contents of the learning are different and new, and are also taught in a language that is foreign to them.

In this socio-cultural context, bilingual education, or at least the resort by teachers to the mother tongue as an auxiliary language in the teaching-learning process, might diminish its negative effects. This does not always happen. Loss of motivation may be greater among girls, particularly because they often enter school when they are above 7 years old.

A further reason concerns the institutional capacity of the provincial and district education directorates, which often delay the payment of teachers' wages. This affects the motivation of teachers and has a negative impact on how they carry out their teaching duties.

Another factor that particularly influences the school dropout rate among girls is sexual harassment/abuse by teachers and male pupils against girls. Many of the girls abused are in basic education, EP1 and EP2.[31] The shortage of women teachers at both

30 Cf. *Study on barrier to girls education*, 2005:20
31 Cf. *Relatório sobre abuso sexual nas escolas (Report on sexual abuse in schools)* 2005:25

levels of primary education, where they form only 10% of the total number of teachers (MINED, 2003c, 5) ensures that girls do not see what they can gain from school.

Furthermore, parents do not see the school as a safe place where their daughters can spend the greater part of the day. The presence of women teachers in the schools would help parents to place greater trust in the school, and also understand that, by studying, their daughters may in future have a profession, for example, as teachers in their community. For girls, the presence of women teachers would act as a model encouraging them to continue their studies.

Despite the abolition of school fees, teachers are still charging the parents money. These extra payments are a further constraint with a great impact on families. Since most families are very poor, they are not able to pay expenses that go on appearing throughout the year. This means that girls stop going to school because their parents cannot pay the sums requested by the school, and when they do have the money, they prefer to pay for their sons.

In rural areas, people generally live in scattered homesteads, which ensures that children have to walk for long distances to reach an EP1 school. The situation is even more serious when it comes to EP2 schools. There are few such schools, and the distances to be travelled are very long. When the school is distant, children have to leave home very early, and return very late. Girls run the risk of being sexually harassed or abused during the journey. Due to these facts, many parents prefer to protect their daughters, by preventing them from going to school.

As for the socio-economic conditions that may pose obstacles to girls' school attendance, poverty can be indicated as the main factor. Mozambican families are mostly poor, and peasant families particularly do not have money, since they live off subsistence agriculture, which leaves them with few or no alternatives for sending or keeping their daughters at school.

When families are poor and large, they have few financial and food resources to keep their children at school. Faced with this situation, the school is at the bottom of the list of family priorities. The most important priority is to provide food for their survival. And thus, since it is traditionally the job of women and girls to undertake domestic tasks, girls are removed from school in order to work in agriculture, to do domestic chores such as cooking, to go and fetch water and firewood, etc. Furthermore, families regard domestic labour as the best way of educating girls for their future tasks as wives and mothers. So they think their daughters are better off at home than at school.

When girls do go to school, their duty to carry out domestic chores limits the time available to study at home, ensuring that they have difficulty in complying with their obligations to the school. This impacts negatively on their school performance and thus leads to their failure and/or repeating the year – and, very probably to dropping out.

Food shortages often mean that children go to school hungry, and if they are hungry, there is little they can learn. They have no motivation to return to school the following day. Thus they begin to miss classes, and end up dropping out, and going to work on the family fields.

Other reasons behind dropping out are early pregnancies and marriages. Due to tradition, parents do all they can to marry their daughters off immediately after their first menstruation and before their first sexual relations. Early marriage is a way of parents obtaining money or goods through their daughter as payment or compensation for having brought her up. But if this sum is to be large, parents must marry off their daughter when she is still a virgin.

For this to happen, parents think it important that their daughter leaves school after the first menstruation, and after the initiation rates that confer on her the status of an adult, allowing her to marry even if she is only 11 years old. Thus it is around the age of 11, when she is in the final grades of EP1 and should go into EP2, that the girl marries, and then has children by a man who is often much older. Her return to school then becomes practically impossible.

These marriages with much older men constitute a risk of infection by HIV or other Sexually Transmitted Infections (STIs). HIV and AIDS are a very serious barrier to girls staying at school, or attending classes regularly. This disease is a reality in the community, and when households have somebody ill, they resort to the girls to take care of the patient or patients, looking after their younger siblings, etc. This situation makes a major contribution to girls missing classes or stopping school altogether.

Strategies to keep girls at school

In order to implement the third MDG, which involves eliminating gender disparities in primary and secondary education, the education sector has been paying particular attention to increasing the number of

girls entering all levels of the system, particularly in primary education. It is proposed to increase the percentage of girls attending EP1 by 2% a year, with a special focus on the northern and central regions, which currently have the lowest levels of girls entering school.

For this to happen, it was important to look at the education system as a whole, teacher training and the relevant curriculum, paying explicit attention to gender questions and to girls' specific leaning needs so as to encourage their access to higher levels of the system (MINED, 1998:22) and prepare them for the challenges of the future.

Thus, after the end of the war, in the early 1990s, there was a relatively large demand for schooling, but even so, there was always a smaller number of girls. In order to encourage the education sector, the government increased public expenditure on education, and mobilised additional foreign aid in order to face the challenge of providing children with quality basic education, and at the same time promote gender equity.

In order to overcome the lack of relevance, the basic education curriculum was reshaped, seeking to make it more appropriate to the economic, cultural and social reality of Mozambique. To this end, the curriculum was divided into two parts, one containing the content defined centrally, accounting for 80%, while the remaining 20% is decided locally, defined by the communities based on their needs. Also, crosscutting questions were introduced such as human rights, sexual and reproductive health, HIV and AIDS, gender and life skills, etc.

In order to end sexual harassment in schools, the Ministry of Education in 2003 laid down a series of norms to defend girls. The ministerial norm stresses the importance of respecting moral values, and condemns teachers who harass girl pupils. However, the norm also bans pregnant girls from attending school during the day, and they may only study during the night shift. Whilst the norm to retain pregnant girls in schools is positive, banning them from attending school during the day still constitutes an obstacle to the promotion of gender equity in education. Furthermore, if the school were transformed into a place where girls can express their feelings and emotions, cases of harassment might have an outcome that would dissuade the abusers.

To reduce the distances travelled by girls to and from school, some EP1 schools are being transformed into EPCs, offering 1st to 7th grade. In some districts a pilot programme of the World Food Programme (WFP) is also being introduced, which seeks to provide food for schoolchildren, particularly for girls. In providing meals in the schools, and supplying foodstuffs that the girls can take home to support their families, a favourable environment is created for parents to let their daughters attend school.

To give families greater trust in the schools and to make the schooling relevant to girls, the education sector has opted to expand the recruitment of women as primary teachers, guaranteeing equitable treatment for them, both in their recruitment for initial training, and in access to higher levels of in-service training. These women teachers are a model for girls, and promote their interest in school.

In an attempt to eliminate the economic obstacles that families face with the costs of education, fees were eliminated, and the distribution of free school textbooks was instituted. These measures have had a considerable positive impact. Many families celebrate these measures with great relief and enthusiasm, as they favour greater attendance at school of children from poor families, particularly girls. Previously, because of their poverty, these families preferred to send their sons rather than their daughters to school.

The challenges that remain

To shorten the distance that the country still has to travel to reach gender equity, it is necessary to attack the problems faced by girls which still prevent them from going to school, or from attending classes regularly, or from passing from one grade to the next, concluding primary and entering secondary education.

To this end, a holistic approach is required that includes community involvement in mobilising parents and guardians on the importance of basic education.

- It is necessary to strengthen and expand the school councils, to promote the involvement of NGOs and companies in mobilising funds to support girl pupils, either through scholarships or through creating job opportunities after concluding primary or secondary education;
- The construction of EPCs should be speeded up in order to reduce the distances that still separate schools from the homes of girl pupils. Technical professional schools should be set up among the communities, making it easier for girls to acquire a profession, and to opt for self-employment;

- Teacher training must be brought into line with the requirements of schools that wish to offer relevant education and promote gender equity;
- Creating incentives for girls who wish to follow a teaching career and for women teachers who are starting the career may be an effective way of motivating them to work in areas where there are few women teachers. For this, parents and the girls themselves must be mobilised to become interested in the teaching profession;
- Speed up community involvement in mobilising parents and guardians in defining the local curriculum (so that they may appropriate the curriculum taught in the schools), in advocacy over the problems that affect girls entering schools and staying there, such as sexual harassment, early marriages and pregnancies, etc.;
- The use of school uniforms must be rethought, with community involvement, since for many families this is a cost that is beyond their reach. If the use of uniforms was optional in rural areas, this would probably reduce the burden on families;
- Strengthen the Provincial Education Directorates so that they are financially autonomous and can take initiatives to improve schools' capacity to absorb girls. Strengthen gender units at central and local level so that they can mobilise communities on the importance of schools;
- It is urgent to draw up a strategy for looking after the orphans who are swelling the ranks of children who are outside school. They are vulnerable because the families taking care of them either have no resources to face the costs of education for these orphans, or because they do not prioritise the education of the orphans because these are not their own children, thus damaging the chances of attaining universal education for boys and girls and gender equity by 2015.

Box 4.4 **To educate the educators**

An education that is pertinent and relevant for society and for human development depends to a large extent on the quality of the teacher/educator. For this, the educator must be educated. It is the teacher, and particularly the teacher in basic education, who lays the cornerstones and develops the capacities that will allow the children to go on learning in the future. In the first years of schooling, children learn to know and to love their country, its beauty, its traditions and its history.

The teacher, in his or her educational task, develops in the child the love for truth, peace, freedom, solidarity, fraternity and justice. This gives the child the skills needed for living with other people, and knowing how to respect differences. These skills, attitudes and wisdom are basic for the construction and development of the personality and the personal and social identity of the child. This complex and delicate educational task requires an educator who is well-educated.

The training of teachers/educators demands that the multiple factors that intervene in the process be taken into account:

- the curriculum (its pertinence);
- the trainers (their training, experience and motivation); and,
- the availability of opportunities for the trainee to interact with the schools while still being trained in order to apply in practice the knowledge, skills and capacities acquired.

It is necessary that this training include the technical and scientific aspects of the educational goals, bearing in mind that the school should not only teach but also, and fundamentally, educate. Educating in moral values means developing in the child the capacity to reason, to discern, to argue, to know duties, rights and the rights of others, to value freedom and respect the freedom of others. It means inculcating in the pupil the value of friendship, honesty, love, respect, gratitude – in short, all the values that make a person more human.

Training that develops in the teacher/educator the capacity to interact with the community, so as to make the school a space for dialogue and interchange of experience and knowledge of and with the community, ensures that the educational process is culturally and socially relevant. The educational function requires that the teacher be professionally competent and confident, with a training that allows the teacher to be an agent of transformation in the sociocultural context where the school is located.

The training/education of teachers/educators should take into account the requirements placed on them as makers of a school that should:

- educate for love, for hope, for human togetherness and solidarity;
- develop relevant technical and scientific knowledge, skills and capacities for promoting individual, community and social development;
- allow the children to contribute towards improving their living conditions and those of their families, and participating actively in the construction of a prosperous, just and democratic Mozambican society.

Chapter 5

Provision of Health Services

Introduction

The concept of human development involves three fundamental dimensions, as stressed in the previous chapters: a long and healthy life, knowledge, and a decent standard of living. From this perspective, the present chapter deals with an essential component of these three dimensions: Health.

In the framework of the MDGs, the complex theme of health is shared directly by three of the goals, which can be summarized as: (i) reduce child mortality; (ii) improve maternal health; and (iii) fight against HIV and AIDS, malaria and other diseases.

These same objectives are advocated, with the same focus and stress, both by PARPA and by the government's Five Year Programme for 2004-2009.

An initial assessment of the trend regarding this important component of the Human Development Index (HDI) in the 2000-2004 period, shows a general, albeit modest improvement, in the order of 1.3% as regards longevity.

The main factors determining this improvement are the expansion of the national health network and the improved nutritional status of the population – although these gains have been countered by the spread HIV and AIDS, which constitutes an enormous challenge for the success of the struggle against absolute poverty.

General overview

The provision of quality health care in an equitable manner is a powerful weapon in the fight against poverty. In order that it may be more effective, it should be directed to the most vulnerable population groups, which in the case of Mozambique includes women, children, and those who are below the poverty threshold, most of whom are to be found in the rural and peri-urban areas.

With the exception of Malaria and the HIV and AIDS epidemic, the incidence of transmittable and non-transmittable diseases has been falling, thanks to the development of preventive activities. In 2003, the cases of measles notified numbered 25,850, and in the following year (2004) only 9,823 cases were registered, signifying a reduction of 62.1% (PES, 2005).

Malaria is showing an increase. In 2004, there were 4,997,174 cases against 4,952,769 in 2003. HIV and AIDS has been registering high rates. The rate of prevalence for 2004 was given as 16.2%. There were 10,494 registered cases of AIDS.

Since the end of the war in 1992, the health services have undergone development through the rehabilitation and construction of health units, the training and allocation of human resources of an increasingly high technical level, which is reflected in greater health coverage of the population, including those living in the countryside.

Financial resources and the availability of medicines have also increased substantially. In the same period, there has been increased availability of specialized services such as vaccinations, obstetric care, clinical specialisation in hospitals, and services for the diagnosis and treatment of HIV and AIDS, among others.

The health care network now consists of about 1,250 health units, which means there is one health unit per 15,000 inhabitants. However, this figure is still well below the plan laid down in PARPA I, which was to provide one health unit per 10,000 inhabitants.

Of the total number of health units, only 3% (43) are hospitals, relatively capable of solving rather complex health problems. The primary network covers between 50 and 60% of the population.

Most of the health units are in a less than reasonable state of preservation, with 30% of them without running water. As for equipment, two surveys held three years ago showed that about half of them did not have reliable sterilisation conditions, and 40% did not have disposable syringes and needles (MISAU/DPC, 2005b). A great deal of effort has been

made in recent years to correct this situation – but no more up-to-date survey has yet been done.

There are not enough staff in all technical areas. For example, the country has a total of 600 doctors. Dividing this figure into the Mozambican population, we find that there are, on average, about four doctors for every 100,000 inhabitants. There are fewer specialist doctors – only 1.8 per 100,000 inhabitants. These rates are far lower than those of any neighbouring country (MISAU/DNS, 2005a).

The vision, based on the social and economic development plan, is for a health care sector that "attains for Mozambicans health levels approaching the average for sub-Saharan Africa, with access to basic health care of good quality, through a health system that meets citizens' expectations" (MISAU/DPC, 2001).

From the perspective of the MDGs, the current chapter seeks to focus in particular on maternal health, child mortality, and the struggle against HIV and AIDS, malaria and tuberculosis, epidemic diseases whose pressure on the response capacity of the authorities and of all vital forces in society represents a critical challenge.

Maternal and reproductive health services

The MDG target for maternal health is to reduce maternal mortality by three quarters between 1990 and 2015.

In Mozambique, reproductive problems cause about one-third of deaths among women of reproductive age. Complications during pregnancy and childbirth are the main causes of illness and death among these women, and thus contribute to increasing poverty and declining quality of life. Maternal deaths increase the number of orphans, and infant and child deaths, lead to human suffering, and cause a heavy financial and social burden on individuals, households, communities and the country.

The maternal mortality rate in Mozambique, regarded as one of the highest in the world, has seen a significant reduction, as have other health indicators, thanks to the efforts made by the government and the communities. There are no reliable figures for the maternal mortality rate in 1990, but the World Health Organisation (WHO) estimated a figure of 1,062 deaths per 100,000 live births (MISAU/DSC, 2000). So this figure should fall to no more than 250 per 100,000 by 2015 to meet the MDG target.

In the Demographic and Health Survey held in 2003, the maternal mortality rate was 408 per 100,000 live births. It is debatable whether the fall in the rate is as great as these two figures suggest, since they were obtained using different methodologies. Nonetheless, although one may regard this as a steep decline, the current rate is still very high.

In 1999 the Health Ministry carried out a study to identify the main determinants of maternal morbidity[32] and mortality,[33] as part of the Safe Motherhood programme. This study identified three levels of delay, which can lead to the woman's death or incapacity. At the first level of delay, the causes are of a social and/or family nature, where the delay in taking the decision to go to the health unit, and refusal to take the patient there play a very important role. Women's lack of decision-making power over their own health, as well as illiteracy, poverty and unemployment, exacerbate the causes of this delay.

At the second level of delay, the reasons are a lack of resources such as infrastructure (e.g. roads) in the community, lack of transport to reach the health unit, including lack of ambulances, which leads women to walk long distances from their homes to the health units. In many parts of the country, the rainy season can hinder the movement of people and goods due to the absence of bridges that would make it possible to cross rivers.

The third level of delay is linked to conditions in the health units. These include delays in attending to the woman and providing adequate treatment, inadequate health services, inadequate treatment, lack of blood for transfusions, lack of conditions for surgery, staff incompetence, insufficient number of staff, poor attendance, and lack of qualified staff.

The study also identified some direct causes of death such as sepsis (serious, generalized infection), haemorrhage, uterine rupture, prolonged labour, septic abortion, eclampsia and ectopic pregnancy. Among the indirect causes of death are malaria, anaemia, and HIV and AIDS. The latter has become increasingly prominent as a cause of death in recent years.

The Ministry of Health has worked on the constraints identified in the third phase of delay. Thus the

32 Morbidity is the condition of being ill. The morbidity rate can be measured as a ratio between people who are ill and people who are healthy in the same population.

33 Mortality is measured as the ratio of deaths to population. It is common to combine the two terms as morbi-mortality.

number of births attended by qualified staff rose from 44.2% in 1997 to 47.7% in 2003 (INE, 2003).

Over the same period, the rate of institutional maternal mortality declined slightly from 181 to 177 per 100,000 live births. However, despite these improvements, the process indicators have not seen any great improvement: for example, the number of caesarean births undertaken in the hospitals has not increased nor has the rate of complications treated. The main causes of death (about 75%) remain direct. Clandestine abortions are another important cause of mortality.

Apart from the deaths, a considerable number of women suffer incapacities related with prolonged labour. Thus between two and five women per 1,000 births develop fistulas.[34] Few have access to surgical repair treatment (MISAU, 2003), and are stigmatized for the rest of their lives because of the disagreeable odour.

The solutions to the second level of delay are of a multi-sector nature (roads, bridges, vehicles, communication systems, etc.), and require greater interaction between the respective sectors. Tentative steps in this direction have been made, but the results are not yet visible (Graph 3.14).

As for the first level of delays, where the problems are located inside the family or community, this has been a target of the community health programme, which trains activists for advocacy in reproductive health. This advocacy includes mobilization undertaken by mobile brigades for ante- and post-natal consultations, family planning, vaccination and health checks. It has been implemented through Community Health Councils. These are located in the communities, and are formed by community leaders of both sexes, community health agents, including traditional midwives, elementary village health workers where these exist, and practitioners of traditional medicine.

These Health Councils have strong links with the health units in their respective area, and in carrying out their duties they set up a bridge with the health units in matters related with preventing diseases such as malaria, diarrhoeas, cholera, sexually transmitted infections, HIV and AIDS, and the diseases that are the target of the Expanded Vaccination Programme. Currently, these councils cover only a small part of the country, and are more dynamic in places where there are NGOs that support them.

Policies and strategies

Women's health is a priority defined by the government. In reality, in a country such as Mozambique, women are exposed to multiple threats arising from the deterioration of economic and social conditions, with deficient diet, poor general state of health determined by unmet needs, and a health network that covers only a small percentage of the population. High levels of illiteracy link up with traditional preconceptions, which cover not only reproduction, but also food, lack of information about the origins of diseases and how to treat them, as well as an early start and a late end to reproductive life, and minimum spacing between pregnancies.

Deficient infrastructure (such as roads and means of communication), as well as the shortage of transport, increase the already large risk of death.

A further important factor is the high fertility rate, which is linked with socio-economic aspects, such as increased prestige for a woman (and her husband) with an increase in the number of children, preference for male babies (since boys keep the family surname and supposedly support their parents in old age), and the need that the household has for many children to help in domestic and productive tasks. Since infant mortality is very high, fathers and mothers are uncertain about how many children will survive and prefer to have as many as possible, which exposes women to added risks.

Education has a very strong influence on a woman's own health, and also on the health of her children. Normally, educated women have fewer children, and experience a lower rate of infant mortality. In general they do not submit to some traditional practices that may be damaging, and have greater access to information on questions of health and disease. They know how to read medical instructions, and are more receptive to using the health services.

To confront this and other health problems, it has been necessary to increase access to health care. Thus, since the 1990s, the health network has evolved, mainly through transforming health centres into rural hospitals, and equipping the existing rural

34 A fistula is an abnormal passage between two internal organs, in this case between the genital canal and the urinary or digestive tract. It occurs as a result of pressure from the baby's head, generally on the vagina, during prolonged labour, which ends up breaking the wall of the neighbouring organ(s). This allows the permanent passage of urine or faeces into the vagina and thence to outside the body.

hospitals so that they may respond to the needs of women in terms of assistance during childbirth.

Health staff in general, and particularly mother-and-child health nurses, medical and surgical technical staff and doctors, have been updated in matters of assistance during childbirth, situations of risk and emergency obstetric care. The proportion of births that take place in health units with qualified staff rose from 44% in 1997 to 48% in 2003 (INE, 1997 and 2003).

An assessment of the needs for safe motherhood showed a low quality of care in all provinces, which resulted in a low perception in the community on the possible benefits of using these services.

Based on the problems identified, strategies to reduce maternal mortality have been defined. These rest on increasing the supply of basic and complete essential obstetric services; an expansion in the primary health network, and its use, so that women with obstetric complications can have access to these services, that should be of good quality and provided in due time. The strategies also include the use of process and impact indicators, with a definition of the minimum acceptable. The success of these strategies also rests on a referral system, in which women with obstetric complications are referred to another health unit at a higher level, with more resources and more complete assistance.

The government has been investing in this area since Mozambican independence. Based on the Assessment of Needs for Safe Motherhood and other research, it has developed the National Strategy for the Reduction of Maternal Morbi-Mortality,[35] the National Traditional Midwife Programme, the Inter-Sector Committee for the Development of Adolescents and Young People, the National Plan and Strategy for the Reduction of Maternal Mortality, the National Adolescents and Youth Programme, and the National Family Planning Strategy, among others, in order to reduce maternal and child morbi-mortality.

Although there seems to have been a significant fall in the maternal mortality rate, this does not appear to have resulted from improved attendance in the health units, since at institutional level this rate has only declined from 181 to 177 per 100,000 live births. Research undertaken in health units in 2001 shows a low level of use of maternity units for births, and the small number of caesareans carried out.

According to WHO, the probability that complications will occur is 15% of all expected pregnancies, while the normal number of caesareans is between 5% and 15% of all births (MISAU/DNS, 2002a).

In the year under study, the number of complications treated in the health units was only 10% of the expected rate, while the rate of caesareans was only 1.12%. With the exception of haemorrhage, where the time between the start of the complication and death is between 2 and 12 hours, the obstetric complications last between two and six days, and in the latter case there is sufficient time to transport the expectant mother to a better equipped health unit, if transport is available (MISAU/DNS 2003a).

Constraints and challenges

Despite the investment already made, the success of the interventions is still tenuous, because there remain serious constraints hindering improvements in women's quality of life.

On the part of the woman and her family

- The woman has poor or no decision-making power over matters concerning her sexual and reproductive health, and this prevents her from seeking medical help when needed. This weakened power of decision is worsened by strong economic dependence, some traditional practices and beliefs that are dangerous, poor understanding of risk, and the influence of the community and the family on the need to have many children or to have them when she is still very young. Although this decision-making power is concentrated in the man, the knowledge he has of reproductive matters is, in most cases, insufficient, and does not allow him to take adequate decisions.
- The woman's educational level is another very serious constraint. As already mentioned, illiteracy is one of the underlying causes for the great majority of maternal deaths.

On the part of the community

- The lack of strong and organised community structures is one of the major barriers to community involvement in health activities. Community Health Councils have been set up in some localities, but this experience, although

35 Morbi-mortality is a compound of two separate terms, morbidity and mortality. Morbidity means illness and mortality means death.

very positive, is concentrated in a very few parts of the country.

- The long distances that separate the community from the health unit, a situation made worse by a poor transport network, as well as a poor road network, the lack of an ambulance system, and of radio or telephone communications between the health units, all contribute to the weakness of the referral system.
- These two factors may contribute to the inefficiency of the network of traditional midwives. Traditional midwives still attend births, although it is considered that their role does not contribute significantly to reducing maternal deaths. For this reason, the support that the Health Ministry used to provide in training and in material for births has been suspended. Reactivating the Traditional Midwives Programme may avoid deaths, while the distribution of protective materials would prevent the spread of HIV.

On the part of the health sector

- Lack of a Reproductive Health Policy, with clear objectives and strategies guiding the integration of the various programmes in the reproductive area. This leads to the dispersion and verticalisation of the various programmes, with the consequent dispersal of human and material resources, thus reducing their impact on the health of women and of new-born infants. The man (the father) is also marginalized in all these programmes.
- Poor management capacity at various levels of the Health Ministry, concerning planning, monitoring and evaluation, as well as coordinating the various partnerships. Although a variety of norms, guidelines and strategies have been developed since the creation of the programme, they need to be completed and harmonised. Maternal mortality needs to be put high up on the agenda of the government, not only by the Health Ministry, but also by the other sectors that influence the first and second levels of delay.
- Chronic shortages of health staff in both medical care and surgery. This situation leads to health staff, rather demotivated because of their working conditions, becoming ever less committed over time. It is imperative to train surgical technicians in much greater numbers, as well as enough anaesthetists and obstetricians to cover the system down to the level of rural hospitals. The pace of training doctors and paramedics should be greatly accelerated.
- Poor quality of the health care provided, from the perspective of the clients. This quality includes professional competence and capacity, but also demands the provision of culturally acceptable services, such as the acceptance by the health services of rituals – such as carrying out the fertility rituals undertaken by the grandmother with the placenta of the woman who has just given birth to her first child.
- A further example is assistance at birth given by male professionals, or by nurses regarded as very young, which is opposed in several parts of the country. The establishment of Maternal and Peri-natal Death Committees is an irreplaceable instrument to monitor the quality of the services provided. The in-service training of health workers in emergency obstetric and peri-natal care is mandatory in order to provide good quality services.
- The need to maintain health units with the medical equipment and physical conditions necessary for providing basic and complete emergency obstetric care, including basics such as water, mattresses, sheets, bandages, lighting for births at night, as well as medicines and other materials.
- Sexually transmitted infections, particularly HIV and AIDS, have become increasingly serious. Access to appropriate treatment information including nutrition and home care, and instituting anti-retroviral treatment as required will save many lives. So far only 3% of infected women have been observed under the Programme to Prevent Vertical Transmission, which is negligible, under the conditions of a country where initial statistical data indicates that 16.2% of the adult population is infected.
- The legislation on abortion currently in force, apart from criminalising abortion, does not allow the National Health Service to intervene to save the lives of women, generally young women, who have unwanted pregnancies and end up resorting to illegal and unsafe abortions. This law, if it is not changed so as to respect the reproductive rights of women, will continue to make a significant contribution to the increase in maternal deaths.

Box 5.1 Who decides and cares for women's reproductive health?

Traditionally, women bear the greatest weight of reproductive health problems. Traditional society regards matters such as pregnancy and childbirth as women's affairs, and so women should solve any problems that arise in these matters. As a result, men are barred access to services such as family planning consultations, ante- or post-natal consultations, attendance at birth, etc. However, and also according to tradition, it is the man who takes decisions as to whether the expectant mother should go to the health unit or not in the event of illness or necessity, and he decides what resources should be made available for that.

Similarly, it is the man who generally determines how many children the family should have, and whether his wife should use contraceptives or not. But often he does not have sufficient knowledge to take adequate decisions on these matters and therefore women's health will improve only when men are involved in reproductive health programmes.

More than half of the women in Mozambique give birth outside maternity units, attended by people who may not have the necessary technical training. Many of these births are attended by traditional midwives (PT). In the past, the Health Ministry supported a programme intended to train the PT in how to identify signs of risk in a pregnancy or a birth, as well as to ensure a hygienic birth. Identification of signs of risk allowed the referral of such cases to health units.

Apart from training, these midwives used to receive a kit containing material for attending births, such as gloves, scissors, tape to tie the umbilical cord etc. However, after several years, this programme was put aside. What is happening now?

Women continue to be attended by the PT, but these no longer receive any training, nor are they supported in terms of materials, which they are probably unable to acquire in the rural areas. The risk of childbirth without hygienic conditions is large, increasing the risk of sepsis to both the mother and the newborn infant.

What happens to women who give birth in institutions?

Thirty percent of the health units do not have running water, and many have no electricity, and so are plunged into darkness at night. Many maternity units, particularly the most peripheral ones, do not have mattresses, much less sheets or sanitary towels. In general women nurses attend births, but there are cases where male nurses attend births. Women may feel inhibited when they are attended by a man (and even by a woman, when she is young).

Some proposals and recommendations

The National Strategy for the Reduction of Maternal Mortality, though well designed, has not been implemented nationally. Despite the efforts that the Health Ministry has made and is making, much more is needed in the following order of priorities:

- Health staff is in short supply, and are still being trained in tiny numbers. Many more surgical technicians, basic and mid-level mother-and-child health nurses, anaesthetists and doctors specializing in gynaecology and obstetrics should be trained at a much speedier pace.
- Continue to set up partnerships with the aim of increasing investment in rehabilitating health units and equipping them to an acceptable standard. These should be able to provide basic or complete (in accordance with the definition) emergency obstetric and neonatal care, for which they should be duly prepared, in equipment and in medicines.
- Increase the coverage of reproductive health services, with involvement by the fathers. Contraception and family planning constitute a programme with a great deal of influence on reducing maternal deaths, particularly among adolescent and young women.
- Empower individuals of both sexes, as well as families and communities. This should ensure that mothers have access to good information such as the best period to become pregnant, and what precautions should be taken during pregnancy. To this end, more educational materials on pregnancy and its risks, on the prevention and treatment of diseases, etc., should be produced and put them in accessible places, frequented by women and men, inside and outside the health units. Due to the continued high level of illiteracy, it is strongly recommended that this information should be broadcast on radio, using local Mozambican languages.
- Apart from the Demographic and Health Survey, evaluate process indicators of randomly selected health units, with the aim of monitoring the situation of institutional maternal deaths.
- Referral of expectant mothers to a health unit that provides more appropriate care is of extreme importance.
- Reactivate the Traditional Midwives Programme, since women in much of the countryside in fact have no access to the health services they so greatly need.
- Improve substantially the management of the Reproductive Health Programme, by increasing the number of trained staff at provincial and district level, as well as the development of norms, guidelines and strategies to complete the material already produced. The audits of maternal and peri-natal deaths are an instrument that should be maintained.
- Speed up the building of "waiting houses" near the health units in the primary network.
- Review the legislation on abortion.

Reducing child mortality

Current situation and trend

Under this MDG, the target established is to reduce mortality among children under five years old by two-thirds between 1990 and 2015.

No survey was undertaken in Mozambique to ascertain demographic variables in the 1985-1990 period. However, the United Nations estimated for those years an infant mortality rate (TMI)[36] for Mozambique of 141 per 1,000, above the African average, which in this period was 106 per 1,000 (MISAU, 1992).

The country has one of the highest child mortality rates in the world. However, this has been declining steadily, as a result of the measures introduced into the health system to prevent and treat diseases.

The first Demographic and Health Survey was held in 1997 and estimated a child mortality rate (TMC) of 219 per 1,000 and a TMI of 147 per 1,000 live births (INE, 1997). In 2003, the second Demographic and Health Survey found a child mortality rate of 178 per 1,000, hence a decline of 18%.

The infant mortality rate fell from 147 to 124 per 1,000 (INE, 2003), a fall of 15%. To reach the established target, the child mortality rate should fall to 108 per 1,000.

The anti-measles vaccine is part of the Expanded Vaccination Programme (PAV). In 1990, coverage was 57.5%, and advanced to 77% in 2004. In 1990, 18,048 cases of measles were notified, against 9,824 cases in 2004. Vaccination coverage is higher in urban areas (90.8%) than in rural ones (70.8%). Thus to reach the millennium goal will require much more effort than has been made so far.

There is a constant association between the child mortality rate and the socio-economic status of the children. The mortality rate among the poorest children is twice that among children with higher living standards (INE, 2003).

The main causes of child mortality are preventable. For children less than a year old the main causes are premature birth/low weight at birth, peri-natal conditions including asphyxia, serious infections, malaria, HIV and AIDS, acute respiratory infections and diarrhoea. Children more than a year old die mainly from malaria, measles, acute respiratory infections, malnutrition, HIV and AIDS and diarrhoeal diseases. HIV and AIDS is emerging as an increasingly important factor in this regard.

Policies and strategies

Reduction of the child mortality rate, like the maternal mortality rate, was defined as one of the main objectives of the Health Sector Strategic Plan. This document recognizes the multi-sector nature of the causes of mortality – hence the inclusion of strategies for collaborating with other sectors of society and of the government.

The health sector is now using as its overall strategy the human rights approach, paying special attention to mothers and children. The Universal Declaration of Human Rights states that motherhood and infancy have the right to special care and assistance. The Convention on the Rights of the Child, ratified in 1989, guarantees the right of children to the highest possible standards of health care.

Set into the context of Primary Health Care, programmes were established with the aim of improving the care provided to women and children, and thus lowering the morbi-mortality rates of this age group, regarded as a priority, Thus the Mother-and-Child Health and Family Planning Programme was born to serve these two groups.

Services provided for the maternal group were ante-natal consultations, attendance at births, post-natal consultations and family planning. For children, the Expanded Vaccination Programme and weight control services were set up. At the same time, services to care for new-born babies and the "baby-kangaroo" strategy were introduced. The latter allows babies born prematurely to spend more time with their mothers, receiving from them the warmth vital for their survival. Women also benefited from the vaccination programme.

In the period between the creation of Primary Health Care and the present, other projects and programmes have been introduced intended to improve the health, increase the quality of life and reduce the suffering of mothers and children: the PAV, the Nutrition Programme, the Essential Drugs Programme, Safe Motherhood, Exclusive Breast-feeding, Vitamin A Supplements, Insecticide Treated Mosquito Nets, Integrated Care for Childhood

36 The infant mortality rate measures the number of children who die before their first birthday, per 1,000 live births. The child mortality rate measures the number of children who die under five years of age, again per 1,000 live births.

Diseases (AIDI), Prevention of Vertical Transmission of HIV and AIDS, Child Nutrition, Roll Back Malaria, Treatment of AIDS, etc.

Constraints and challenges

The implementation of these programmes/interventions reveals bottlenecks to do with insufficient, inadequate and unmotivated staff, and technical supervision that is also inadequate. Logistics and supplies too are weak, in part due to the scarcity of material and financial resources. These issues lead to an equally weak patient referral system.

Although the interventions/programmes contributed greatly to the reduction in child mortality, this reduction was greatest among the group of children more than a month old. But it is the neo-natal group (new born infants up to 30 days old) that accounts for about 40% of the deaths that occur in the first year of life. And among those who die before completing a month of life, three-quarters die during the first week of their lives (Tinker et al, 2005). Thus the closer to the time of birth, the greater is the risk of loss of life.

The fact that a high percentage of births occur outside maternity facilities, unattended by trained technical staff, means that these newborn infants do not have adequate clinical care, and consequently are in serious danger of death.

Analysis of the mortality data shows that the improvement in health takes place mainly after the first year of life, and secondly after the first 30 days of life (INE, 2003). Since the infant mortality rate is greatly influenced by the high rate of neonatal mortality, which is 48 per 1,000 (INE, 2003), this means that neonatal mortality becomes an important priority. Deaths of newborn infants are not generally reported when they happen outside of the health units, but estimates from several countries indicate as causes of death severe infection, tetanus, diarrhoea, asphyxia, premature births and congenital diseases.

The death of the mother is also a determinant factor in the death of the child, as well as complications during the birth. According to the specialist literature, between a quarter and a half of neonatal deaths occur in the first 24 hours of life, and three-quarters occur in the first week of life. It is estimated that half of these deaths occur after home births.

Countries with a low child mortality rate managed to lower the infant mortality rate because of three main factors: free antenatal care, improved attendance at birth, and availability of antibiotics (Lawn, J. et al, 2005b). Habitually, interventions to reduce neonatal mortality are part of two programmes: that for maternal health, and that for child health.

The neonatal period is a critical period, a time of transition, when the child has generally not been fully integrated into the child health programme, but is no longer a target of attention by the maternal health programme. And in the first week of life, when the majority of maternal and neonatal deaths occur, these often happen at home. In Mozambique, only 47% of births take place at maternity facilities. The other 53% occur at home (INE, 2003).

The main constraints hindering a substantial fall in child mortality concern poor access to basic services such as health, education, sanitation and drinking water.

The health network covers only 50-60% of the population (MISAU/DNS, 2005a), while the rest of the population is covered by traditional medicine or by the community healthcare network, formed by traditional midwives who concentrate mainly on women's health during birth, and a very small number of village health workers. A numerically insignificant part of the population is covered by private medicine, which is concentrated in the cities, particularly Maputo and Beira.

A plan has been drawn up to build more health units, to cover the areas of the country that are currently least served, in order to reduce the current geographical iniquity in the provision of public health care.

For as long as the network has not expanded as envisaged, both the practitioners of traditional medicine and the community network should be the subject of a joint plan to struggle against childhood diseases, with a clear referral system, as currently exists in AIDI.

Sanitation is defective and hygiene practices are poorly observed. Only 40% and 42% of the population, in the rural and urban areas respectively, are covered by the supply of clean drinking water (see Chapter 6). The rest of the population consumes water that is unsanitary, which contributes to high levels of diarrhoea, and this in turn increases the prevalence of malnutrition, generating a vicious circle (malnutrition affects 41% of children under five, and is a factor behind a wide range of infectious diseases, including diarrhoeas). In 2004 malnutrition

Box 5.2 Educated mother, healthy child!

The educational level of the woman is extremely important, for the health of both the child and the mother. The various studies undertaken, in Mozambique and internationally, show that the quality of life and the survival of the child are related to the mother's level of education. Women with little or no schooling have less access to information on questions of health, such as the prevention, symptoms and treatment of diseases, nutrition, etc.

A person who does not know how to read and write finds it difficult to handle very simple instructions such as taking medicines (the dose, how many times to take it during the day, etc.), or memorising the dates to take the child to the health unit for control.

The 2003 Demographic and Health Survey shows that children born to mothers with no education have a 130% greater chance of dying before their fifth birthday than children whose mothers have secondary education. The children of mothers with no formal education are 50% less likely than other children to be vaccinated, and are more likely to suffer chronic malnutrition.

recorded a lethality rate[37] of 22.5%, regarded as unacceptably high (MISAU/DNS, 2005a, 2004b).

The services for the Prevention of Vertical Transmission of HIV (PTV), though still few in number, have contributed in recent years to the diagnosis and treatment of an ever larger number of HIV-positive women and children. Despite this effort, by 2004, less than 3% of women infected had access to PTV.

These services have a rather vertical approach, and their rapid extension to other health units, and to sectors other than ante-natal consultation, could benefit many more women and children. The HIV pandemic is emerging as one of the major challenges to reaching the millennium goals.

Some proposals and recommendations

To reach the targets, the following proposals, in order of importance, can be considered:

Speed up the increase in the proportion of births attended by trained staff

- This increase is vital to save the lives of women and children. In the more peripheral zones, the community network, with an adequate referral network, can help ensure that ever trained staff properly assists larger numbers of people. The training programme for emergency care for newborn infants should be extended to the country's entire health network.

Provide continual care

- The concentration of efforts on continual care should be strengthened – from the period preceding pregnancy, through the pregnancy itself, to the birth, the immediate post-birth period and infancy. This strategy allows the mother-child duo to be accompanied during the most critical phases of their existence. For this programme to be put into practice, there must be a programme linking the health workers to the home, so as to mobilise families to seek out the care they need, thus increasing access to and the quality of the health services.

Improve the standards of health care for communities situated a long distance from health units

- Standardise the services provided to the most remote communities, in order to satisfy the common needs of the community, in a regular manner, both in health units and in visits to the community. These services, already provided through mobile brigades, should be evaluated and possibly adapted, with the aim of including problems already identified such as treatment of malaria, PTV, etc.

Improve the training and supervision of the Health Unit technical teams

- This improvement, concerning skills in immediate maternal and neonatal care, including emergency obstetric care and emergency care for newborn infants, should be extended to all health units in the country, from the primary to the quaternary networks. Much training in obstetric care has already been undertaken, but this action should be permanent, and more attention should be paid to the neo-natal component.

Raise the quality of health care provided at community and family level

- Mobilise communities to adopt better health practices, and seek out care in cases of illness.

37 The lethality rate is measured by the number of children who die of malnutrition divided by the total number of malnourished children.

The creation of the Community Health Councils has proved a very positive strategy.

This component includes empowering individuals and communities to demand good quality services that meet their needs. It also includes community involvement in activities that improve their health status, such as participation in managing the health units that serve their geographical area, the use of mosquito nets, vigilance and control of hygiene of drinking water, the use of latrines and landfills, and maintaining a means of transport for the referral of patients who need to travel to a further level of care, among others.

The traditional midwives, the practitioners of traditional medicines, the village health workers and health activists, as well as community leaders of both sexes, should all have an active role in this extremely important component.

Establish an overall package of neonatal care

- This care should be implemented at all levels, and should be accompanied by simple indicators to measure implementation of the programme and neonatal health.

Fight against malnutrition

- This area, which is multi-sector in nature, requires empowering communities about nutrition. Communities should have correct information about how to feed themselves properly in terms of quantity and quality, as well as how to preserve foodstuffs. Texts used in education, including adult education, should cover this matter to disseminate it rapidly.

Expand vaccination

- Increase the number of children fully vaccinated by the end of their first year of life from the current figure of 63% to at least 90%. Anti-measles vaccination should reach the same coverage.

Extend PTV services

- This extension should be accompanied with measures to make the services less vertical, so that there are greater linkages between the various components of the reproductive health programme. The involvement of men may be crucial for better care both of the mother and of the child.

Improve the referral system

- Maintain an efficient system for referral between the various levels of health care and to handle both obstetric and neonatal complications and emergencies. This referral system should be set up alongside an efficient radio communication system between the health units and the ambulances.

Spread good practices

- Make a survey of the good practices in force in various regions of the country. The example cited of allowing fertility rituals to take place in several health units, should be extended to the other maternity facilities. When the placenta is handled under the supervision of health staff there is less risk of spreading infections such as HIV.

Encourage collaboration between sectors

- Improve this collaboration between the Health Ministry and other institutions concerning questions such as roads, drinking water supplies, educating the public on health matters, etc.

Major endemic diseases: The fight against malaria, tuberculosis, HIV and AIDS

Two targets are laid down for 2015 for the MDG of combating HIV and AIDS, malaria and other diseases:

- to have halted and begun to reverse the spread of HIV and AIDS; and,
- to have halted and begun to reverse the incidence of malaria and of tuberculosis.

Malaria

Current situation and trends

Malaria is the first cause of death in the country, and affects particularly seriously women and children, who have less immunity, and are therefore more vulnerable to the disease.

It is estimated that 40% of outpatients and 60% of paediatric hospitalisations are due to malaria. This disease accounts for about 30% of deaths among children under five (INE, 2004). It also contributes to a large number of maternal deaths. Malaria prevalence varies between 40 and 90% among the general population. High-risk groups include, apart from children under five, pregnant

women, especially those expecting their first child, and HIV-positive people. It is estimated that malaria is responsible for 15% of maternal anaemia and 35% of low weight at birth and premature birth (WHO, 1994).

Notified malaria cases and deaths have been on the rise. It is not really known whether this is because of an increase in prevalence, or because of the combined effect of the growth of a functioning health network, and increased coverage by the information system. What is certain is that the notification system began in 1998, and in 1999, 2,336,640 cases and 1,528 deaths were notified. In 2004, these figures were 4,478,215 cases and 3,212 deaths (MISAU/DNS, 205d).

Constraints, challenges and recommendations

- Preventive measures against the disease are still weak. The distribution of insecticide-treated mosquito nets does not cover the entire country. But use of these nets should be universal, alongside internal and outside residual spraying, and control of the mosquito larvae.
- Advocacy and health promotion efforts are still insufficient.
- Access to treatment is complicated in areas a long way from health units. Speed in administering the treatment is a key factor in preventing death. There are cases of resistance to some drugs that contribute to the high mortality. There is also questionable adherence to the first line of treatment recently approved.
- In recent years, the Libombos Spatial Development Initiatives, in Maputo province, has very successfully carried out a programme to reduce the incidence and prevalence of the disease, which has declined by more than 88%. This should be expanded to other provinces.
- Human and financial resources need to be adjusted to the scale of this endemic disease.

Tuberculosis

Current situation and trends

In 1990, 15,899 cases of tuberculosis were diagnosed and treated. In 2004 this figure rose to 31,514 cases, including re-treatment, and 11% of these cases were among children under 15 years old (MISAU/DNS, 2005a). The lethality rate[38] has been rising slightly (in 2001 it was 10% and in 2004 it rose to 12%), probably due to the current association of TB with HIV and AIDS and to improvements in the data collection system. However, 90% of the tuberculosis deaths are associated with HIV.

Constraints, challenges and recommendations

Since tuberculosis is an endemic pathology with the high prevalence of 300 per 100,000 inhabitants (MISAU/DNS, 2005a), controlling it necessarily involves actively seeking out cases, and treating the cases diagnosed. Improvement in living standards, in which factors such as environmental protection, nutrition, housing conditions etc., play a fundamental role in transmitting the disease, will contribute to controlling tuberculosis.

Vaccinating children, which is done through the PAV, accompanied by early treatment of diagnosed tuberculosis casees, can bear fruit only if there is active involvement of the community. This assumes that MISAU should proceed to inform and educate communities about the matter. HIV tests, undertaken systematically in the Health Units, will help in the diagnosis, and make possible the immediate treatment of this associated pathology.

HIV and AIDS

Current situation and trends

As regards HIV and AIDS, Mozambique remains among the 10 most affected countries in the world. In 1990 the number of cases was few, but gradually rising; reaching a prevalence rate among people aged 15 to 49 of 8.2% in 1998, 13.6% in 2002 and 16.2% in 2004, according to current data. If the current trend persists, then prevalence will continue to increase until 2010, when the epidemic will reach its plateau.

Among the 15-24 year age groups, prevalence of the infection among women is three times higher than among men.

AIDS has created and is continuing to create an enormous crisis among families, with a growing number of orphans, who are much more vulnerable to poverty and disease. In 2003 Mozambique had

38 The lethality rate is the number of deaths caused by a disease as a percentage of patients who have that disease. In this case, tuberculosis deaths as a percentage of cases of TB.

about 225,000 orphaned children, one or both of whose parents had died of AIDS, and 187,000 of these were maternal orphans. It is estimated that this serious crisis will reach the alarming figure of 625,000 AIDS orphans in 2010 (INE, UNDP, 2005).

Orphans find it much more difficult to continue their studies, and girl orphans are more likely to become victims of abuse, including sexual abuse, and via this route be dragged into the commercial sex network.

Constraints, challenges and recommendations

Preventing the spread of infection has proved ineffective, with an estimated 500 new infections a day. The strategy of diagnosing and treating sexually transmitted infections, promoting the use and distributions of condoms, and information, education and communication activities, as well as changes in behaviour, are strongly dependent on gender relations, which have not been duly dealt with, either by society or by the National Health Service. The Counselling and Voluntary Testing Offices (GATV), the adolescent and youth friendly services (SAAJ) and the prevention of HIV transmission from mothers to children cover a very small geographical area. The health units should redouble their efforts to prevent contamination of patients from poorly sterilized equipment.

HIV and AIDS is increasingly wearing a young and female face. There are some biological factors to this, but the main causes concern gender inequalities, where women are initiated into sexual life at a very early age, without maturity or the power to take decisions. Illiteracy means that women do not have access to the formal labour market, which leads to a situation of permanent financial dependence, worsening their subordinate position towards men.

Commercial sex becomes a survival option. Both in commercial sex and in marriage, the type of education women receive do not allow them to negotiate safe sex with their partners. When emotional and sexual violence are part of the picture, the risk of women contracting infection is all the greater. In this picture the man appears as the dominant factor who also does not know how to negotiate safe sex with his partner.

Antiretroviral treatment is still not very accessible. Because of the stigma, only a few people attend the day hospitals. The role of these services should be re-analysed, to reduce the flow of HIV and AIDS patients to medical or other wards. The treatment should also be administered in the primary health network, to cover the large number of patients living in rural areas. Chemoprophylaxis and treatment of opportunist infections should also be decentralized, and provided in more integrated health services. The provision of home care does not sufficiently cover the most needy areas.

Orphans and vulnerable children have special needs that are not being taken duly into consideration. These needs should be correctly identified and a plan to mitigate them should be drawn up. Assistance with basic education and health services would prevent these children from becoming economically dependent, preventing girls and boys from falling into the snares of commercial sex as their only survival option.

Since it is still taboo to speak about sex, not only among adults but also adults speaking about it to young people and adolescents, sex education for the young is not yet part of the educators' role. In the places where initiation rites are held, the educators have still not introduced the concept of safe sex into their programmes.

Chapter 6

Guaranteeing Environmental Sustainability

Introduction

Sustainable development may be defined as "development that meets the needs of the present without preventing future generations from meeting their own needs."[39] This concept is inclusive, since it contains within it the following important premises:

- Social progress, that is, attending to the needs of each person;
- Effective protection of the environment;
- Judicious use of natural resources;
- Maintenance of high and stable levels of economic development and of employment.

One challenge is to guarantee adequate and sustainable living standards. Meeting this challenge involves at least three essential, interconnected factors. These are, access to:

- Water,
- Sanitation, and
- Hygiene.

These three factors are both causes and effects of sustainable management of the available natural resources. This chapter intends to situate Mozambique with regard to these factors, particularly their heavy weight in the Human Development Index.

The relevance of environmental factors to sustainable development is such that it makes them requirements *sine qua non* for attaining the other MDGs. The Millennium Project Report (Sachs, 2005) stresses: *"…attaining the water and sanitation target and investing in water management and infrastructures is crucial in order to achieve all the Millennium Development Goals."* Table 6.1[40] shows the relationship between the MDGs and the environment.

This chapter analyses the situation of Mozambique in relation to the three factors mentioned above, in the context of MDG7 to "ensure environmental sustainability".

Table 6.1 Relationship of the environment with the other MDGs

1. **Eradicate extreme poverty and hunger**
   The subsistence and food security of poor people often depend on goods and services resting on the use of eco-systems. People who are poor tend to have meagre real rights and capacities in the use of environmental resources, and inadequate access to markets, to decision-making centres and to environmental information.
2. **Achieve universal primary education**
   The time spent fetching water and firewood reduces the time available for school. Women and girls are particularly overburdened with fetching water and fuel, reducing their time and opportunities for education, literacy classes and income-generating activities.
3. **Reduce child mortality**
   Diarrhoeal diseases linked to water and inadequate sanitation, and respiratory infections related to pollution, are among the main killers of children under five years old.
4. **Improve maternal health**
   Inhaling polluted air in closed areas, and carrying heavy loads of water and firewood damage women's health, and may make them less fit to reproduce, with greater risks of complications during pregnancy. And the lack of electricity for lighting and refrigeration, as well as inadequate sanitation, undermines health care, particularly in rural areas.
5. **Combat Malaria, TB, HIV and AIDS**
   Up to 20% of the disease burden of developing countries can be attributed to environmental risk factors (as in the case of malaria and parasitic infections). Preventive measures to reduce these risks are as important as treatment.
6. **Develop a global partnership for development**
   Many global environmental problems (such as climate change, loss of biodiversity, and exhaustion of world fisheries) can be solved only through partnerships between rich and poor countries.

This is broken down specifically into three targets:

- Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources, by 2015;

39 Expression of the former Norwegian Prime Minister, Gro Harlem Brundtland in *Our Common Future*, a report from the UN World Commission on Environment and Development (WCED) (1987) http://en.wikipedia.org/wiki/Our_Common_Future

40 Joint study by UNDP, DFID and the World Bank, cited on p. 125 of the Global Human Development Report, 2003

- Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation; and
- Have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers.

An environmental policy for sustainable development

The relationship between people and nature necessarily involves the philosophical questioning of this relationship. Over the centuries, this relationship has undergone adjustment from a perspective of rights and duties. As from the 19th century, there began to appear the first movements and associations to protect animals, plants and forests.[41]

But it was only in the second half of the 20th century, after World War II, that the first ecological movements and associations dedicated to protecting the environment emerged, based on a philosophy that the protection of nature should be undertaken because of nature itself, and not merely because nature is useful to humanity.

Internationally, the first significant moment in establishing a global strategy to contest the general trend towards environmental degradation came with the United Nations Conference on People and Environment held in Stockholm in 1972. This conference, held under the theme "People and their environment: The foundations for a better life", resulted in a Declaration on the Environment containing 26 principles to inspire and guide the efforts of the people of the world to preserve and improve their environment.

Twenty years later, this conference was followed by the Earth Summit, held in Rio de Janeiro, Brazil.[42]

At that summit, the Earth was recognised as "our home", and its nature interdependent and integrated. The summit declared that human beings are at the centre of concerns over sustainable development, and have a right to a healthy and productive life (Principle 1), while at the same time the fundamental role that women play in managing the environment and in development, in which full participation is essential, was recognised (Principle 20).

As from these conferences, the general understanding that accessible, better quality water, sanitation and drainage are conditions *sine qua non* for reducing infant mortality and the risk of flooding, was consolidated; and above all, the understanding that the maintenance of the world's environmental resources is essential for safeguarding the health and well-being of future generations.

Globally, the environmental problem is intolerable: currently, about 2.5 billion people lack adequate sanitation, which leads to the deaths of 3.3 million people a year from diarrhoeal diseases.

The Rio Conference made states responsible, by establishing that they have the duty to ensure, in the area of their respective jurisdiction, that the activities undertaken do not cause damage to the environment beyond the limits of their national jurisdiction (Principle 2).

States should also be concerned to raise public awareness and participation through access to information and mechanisms that ensure compensation and repair of the damage done to all those who may be victims of violations in this sphere (Principle 10).

In the particular case of Mozambique, the main environmental concerns result both from aggression against the environment itself, and from the imbalances in the global ecosystem. Thus Mozambique's main concerns in this sphere arise from the nature of the following:

- Soil and coastal erosion;
- Desertification and loss of vegetation;
- Impoverishment of the terrestrial and marine ecosystems;
- Shortage of clean drinking water;
- Inadequate sanitation; and
- Shortage of energy resources and high costs.

Objectives of an environmental policy in Mozambique

Questions concerning environmental protection in Mozambique began to be dealt with, at institutional level, by the Environmental Division that was part of the then Physical Planning Institute (INPF), set up in 1984.

In 1992, the National Environmental Commission (CNA) was set up. This body, which was still within the INPF, primarily had the goal of preparing Mozambique's participation in the Rio de Janeiro

41 Fernando José da Cunha, in *Direito do Ambiente em Moçambique*, the magazine of the Eduardo Mondlane University Law Faculty, Volume II, June 1997.

42 United Nations Conference on Environment and Development, held in Rio de Janeiro, on 3-14 June 1992. The Rio Conference adopted a declaration containing 27 principles.

Summit on Environment and Development. Its main function, at that stage, was to make a survey of the situation in country, from a social and economic perspective, and in terms of institutional organisation.

After the 1994 elections, when the new government was being formed, the question was raised of the need for an institution that would ensure the inclusion of principles concerning environmental protection and management. It was then decided to set up the Ministry for the Coordination of Environmental Action (MICOA) in December 1994, thus taking over from the CNA as the institution that would coordinate the implementation of environmental policy, while environmental management was in the hands of various government agencies.

This means that environmental management is a cross-cutting issue, traversing the various government sectors, which are expected to establish and implement sector environmental policies and strategies. MICOA has the task of overall coordination, in the sense of ensuring implementation of Target 9 of the MDGs, advocating the integration of the principles of sustainable development into the policies and programmes of the country, and reversing the loss of environmental resources.

Thus, the environmental policy defined by the Mozambican government contains five strategic objectives which take into account: (a) environmental management as an essential factor for the eradication of poverty; (b) participatory and community management of the environment; and (c) a regional and global perspective on environmental problems.

The objectives of the Mozambican environmental policy are as follows:

- To guarantee that citizens enjoy an adequate quality of life;
- To ensure the management of natural resources and the environment in general;
- To develop an environmental awareness in order to make possible public participation in environmental management;
- To ensure the inclusion of environmental considerations in socio-economic planning;
- To promote participation of the local community in planning and taking decisions on the use of natural resources;
- To protect ecosystems and essential ecological processes; and
- To take part in regional and world efforts seeking solutions to environmental problems.

Access to drinking water

In the context of environmental sustainability, the Millennium targets give water back its true social, economic and cultural value, in the many dimensions that it assumes, namely:

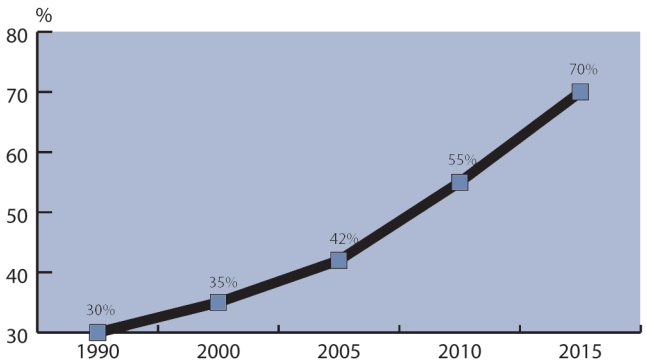
- Water in the natural environment as an irre placeable, vital and strategic resource, which must be preserved and put at the service of sustainable development;
- The role of water in human development, as part of the inseparable water-sanitation-hygiene equation, fundamental to poverty reduction, as a guarantee of improving the health and general well-being of the public;
- Easy access to safe drinking water as a factor that sets free productive capacities, so that girls may study and children grow up healthy, for the greater development of the country;
- The vulnerability of Mozambique's water resources, subject to floods and droughts, and their impact on food security, the life of the population and the environment;
- Water as a factor in economic development, as a raw material and as that which makes viable industrial development, intensive agricultural production, and is essential to urban development, and to the consequent attraction of investments.

Drinking water and sanitation

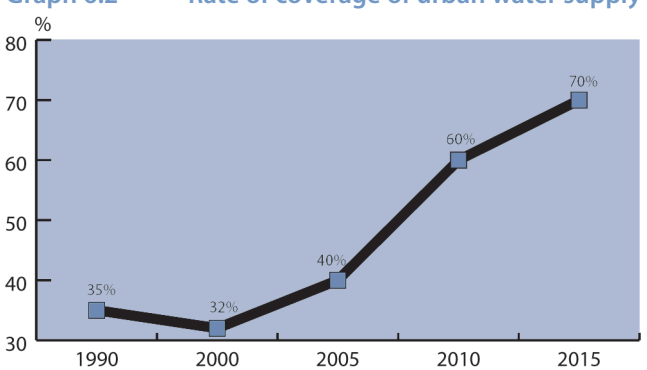
Over the last 10 years major progress has been made in reforming the water sector and preparing new policies and strategies. The sector has been a pioneer in promoting the principles of sustainability of its services, the need to separate functions and powers, the need to regulate the services, and to ensure participation by the private sector. However, the sector faces two major challenges, which may drastically influence its progress:

- The lack of a clear and realistic definition of the development effort that can be expected in this area in the long term, and of the government's capacity to guarantee the necessary resources, and
- The need to define strategies for speedier implementation and broad mobilisation of national capacities, particularly those of the private sector, without which the necessary decentralisation and deconcentration, currently underway, in implementing activities may pay an excessively high price in terms of organisation and coordination.

Graph 6.1 Rate of coverage of rural water supply



Graph 6.2 Rate of coverage of urban water supply



The Mozambican government intends that urban water supply coverage should rise from the current figure of about 40% to around 60% by 2009 (PQG, 2005-2009), which will have a significant weight in improving the poverty indicator due merely to water in the urban areas.

The 1990s was a difficult period. The first half of the decade represented a certain stoppage, characteristic of the times the country was living through. The rural water supply coverage rate grew slightly, but still faced huge asymmetries in coverage from province to province and growing difficulties in sustainability. As for urban water supply coverage, this declined slightly, showing that the situation was stagnating.

In the second half of the decade the water sector picked up as a result of the reforms introduced in this period, taking as a starting point the approval of the National Water Policy (PNA) in 1995, the effects of which are only now being felt, 10 years later.

The Mozambican government successfully implemented a major latrine promotion campaign immediately after independence in 1975. But these advances were largely lost due to the war.

In urban sanitation, a great effort had been made under the Low Cost Sanitation Programme, since the mid-1980s. The programme was basically dedicated to promoting improved latrines on the outskirts of towns, and its high point was reached in the 1990s. Sanitation in rural areas, that is, promoting the building of improved latrines adapted to the rural environment, and good hygiene practices, underwent some progress in recent years.

The government has set its targets in this area, in the framework of the MDGs, for 2015, but it has also fixed intermediate targets in the Five Year Programme for 2005-2009. The figures presented here for 2010 and 2015 refer to these targets. Graphs 6.1 and 6.2 show the evolution of water supply coverage from 1990 to 2015. The 1990 coverage rates are estimates of an essentially qualitative value.

In fact, it is important here to improve the definition of coverage rate and of target population, for the various technological options[43] regarded as adequate, as well as for a more rigorous validation of the data.

Despite the progress of improved latrine programmes in peri-urban and rural areas, the main reason for the growth in overall coverage, not much has been invested in sanitation, particularly in urban areas where the matter takes on a complexity of its own, largely linked to the prevailing urban management situation. It seems that this trend is being reversed with a new priority given to sanitation, as a result of formulating new strategies, institutional reforms, and municipal capacity building.

The data on how much of the population is served by adequate sanitation is very disparate. The great majority of the population is served by "on-site" solutions, improved latrines or septic tanks, or by hybrid solutions, built essentially by private initiative and not effectively listed.

In 2005 the proportion of the population with sanitation in the urban and peri-urban areas, according to official documents, might be 35%, the prevailing figure, or more than 50%, depending on what is deemed an "adequate" (or improved) latrine, since a simple hole in the ground without a lid or other

43 Adequate technological options – see "Meeting the Water and Sanitation Target – A Mid Term Assessment of Progress", WHO/UNICEF, 2004.

Table 6.2 Sanitation coverage

Population Served %	2000	2005	2010	2015
Urban Sanitation	31	35	55	80
Rural Sanitation	29	33	40	50

Source DNA 2005

covering is not internationally accepted as an adequate solution.

The sanitation coverage of the rural population in 2005 is estimated at 33% (DNA, 2005). Thus the targets for sanitation coverage (Table 6.2) use the same criteria as for water supply.

These targets are particularly challenging. If the aim is to reduce the poverty of the population, then there is need to improve the current water supply and sanitation coverage much faster than the current pace. The MDGs and the population to be served in 2015 are shown in Table 6.3.

Poverty and drinking water coverage in rural areas

From 2000 to 2004, an additional two million people were served with water throughout the country. The most populous provinces are today the least well served. The government has been giving greater priority to those that were in an even worse situation 10 years ago. However, in practical terms, provinces such as Sofala, Inhambane, Maputo and Niassa have seen their coverage double, or almost double, in five years, today reaching figures of nearly or above 60%. In these provinces, special attention should be paid to ensuring the sustainability of what has already been achieved.

Today the national average is a coverage of about 42%, which is heavily influenced by Nampula and Zambézia, where the figures are lower than the national average. Important projects are about to begin in these provinces.

Although Inhambane is a very poor province, the water supply coverage is good, estimated at 63%. Nampula and Tete are provinces with a high rate of poverty, and at the same time a low coverage. Sofala and Maputo provinces already have estimated coverage rates that are very close to the target for the country for 2015, which is 70%.

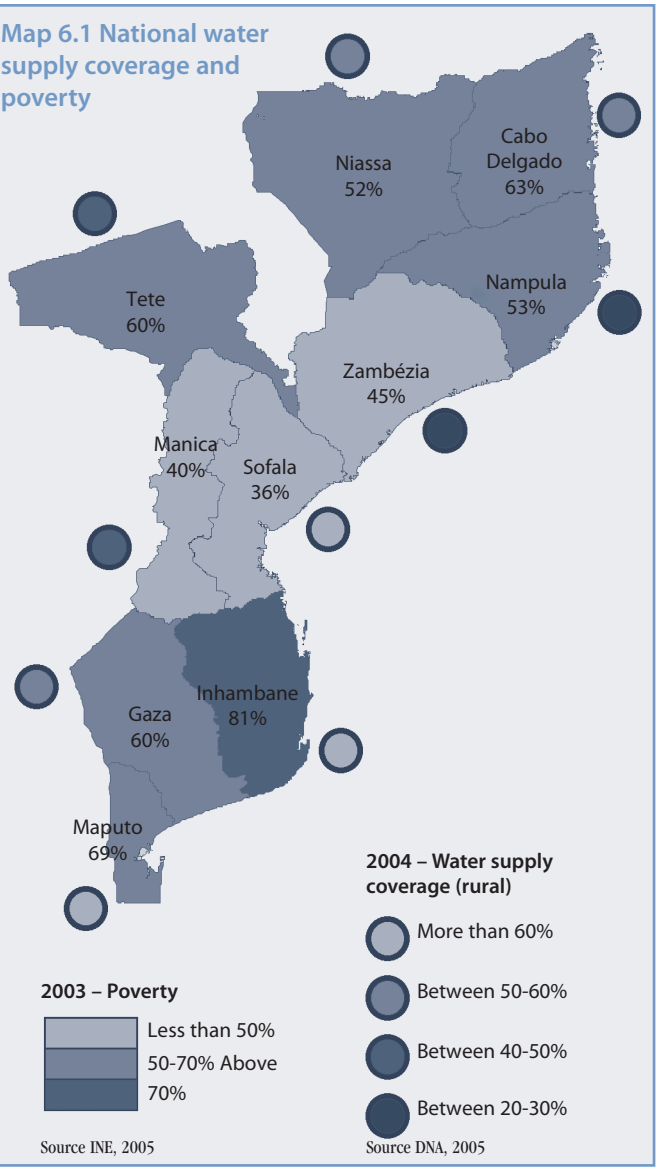
In many provinces, there are serious difficulties in increasing implementation capacity, alongside the

Table 6.3 Water supply and sanitation coverage

MDG7, Target 10 for 2015	Population (millions) Total	Served	Coverage Rate
Water Supply			
Urban Water	7.6	5.4	70%
Rural Water	16.9	11.8	70%
TOTAL	24.5	17.2	70%
Sanitation			
Urban Sanitation	7.6	6.1	80%
Rural Sanitation	16.9	8.4	50%
TOTAL	24.5	14.5	60%

Source Millennium Development Goals (MDGs) for Water and Sanitation,Country Assessment – Mozambique, World Bank and African Development Bank, February 2004

Map 6.1 National water supply coverage and poverty



Source INE, 2005

Source DNA, 2005

deconcentration of most activities to provincial and district level and greater involvement of the private sector. In the short term this is quite a challenge to address. In fact, it will be difficult to advance from an annual increase in coverage of 1.2% to about 3% a year –- which means serving an extra 600,000 people a year, implying annual investment of at least 15 million US dollars.

Water, sanitation and urban development

In Mozambican cities, two worlds live side by side. More than half the urban population is poor, very vulnerable to illness and epidemics, such as cholera and other diarrhoeal diseases, related to lack of access to adequate drinking water and excreta disposal services, and to hygiene practices. Reducing urban poverty levels seems more difficult than in rural areas. The other world is that of economic development and the attraction of private investment, of the greater demand for water for industrial use and for hotels and similar establishments.

In several cities people still defecate in the open air, and use water of very dubious quality, often obtained from people reselling it at exorbitant prices, frequently three or four times the price charged to the public by the conventional water distribution network. About two million people live on the degraded urban peripheries, without access to adequate water supply and excreta disposal services. In 2015, the size of the urban population will be about twice what it is now. Merely to maintain the current proportions would imply improving the urban settlements for an additional two million people.

The government intends that the provision of water and sanitation services should grow at an annual rate of 4% up to 2009, which means doubling the efforts made in previous years, and serving approximately an extra 300,000 people a year. This implies an annual investment of at least US$ 25 million.

In some of the larger cities major investments will be needed in conventional sanitation solutions, with some reasonable degree of treatment of wastewater, but the growth effort may be made more viable though localized, low cost solutions, with a greater degree of participation by households in the construction costs. It is estimated that at least US$7 million a year needs to be invested in urban sanitation.

As for urban water supply, the growth of distribution systems and networks is inevitable, even if it is just to supply water through standpipes. Other alternative and non-conventional forms of water supply, for example by small informal systems, can and should be promoted and institutionalised, but they will always be transitional, last resort solutions.

In the short term, questions of sustainability are of the greatest importance to support this growth. Urban water supply has, in the so-called "Delegated Management Framework"[44] an institutional system on the path to stability, greater private sector involvement, independent regulation of the services, and growth in its own capacity to bear some of the costs. In sanitation, it is important that a similar trajectory be followed, giving great priority to building the capacity of the municipalities and to institutional and organizational issues.

Challenges of the next 10 years

The latest report assessing progress towards attaining the MDGs in Mozambique, published in September 2005,[45] raised some doubts about achieving the targets associated with Goal 7. Indeed, the overall evaluation is given as follows:

- Will the targets be reached? – The answer given is "unlikely".
- Situation of the supporting environment – The assessment of the supporting conditions for achieving the goals is that they are "weak but improving".

This assessment backs up the general perception that the greatest challenge lies in the supporting environment, which needs strengthened and urgent reforms.

Over the last five years, the government has made efforts to mobilise resources that are now beginning to bear fruit, and could therefore have fixed more ambitious targets for the 2005-2009 period. The financial resources that are made available for water supply and sanitation will have to at least double the observed level of resources that were actually made available in recent years alongside efforts to increase implementation capacity, as we shall see below.

As mentioned previously, from 1990 to 2000, rural water supply coverage grew slowly at a rate not much greater than the population growth rate, with a similar trend in urban sanitation, essentially due to

44 Decree 72/98, of 23 December, of the Council of Ministers of the Republic of Mozambique
45 Progress Report on the Millennium Development Goals, UN & GoM, 2005

Table 6.4 Average annual growth of water and sanitation coverage (%)

	2000-2005	2005-2010	2010-2015
Rural Water Supply	1.2	2.8	3.0
Urban Water Supply	1.6	4.0	2.0
Rural Sanitation	0.8	1.4	2.0
Urban Sanitation	0.8	4.0	5.0

the improved latrines programme. Urban water supply coverage remained static or even declined slightly. A comparison can be made in Table 6.4, in terms of what happened in recent years with what is expected in the following period.

It can be seen that a positive jump has occurred in recent years compared with the situation prevailing in the 1990s, but the challenge of the coming years is enormous. In urban water supply, significant advances are being made in cost recovery, which could be the foundation for a more substantial investment programme. In rural water supply, it is important to pay more attention to some of the more populous provinces with a high concentration of rural population. The sanitation challenge is obvious, since it is important to recover from the slower growth in recent years, but also demonstrates the higher priority the government is now giving to this front.

Potential for reaching the established targets

The numbers mentioned above show what is, to some extent, a qualitative trend. The government has been allocating about US$5 million a year to the water sector investment programme. However, only about half this sum has been disbursed. In water supply and sanitation, the availability or real application has not been higher than US$2 million a year. The payment of taxes and customs fees, costs which usually are not covered by international partners, has represented at least 20% of project costs.

From the previous points, it follows that the needs for investment to comply with the government's objectives (and those of MDG7) would be at least US$50 million per year. If some donors pay some of the local costs, and there is some contribution from the public, it will still be necessary to guarantee a minimum of 15% from the government's central budget, which represents actual availability of at least US$7 million per year. That is three times the amount that was made available in real terms over the past five years.

The known external investment points to figures of between US$25-30 million a year, and the signs of donor mobilisation in recent years show potential for growth in support, which in some cases could consider the entire financing of projects, such as sanitation on the urban peripheries and water in the rural areas.

In urban water supply it seems that there is a potential capacity to invest at levels close to those indicated, and a growing potential to meet debt-servicing obligations on relatively soft loans. But in the immediate future priority should be given to making grants available for the less viable systems in the smaller cities, while the capacity of consumers to pay grows.

In rural water supply, achieving Target 10 means building around 1,500 new water sources a year, which may mean an additional effort, although there have already been occasions when over 1,000 new water sources were built in a year. Sanitation has a tradition of implementation of less than half the levels indicated. In this case, and particularly in the case of rural water supplies, institutional questions concerning the decentralisation and deconcentration of activities, and the financial flows and mechanisms, are becoming major obstacles and causes of the slowing down of the desired growth rhythm.

A further major challenge concerns the involvement and development of the domestic private sector, and in particular the development of Mozambican operators to manage systems.

These two aspects, financial resources and implementation capacity, still suffer greatly from the lack of integrated and long term sector planning, although there now exist important partial instruments. The coordination and responsibility of the authorities, at various levels, may improve substantially with a better base of planning and monitoring of activities.

Management of water resources and the environment

Water resource management strategy and sustainable development

The water potentially available per capita in Mozambique is estimated at 5,556 cubic metres/inhabitant/year taking into account the

amount generated within the country, and 12,000 cubic metres/inhabitant/year if we add the amount that flows into Mozambique from neighbouring countries. The consumption per inhabitant per year is estimated at 50 cubic metres, while South Africa consumes 500 cubic metres per inhabitant per year (DNA, 1999).

The real availability of water (economic availability) is less than 300 cubic metres /inhabitant/year.[46] That is, water usable with a guarantee of at least 80%, due to regularising the flows of rivers, normally through damming. Basic human need for water is estimated at 340 cubic metres /inhabitant/year, including needs for agriculture and other purposes.

The situation presented above indicates on the one hand that poverty in itself limits access to physically available water, and this fact worsens still further the state of poverty. On the other hand, the potential exists for a qualitative leap. A qualitative leap which, in the light of the current technological conjuncture, can be made, in the first place on the basis of innovative solutions, to increase the economic availability of water.

Mozambique has already drawn up, on the basis of wide-ranging inter-sector consultation, a draft Water Resource Management Strategy, which also considered as important factors the revised Water Law of 1991 and the 1995 National Water Policy. Questions concerned with sustainable development were adequately incorporated into these documents.

Major natural disasters and early warning systems

The question of water is not limited, however, to its economic availability. It also extends to the area of disasters, if we note that increasingly serious and frequent floods and droughts have hit the country.

Although droughts and floods are not new phenomena, since they are part of the natural water cycle, climate change on a global scale, and other natural phenomena such as "El Nino" have brought further troubles to Mozambique. Appropriate actions, in terms of prevention and readiness (some of which are already being applied in the country), should be adopted on a broader scale.

In fact the evidence that climate change is happening becomes clearer when we note that the devastating floods of 2000 on the rivers in the south and centre of the country occurred simultaneously and have an estimated period of return of more than 200 years (there is no memory of a similar situation). They were followed, in 2001, by floods on the Zambezi and Pungué rivers, and then by successive years of more or less severe drought. The drought experienced by the country in 2004/2005, affecting more than 1.2 million people, clearly showing that sometimes in Mozambique the reference to average flows of rivers is no more than a mathematical abstraction.

Furthermore, the IPCC (International Panel on Climate Change) warns that Mozambique is in a region that over the next 100 years will be characterized by more intense and more frequent droughts, as a result of global warming. In fact, over the past 15 years (1990-2004), Mozambique has been the victim of successive floods and droughts. Nine cyclones hitting the country were recorded; there were five significant floods, some of them associated with cyclones; and three periods of major drought in the central and southern parts of the country.[47]

Early warning system

The occurrence of extreme climate events soon led to the creation of mechanisms and institutions oriented towards "Early Warning", and to mitigating the effects of disasters. Thus Mozambique is the only country in southern Africa that has a contingency plan, drawn up annually, under the aegis of the Prime Minister.

Interaction with other southern African countries through SARCOF (Southern Africa Regional Climate Outlook Forum) allows seasonal prognosis. New meteorological radar is being installed in the country and in the region, which make possible early warning of cyclones and tropical storms, which are frequent in the Mozambique Channel.

Furthermore, there is also a telemetric hydro-meteorological network, the SADC-HYCOS

The Mozambican climate is predominantly semi-arid, with the following distribution:

• Arid	2%
• Semi-arid	80%
• Sub-humid	15%
• Humid	3%

(Reddy 1984)

46 "IWMI 2001, water scarcity map"

47 Source: Table "Desastres Naturais Ocorridos em Moçambique 1990-2004" (Natural Disasters in Mozambique 1990-2004), SETSAN, 2005

Box 6.1 Learning to live with floods and droughts

"Clearly we still lack a proactive attitude towards situations that can cause the people suffering. By way of example, our country contains areas that are prone to drought. But measures are not taken in these areas to ensure the retention of rain water, for example." President Armando Guebuza (Speech at Expanded Meeting of the Council of Ministers, 8 July 2005).

Indeed the successive alternation between floods and droughts in Mozambique has been a traumatic experience for many thousands of people, caught cyclically by these devastating natural phenomena, in various parts of the country. The question of how to live with floods, in particular, has mobilised knowledge and ideas in recent years, in order to introduce attitudes of exploiting as much as possible the beneficial side of an abundance of water. Below we reproduce an extract from one such reflection:

"…in the mid 1970s, it was clear to all of us that the people affected by floods had to move away from the river, and live on higher ground… In short, they had to live a long way from the floods… New floods occurred in 2000 and (this principle) was qualitatively changed to that of living with floods. Develop a rapid and effective warning system, define lines of escape, and identify areas of shelter… This is a totally different and new concept about how to deal with floods, that is, it is new knowledge produced based on our specific experience as a country… Learning to live with floods also means making use of the good that the floods have to give, and of what we can learn through them…

"After floods, the land is more fertile, the pasture is more succulent, and water is more abundant… With the floods one learns not only how to deal with the land, the water and the grass, but also how to think of the use of physical space for economic growth, and reorganise the community in terms of the challenges and opportunities that arise…" (Prof. Dr. Jose Negrão, extracts from his speech opening the 2001-2002 academic year, Eduardo Mondlane University, August 2001).

(Hydrological Cycle Observation System) network, managed by the National Water Board (DNA), formed by 50 stations linked by satellite, covering key points of the main river basins of the southern African region. This makes it possible to follow the hydrological situation in almost real time. The National Disasters Management Institute (INGC) is the body that coordinates this vast system of data gathering, analysis and rapid reaction to mitigate disasters.

If we look at Mozambique's coastal region, where the majority of the people live, we will see that the average annual rainfall[48] varies between 700 and 1,200 mm. Rainwater can be used as the main source of water, and where other alternatives exist, rain water can be a complementary source. In mountainous regions, where annual rainfall can reach 1,200 to 1,500 mm, with a rainy period that lasts six to eight months, water is obtained from wells, boreholes, springs and rivers. In areas where there is a shortage of good quality groundwater, rainwater may be used as an alternative.

Peasants till almost 95% of agricultural land in Mozambique, and most of this agriculture is rain-fed, and highly vulnerable to droughts and floods. The National Irrigation Strategy prioritises investments in small-scale irrigation schemes. But it is becoming imperative to identify other innovative and efficient ways of using water, and also of soil management so as to reduce vulnerability and attain food security.

Low cost measures with the potential to make an immediate impact on the life of rural communities can include:

- Rain water harvesting;
- Sustainable use of wetlands (marshes, lakes and lagoons, river valleys); and
- Sustainable use of groundwater nearer the surface.

Use of rainwater for domestic use and food production

Harvesting rainwater is usually done, in the provinces where it is most common, by using roofs that slope so the rain runs into the gutter, and from there to a cistern (or reservoir), the cost of which is the main obstacle to be mitigated. These centuries-old techniques are well known in some parts of the country, notably in Inhambane and Nampula provinces.

The potential for this solution is very great, needing just a house with a conventional roof. Public buildings can also be integrated into the system, particularly in the rural areas (schools, hospitals, local administration buildings and others). A further aspect to be considered is training the public to manage the systems, particularly community systems. The ideal would be for them to be located in public places such as schools or hospitals.[49]

48 Taking into account a sample of more than 20 years.

49 Rainwater gathering solutions can be integrated into public construction, particularly in rural areas (schools, hospitals, local administration buildings and others

Alternatively, the water could be harvested on the ground, if a harvesting area is built, sheathed in impermeable material, such as selected and compacted clays, or other solutions to reduce loss of water into the soil.

Rainwater harvesting, through which the surface run-off is concentrated and stored in tanks or dams, or directly filtered into the fields, can play an important role in reducing the impact of droughts. The advantages of rainwater harvesting and conservation techniques are: (a) the low cost of implementation; (b) reduction in the pressure to invest in large-scale irrigation systems; and (c) reduced negative ecological impacts.

In Mozambique the experience of building dams has often been desolate, because they have ruptured, wasting the effort and investment they absorbed. Building hollowed-out reservoirs for smaller drainage areas of up to 2-5 hectares is safer and more appropriate for serving small communities.

Sustainable use of wetlands and groundwater

Wetlands, swampy areas, or land that has water for most of the year, play a fundamental role in food security, and are of recognized environmental value. The current use of wetlands is very diverse, and includes agriculture, fisheries, salt extraction, tourism, pastures, etc. Some wetlands are ecologically fragile, and so their economic use should be accompanied by special measures and appropriate norms. The use of small diesel pumps or foot pumps for small-scale irrigation can contribute towards intensifying the use of soil and water in agricultural production.

As for the use of aquifers, these may be accessible through simple and low-cost techniques for raising the water. The construction of artisanal wells and the use of foot and hand pumps facilitate access to groundwater. The great advantage of using aquifers is the low investment needed, plus the fact that the water can be harvested at the place of production and it is not necessary to channel it for great distances.

Crops adequate to the rainfall regime and food security

In arid and semi-arid areas (82% of Mozambique), due to the erratic distribution of rainfall, there is a high risk of crop failure, over 75%. To reduce the risk of crop failure, peasants traditionally experiment with various techniques, such as different sowing dates, crop mixing, covering the soil with dead "mulch" vegetation, among others. The promotion of drought-resistant crops, and the diversification of food crops, specific to the agro-ecological region, are part of the Mozambican Agricultural Policy, now under implementation. Short cycle varieties are more likely to prove successful under conditions of water shortage or short wet periods.

In post-flood recovery, promoting rapid cultivation of the flood plains with short cycle crops, in association with those that in a short period can provide alternatives for consumption of leaves, such as beans and sweet potato, can contribute to rapid improvements in the life of communities. It is thus intended to make use of the remaining humidity in areas where the levels of the waters are falling.

Furthermore, encouraging cash crops and raising livestock can result in important sources of income that can contribute to food security, and should be encouraged without neglecting the production of food crops. Apart from guaranteeing the supply of mineral salts and vitamins in the diet, fruit trees have the advantage of supplying foodstuffs at various times of the year, and are an extra source of monetary income. Drought resistant fruit trees, such as pineapple, paw-paw and cashew trees, and coconut palms, among others, can play an important role in food security.

Post-harvest losses in traditional barns, due to pests and disease, have proved a significant loss of production for peasant farmers. There is now some experience in the country with improved barns, and it is advisable to rapidly publicise and extend this.

Adequate treatment of surplus crops through marketing, semi-industrial transformation for better storage, or even to increase their commercial value, are techniques that can greatly contribute to increasing the income of small farmers. It is urgent to re-establish the commercial network. The introduction of measures to make viable the establishment of community agro-industries, making oil and soap from groundnuts and coconuts, producing jams from local fruits, or tomato paste from tomatoes, are just some

Box 6.2 Water: An economic or a social asset?

Water has a vital role to play in responding to the socio-economic crisis faced by Africa. The vision and Action Framework are an attempt to provide a line of thought on this problem, so as to define the priorities for action. In this regard, the Dublin-Rio principles and the outstanding characteristics of Africa's water resources are good starting points.

The Dublin principles, adopted in 1992, stipulate that:

- Drinking water is a finite and vulnerable resource, essential for sustaining life, development and the environment;
- Water development and management should be based on a participatory approach involving users, planners and politicians at all levels;
- Women play a central role in providing, managing and safeguarding water; and
- Water has an economic value in all its competitive uses, and should be recognised as an economic asset.

The Rio principles expand on the fourth of the Dublin principles, and stress the need to consider water, not only as an economic asset, but also as a social one…. In this African Water Vision, the first and fourth Dublin-Rio principles are interpreted as meaning that, in general, water has an economic value in all its uses… However, in its use to sustain life and the environment, water should be regarded not merely as an economic asset, but also as a social asset.

Extracts from *The African Water Vision to 2025. Response to the Crisis: the Role of Water,* African Union, ECA and ADB

examples. It is important to support innovative initiatives to make the most of production in the countryside, through Associations of Farmers and Livestock Breeders.

Some conclusions and recommendations

The water sector has great potential because it is based on policies regarded as appropriate and recognised internationally, but it is undergoing a crisis of growth at the level of implementation, because of factors that are sometimes beyond the control of the sector's management. The risk of not achieving the millennium goals is real, but can be mitigated if the efforts expected in this area can be slotted into the national agenda in an appropriate way.

A more realistic assessment of the likelihood of achieving the targets should begin to be made, particularly arising from the current realities. From the human development point of view, it is important to stress some of the most salient points of this chapter:

- It is important to learn how to live with floods and droughts. The introduction of low cost water conservation techniques could alleviate problems of access to water for domestic purposes and food production, as well as reducing vulnerability to extreme climate events.

- Absolute poverty is certainly not responsible for global environmental problems, but at local level, poverty can worsen pressure on the environment, due to the inappropriate use of natural resources, which contributes to the worsening of poverty.

- The water sector information base should be improved urgently. Data collection systems that can be verified and are subject to validation are of the greatest importance. Their statistics should be updated and published following the appropriate protocols.

- Performance measurement indicators for the water supply and sanitation sector should be defined more rigorously, as should the techno logical options considered adequate in response to the different carrying capacities and the expectations of the public.

- This area lacks a long-term integrated strategic plan, as a dynamic and flexible instrument that guides priorities, coordination between the authorities at various levels, and the rational allocation of financial resources. The initiative under way in the framework of the designated "roadmap" of the MDGs should be supported, and its appropriate placement at the macro-economic level, and in the context of poverty reduction, guaranteed.

- New implementation strategies are needed alongside and in harmony with the planning effort. It is proposed that activities to set up basic infrastructure, in the rural areas, for example, should be programmed at three levels: the district or community initiative level, with a major focus on questions of sustainability and

maintenance; the provincial level as the main level for increasing coverage; and the central level, responsible for all actions of a strategic and innovative nature, whether to control implementation of pilot and demonstration projects, or to support the standardisation and design of norms for their activities.

- The development of the specialised private sector needs to be treated specifically. The planning and financing of activities should allow the stable and continued contracting of projects that make more viable private investment in the capacity building appropriate to the water sector. Transaction costs and time should be reduced, so as not to weigh heavily on the burden of work of the provincial and local authorities.

- A new strategy to finance actions at various levels is needed. Policies for allocating resources linked to eligibility and performance criteria, a certain degree of competition for resources, flexibility in the flows and mechanisms for disbursing funds, and the promotion of own revenue are fundamental aspects to be considered. The current situation is not compatible with the desired development effort to achieve MDGs.

Chapter 7

Strengthening Strategic Partnerships

Introduction

Four external factors that impact on strategies to eradicate poverty and facilitate development must be considered by any developing country. These factors are: better foreign aid, to be used in an appropriate way; larger amounts of aid, moving towards the 0.7% of GDP that developed countries have promised to devote to the development of poorer countries; debt relief; and, the effectiveness of aid.

The Commission for Africa[50] warns, in its report of May 2005, of the risk that the African continent may not achieve the millennium goals unless an overall plan for poverty reduction and sustainable development is considered. Such an overall plan should take into account the following major areas of strategic concentration.

- **Governance and Building Institutional Capacity.** Greater investment in institutional capacity-building, increased accountability, transparency and the fight against corruption.
- **Peace and Security.** Courageously dealing with the causes of conflicts, and creating the capacities for managing them, including at regional level.
- **Human Capital.** Greater investment in education, health, water and sanitation, in fighting HIV and AIDS, and strengthening protection for the most vulnerable segments of society.
- **Growth and Poverty Reduction.** Promoting growth and a just distribution of national income, popular participation in defining and implementing development policies, and ensuring response to environmental and climate changes.
- **More Trade and Fairer Trade.** Improve the trading capacity of Africa, improve Africa's access to the markets of the industrialised countries, and help Africa adjust to the new regimes of globalised trade.

The international promises of 2005

After the warning from the Commission for Africa, the international community showed apparent willingness to provide greater support for the regional integration and growth of the continent. One of the responses was the creation in October 2005 of a new Consortium for Infrastructure in Africa, intended to mobilise more funds to build basic infrastructure on the continent, under the NEPAD Short Term Plan.

Likewise, a new strategy outlining support for the southern African region should be made public shortly, seeking to capitalize on the potential role of South Africa as a lever for growth in the region.

Other substantial responses include the undertakings made by the G8 leaders at the Gleneagles summit in July 2005. At this meeting, the G8 accepted most of the recommendations made by the Commission for Africa, strengthening the Plan of Action for Africa, which was launched at the G8 summit in Kananaskis in 2002.

Furthermore, the Millennium Progress Summit, held in New York in September 2005, guaranteed additional undertakings from the entire international community, including a Peace-building Commission. The European Union, in December 2005, launched a new strategic partnership with Africa, based on the undertaking previously given by the individual member states for a substantial increase in their aid to Africa.

In 2005, donor countries pledged an additional commitment of around US$50 billion of global aid per year up to 2010. Of this sum, Africa should

50 The Commission for Africa was set up in early 2004, as an initiative of the British Prime Minister, Tony Blair. It consists of 17 members, 9 of whom are Africans, all working in their individual capacities. In May 2005, the Commission published its first report, entitled "Our Common Interest", aimed particularly at the G8, but also at African peoples and the world in general. The Commission report and associated documents are available on the website www.commissionforafrica.org

Box 7.1 The Programme Aid Partnership: A Mozambican experience

Making aid effective is one of the strategic goals advocated in the context of the global partnership for development, under the MDGs. One way to do this is by setting up mechanisms to coordinate aid to the national development programmes of the beneficiary countries by their bilateral partners and multilateral organisations such as the World Bank, the European Union, the African Development Bank and others.

The Programme Aid Partnership (PAP) has been established in Mozambique along these lines. It is a coordination scheme involving 18 cooperation partners who provide direct support to the state budget and to the Mozambican balance of payments.

The partners are the African Development Bank (ADB), Belgium, Canada, Denmark, European Commission, Finland, France, Germany, Holland, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and the World Bank.

The group is also known as the "G-18". The ADB is the most recent member, joining in February 2006.

The basis for direct support to the Mozambican state budget is precisely to ensure efficiency and effectiveness in financial support for the implementation of the Action Plan for the Reduction of Absolute Poverty (PARPA). To operationalise this mechanism, the Government of Mozambique and the PAP partners signed a Memorandum of Understanding in 2004, which sets out the principles, terms and operations for this partnership.

The state budget and support for the balance of payments are at the heart of the aid programme, with pledges reaching US$240 million in 2004 (US$180 million in grants, and US$60 million in soft loans). This is one of the largest joint programmes in Africa, both in terms of amounts and the number of partners involved.

The overall objective of the PAP is to contribute towards reducing poverty in all its dimensions through supporting the development and implementation of PARPA, by means of:

- Building a partnership based on frank and open dialogue on the content and progress of Mozambique's poverty reduction strategy as laid down in PARPA, and to make it operational through the Medium Term Fiscal Scenario, and the Economic and Social Plan, including priority indicators and targets, as defined in the Performance Assessment Framework and the State Budget;
- Ensuring funding to the public sector for poverty reduction, clearly and transparently linked to performance, in such a way as to promote the effectiveness of aid and national ownership of the development process in order to reduce transaction costs, permit efficiency in allocating public expenditure, have predictability in aid flows, increase efficiency of the state and public administration, improve monitoring and evaluation, and strengthen internal verification.

receive additional aid of US$25 billion per year up to 2010 – double what had been received up to 2004.[51] However, the volume of aid will still remain below 0.7% of the national income of developed countries – the figure established by the United Nations for aid to developing countries.

While recognising that these undertakings are important steps in response to the millennium goals in Africa, the truth remains that there is still a long way to go. The main challenge consists now in transforming promises into actions; ensuring that the development partners honour their pledges and that their interventions translate into real improvements in the lives of needy people.

Complementing the actions of the State: The role of civil society

In pledging to pursue the MDGs in 2000, the government accepted a responsibility to bring together state and non-state actors for this purpose. Indeed a significant improvement in the relationship between the government and civil society became an immediate imperative.[52]

The wide-ranging nature of civil society makes it heterogeneous, and in a society where it is relatively new, such as Mozambique, its role poses countless questions. Not infrequently the goals it pursues take on contours of conflict, either between civil society organisations, or between them and the state.

For purposes of analysing the capacity for civil society to participate in the country's economic and social processes, and its repercussions on relations with the state, it seems pertinent to distinguish between three groups of actors in this area.

- National Civil Society Organisations (CSOs) without external links and regular support from foreign organisations;
- National CSOs with strong links abroad, who benefit from regular institutionalized support from outside the country; and
- Foreign CSOs.

The national CSOs without foreign links are those that face the most financial constraints, and lack the human capacity to develop their activities. The implementation of social projects is the focus of their interventions, and normally they are not concerned with questions of advocacy.

Those who receive regular institutionalised support from abroad are part of networks that transcend national borders. Apart from activities arising from project implementation, they express some concern for questions of advocacy. The capacity expressed in the human capital at their disposal is

51 HM Government: Implementation of the Commission for Africa recommendations and G8 Gleneagles commitments on poverty: www.dfid.uk/mdg/aid.asp

52 The term civil society is used here to mean the whole range of actors including non-governmental organizations (NGOs), trade unions, religious institutions, women's and youth organizations, professional and business associations, grassroots community bodies and other groups of citizens.

at an acceptable level for their objectives and plans of activity.

Unlike the others, the foreign CSOs are endowed with financial and human capacity in accordance with their goals. These organisations centre their activities on implementing community development projects and, often with greater emphasis, on advocacy.

These differences shape the complex nature of civil society in Mozambique and how it relates to government. The financial and human capacities of the foreign CSOs allow them levels of intervention in the communities which overshadow the presence of the state, thus establishing relations that are not complementary, but are rather struggles for prominence.

The environment resulting from this scenario tends to have a negative impact on the interaction between the government and the national CSOs as well. Added to this factor are doubts as to the independence of civil society, which to some extent is an obstacle to establishing a framework for interaction between state and non-state actors.

"The current political and economic conditions of Mozambique put the country far from a situation where civil society is independent, both in relation to the government, and in relation to outside actors. Economic and financial weaknesses, the political affiliations or sympathies of the leadership, are factors that determine the performance of the CSOs in the country" (CEEI/ISRI, 2004). Their performance therefore owes nothing to an approach determined previously in an independent fashion by the institutions of civil society themselves, seeking to implement their plan of activities and attain goals defined exclusively by their members.

It is, however, important to mention that imperatives arising from the conception of the Action Plan for the Reduction of Absolute Poverty (PARPA), and particularly from its implementation and evaluation, have been creating spaces in which the government, civil society and other partners can come closer together. PARPA was drafted out of a process of consultation with civil society, undertaken by the Ministry of Planning and Development (MPD), in coordination with other government bodies. Among the range of stakeholders consulted were trade unions, business bodies, NGOs, the media, youth and student representatives, and religious denominations.

The consultations for PARPA I took place basically in the form of meetings that reflected on aspects deemed relevant for an efficient and effective integrated approach to reducing poverty in Mozambique. This methodology was widely opposed by civil society in that it was seen more as an exercise in listening rather than a fully participatory and inclusive process.

With PARPA II, which will be in place in 2006, the inclusive and participatory nature of the consultation is clear at the various stages, namely:

- Consultations at sector level dealing with sector strategic plans in the key areas laid down by PARPA, which reflect on the priorities, constraints, resources and degree of implementation of programmed activities;
- Consultations and dissemination, at central and provincial levels, of analytical documents and economic and social strategies, such as the Poverty Profile and PARPA I; and
- Overall and specific meetings to revise the documents produced.

In presenting their observations and suggestions, civil society organisations also reveal their concerns as social actors, as important and necessary players in support of state institutions. This stance taken by civil society reflects recognition of the need to share responsibilities with the government in the country's long and winding path towards development.

In dealing with the question of the country's foreign debt, for example, civil society, through the Mozambican Debt Group (GMD), has shown a high sense of responsibility, acting at the opportune moment, ensuring that its voice is heard inside and outside Mozambique.

The GMD is a coalition set up in 1996-97, by various organisations and individuals, with the purpose of reflecting on matters concerning the impact of foreign debt and of the economic reforms under way since 1987, and to propose solutions to the problems. The visibility of this group resulted essentially from Jubilee 2000, the international campaign for the cancellation of the debts of the Least Developed Countries (LCDs), through which it exposed to the world the problems of Mozambique, and the negative impact on the population of the high debt service and of structural adjustment programmes.

Without necessarily resulting from formal contact, much of the pressure group activity undertaken by the GMD within the Jubilee campaign found an echo in the government. Both argued that any strategy seeking to solve the debt problem should take into

account its real impact on the public at large, and on the poorest and most vulnerable strata in particular.

It should be recognised that the current "developmental" approach to the debt problem by the developed countries, headed by the G8, to a large extent results from international pressure, exercised by civil society in the framework of Jubilee 2000.

A specific reference should be made here to the Heavily Indebted Poor Countries (HIPC) initiative, for which Mozambique was one of the beneficiary countries. It should be recognized that the pressure exerted by Mozambican civil society, through the GMD, played some role in the current treatment given to Mozambique by the international community in debt matters, although it is difficult to assess the level.

When multilateral creditors wrote off Mozambican debts, civil society was critical of those who just declared, "mission accomplished". For civil society, the unconditional cancellation of debts is not an end in itself, but a determinant condition for expanding the government's room for manoeuvre, so that, in partnership with national non-state actors, it may be able to define effectively the direction the economy should take and its poverty reduction plan, without strong outside interference.

Spreading information about the MDGs

Citizens' level of knowledge of the Millennium Development Goals and their targets depends on the strategies adopted to share this information. From the point of view of institutional actions, only the Millennium Campaign can be mentioned, as noted in Chapter 1. This social movement involves three forms of intervention:

- A general campaign nationally through working meetings, seminars, public debates, distribution of leaflets, use of a "Goodwill Ambassador",[53] and the organisation of special events;
- Campaigns directed at specific target groups, who might exercise some kind of influence and/or pressure at policy level; and,
- A campaign involving the mass media.

The philosophy of bringing together the government, the United Nations system and civil society in the campaign favours maximisation of synergies that guarantee knowledge of the MDGs at national level, and of the collective and individual responsibility in achieving them. However, it seems pertinent to exploit other possibilities for disseminating knowledge of the MDGs.

The government's establishment of the Poverty Observatory (OP) and its openness to civil society participation in this forum was a step further in bringing these actors closer together and improving their relationship. It was also a catalyst for civil society organising itself with the aim of participating in the design of the country's social and economic policies. Supporting this finding is the fact that the 20 civil society organisations and networks that took part in the first OP, set up the Group 20, or simply G20, immediately afterwards.

The G20, which now includes about 400 civil society organisations and networks, has been one of the main channels for disseminating matters linked with PARPA, not only information, but also and fundamentally regarding the opportunities for citizen participation in preparing and implementing PARPA. In view of this experience, it is pertinent that civil society takes the initiative of designing its own strategy for disseminating information and advocacy on the MDGs, indicating how to coordinate the Millennium Campaign with other initiatives.

Taking into account the fact that publicising the MDGs should not be limited to divulging information about this international development framework, but should also include how the MDGs fit into national planning instruments such as PARPA, the Poverty Observatory should be a priority forum to this end. This suggestion extends to the Development Observatories, the provincial replicas of the Poverty Observatory, set up in Nampula in 2004 and in the other provinces in 2005, and to the district consultative councils.

Mobilisation and participation of citizens

The question of citizen participation in political, economic and social processes arises when considering the country's development over the short, medium and long term. In this context, the definition of participatory methodologies that are appropriate for the specific aims of the development framework is essential. In the case of the MDGs, participation will be strongly determined by the combination of the methodological component with the factual reality of the impact of the economic and social policies and strategies expressed in PARPA.

53 A figure of great national prestige

The MDGs should not be understood by citizens primarily as an international undertaking to which Mozambique is bound, but as a national undertaking framed within the country's development agenda, since they are reflected in PARPA, in particular, and other national planning instruments in general. It is therefore imperative in presenting the MDGs, to adopt methodologies that present unequivocally the linkages between the MDGs, and PARPA, Agenda 2025, the government's Five Year Programme and its annual economic and social plans.

The gradual expansion of the coverage of the PARPA consultation and evaluation process has become a reality in recent years. This establishes the mechanism for citizens, through civil society organisations, to be able to identify with it. But to consolidate this desired goal, it would be opportune for this government opening to civil society to be extended effectively into the phase of PARPA implementation. To this end, it is important to define clearly, in the PARPA document itself, what are the responsibilities of civil society organisations in the context of implementation, and how civil society can interact with the government throughout the process.

The greater the economic and social progress arising from the implementation of PARPA, expressed in improved living conditions for the majority of the population, the greater will be the chances that citizens believe in it, and are willing to support it. In this way, the commitment of the public to pursuing the MDGs can be advanced.

Challenges

Civil society organisations should behave as true actors in Mozambican development. The prominent and privileged position of the government should in no way be seen as a factor that limits civil society initiatives or inhibits compliance with its responsibilities. On the contrary, it should serve as a catalyst for large-scale interventions to respond to the countless challenges that the country faces.

It is expected that civil society should play a monitoring role, in order to point government activities in the direction of achieving the MDGs, warn of possible deviations that may be occurring, and the impact of policy and strategic choices. Current reality shows that Mozambican CSOs still have a large deficit in the field of advocacy, which reduces their ability to raise questions in a properly argued manner, and to influence national choices.

Box 7.2 Partnerships: The example of the health sector

From the creation of the National Health Service after independence up to the present, community engagement has evolved, as strategies have been defined for communities to participate in actions to improve their own health and development conditions, strengthen their capacities to identify and analyse problems, and take decisions in participatory planning, management and implementation of action plans.

These strategies seek the active participation of individuals and communities in improving health practices, to advance the health of households, and improve access to primary health care. Community involvement strategies:

- Promote partnerships among community involvement actors;
- Train health workers and NGOs in participatory methodologies, inter-personal communication and counselling;
- Follow-up community involvement activities at all levels;
- Mobilise resources to implement this Community Involvement Strategy;
- Mobilise for community involvement;
- Develop training curricula, programmes and manuals for Community Health Workers.

In much of the country, this community involvement began with the creation of community councils, set up in communities by formal and informal leaders, of both sexes, where matters concerned with health and the health problems of households are discussed, and a concrete plan of action is drawn up to solve the problems identified. These councils also manage small-scale programmes such as the sale of mosquito nets and the use of the existing health resources in the community, such as bicycle-ambulances used to carry seriously ill patients or pregnant women. The councils also support the building of waiting houses, alongside the maternity facilities, where pregnant women wait for the time of childbirth.

By way of conclusion, it is suggested that CSOs should invest seriously in the capacity to analyse development policies, so as to strengthen their advocacy and lobbying capacity, and so that they may take a more pro-active stance, with interventions of quality, in the journey of a country advancing to meet the millennium goals.

Efficiency of official development aid

Apart from the direct impact it has on the receiving economy, foreign aid also operates to stimulate domestic and foreign private investment.

Box 7.3 **Costing and financing the MDGs**

The process for the full attainment of the MDGs implies the clear determination of what is needed in terms of financial resources to reach the established targets, based on the current situation. This is done either by costing each goal, or by using the growth/poverty elasticity, or a combination of both.[54]

Different from costing is the challenging process of financing the MDGs, which refers to the system of determining the origin of the resources needed to finance the MDGs, a complex and dynamic process.

Governments can finance the goals through domestic resource mobilization and debt relief as well as foreign aid.

What is to be financed domestically by public and private sectors will have to be determined as well as what will be financed by foreign resources.

This exercise is undertaken through the establishment of a macroeconomic framework and of assumptions about the trend of economic growth, government revenues, etc.

In doing so, it is important to consider:

- Quality of resource management;
- Inequality; and
- Absorptive capacity.

All of these factors can influence the economic trend of the country, the efficiency of the expenditure and then the importance of internal resources *vs*. external financing, and eventually the financing gap.

In fact, the MDGs have results indicators that do not as such provide a blueprint for costing the achievement of the goals. The indicators associated with goal 7, for instance, on environmental sustainability do not indicate the level of service for sanitation. The "proportion of people with access to improved sanitation" (Indicator 30) does not precisely specify whether wastewater treatment has to be included in costing simulations.

Which costing model?

The question of calculating the costs involved in attaining the MDGs has given rise to heated debates over the most appropriate methodology to obtain consistent and reliable figures. However, the question is not merely technical and calls for a careful examination of the political motivations underlying this exercise.

If, on one hand, the "large" estimates are likely to cause protestation within the donor community, on the other hand, "low" figures would certainly be welcomed but would increase the possibility that the goals are not met, thus generating discontent in the developing countries.

Hence the development of more accurate methodologies to cost the MDGs appears critical for both the donor community and the developing countries, to identify the future level of aid and the size of the financial gap between available resources and the total required to meet the goals. This shall lay the basis for a lucid assessment of the feasibility of attaining the MDGs at the global, regional and national levels.

The rising importance of MDG costing on the agenda has lead to a multiplication of initiatives to give a price tag to the achievement of the Millennium Development Goals at the country level.

Some lessons can still be learnt from the methodologies used for MDG costing:

- Country level analysis is the most pertinent level for costing because it takes into account the national specificities which are likely to have a huge impact on the estimated costs.
- The lack of understanding of the complementarities between sectors and goals probably represents the single most important methodological challenge for MDG costing.
- Improving national statistical capacities is critical to develop models based on reliable and comprehensive country data.
- Institutional and policy reforms have to be understood as a complementary democratic process and not as a condition for higher levels of aid to achieve the MDGs.

54 See Technical Note I

Mozambique is one of the African countries that have experienced a considerable and regular flow of foreign aid over the years. For example, according to the World Bank's *World Development Review*, net official aid in 2001 amounted to US$935 million, up from US$888 million in 1996, although this data shows a drop from US$55 per capita in 1996 to US$52 per capita in 2001. But this aid remains short term, annual in nature, and with no connection to a medium and long-term vision.

It is important to note that Mozambique has an opportunity at present, together with its international cooperation partners, to change this picture, at the time of drafting the second Action Plan for the Reduction of Absolute Poverty (PARPA II), which creates conditions for absorbing larger volumes of aid.

The new plan will result from the active contribution and the priorities identified by civil society, which has organised itself to channel to the government its opinions and choices of how it wishes to see Mozambique grow and develop. In this framework, conditions are being created in Mozambique to strengthen measures to ensure effectiveness from the existing aid flows, which are expected to increase. This necessarily requires:

- A more careful analysis by the government, its cooperation partners, and civil society, of the quality of aid;
- That conditionalities be minimal, and related to the objectives of the annual operational programmes associated with poverty reduction;
- The harmonisation, simplification and alignment of donor actions and attitudes to government programmes, this is a positive step in the desired direction.

Mozambique's cooperation partners should bear in mind that the country has been implementing a successful structural adjustment programme since 1987, and thus requirements for government financial participation in investment projects and programmes should be eliminated in order to speed up the channelling of resources and to carry out actions with the desired immediate impact in poverty reduction, and in order to comply with the MDGs.

In fact, larger, more predictable and timely aid will allow the country to implement medium and long term investment plans, allowing a speedy and greater integration of programmes to combat poverty.

Box 7.4 Will it be enough to give more?

Among the so-called donor community there is the perception that a lot of money is *"given"* to help Africa. This perception is wrong. First, I doubt that the money is really *"given"*. Perhaps it is just being returned. Second because these sums are not as large as is imagined. They're much smaller.

A survey held among United States citizens showed a prevalent belief that the USA was giving about 20% of its national budget in aid to Africa. This is very far from the real sum. In fact, the "aid" (and I insist on the quote marks) does not even amount to 0.5%. That means that the greatest power in the world is not complying with what was established thirty years ago by the United Nations, which was that developed countries should give in "aid" the equivalent of 0.7 % of their GDP.

Just as serious as this non-compliance is the feeling that is setting roots among citizens of the donor community that Africa "is receiving a lot".

If the continent is indeed receiving a lot, then one must expect it to leap out of its current situation of crisis. An expectation is created that in no way corresponds to reality or to concrete possibilities.

But the so-called aid is distorted in many ways. It is a virtual sack, and so illusory that from both sides a mirage of its real efficiency is created. One of the distortions lies in the funding that the rich give for studies and consultancies. About 40% of what the donors grant is destined to themselves in the form of payments to consultants from their own countries.

More serious questions are posed when we ask about the effectiveness of this relationship. In fact, the real problem is not about giving more or less. Recent news from the G8 is indeed good: we all want, we all need support on a larger scale. But the true question is about creating a new relationship, a new framework of trading relations with none of the subsidies and protection offered to European and American farmers and producers. We want a relationship of dependency that gradually creates less dependency. Thirty years after the declaration of Mozambican independence this is still what is missing. Independence will not be more than this: to be able to choose our own dependences.

Perhaps what Africa wants may not be to receive more. What we want is to give, receive, sell and buy with clearer and more just rules. Yes, we want a world of greater justice.

Mia Couto in the magazine *Mais,* August 2005, Maputo

Mozambique and the HIPC initiative

In 1996, the IMF and the World Bank launched the HIPC (Heavily Indebted Poor Countries) initiative, which was the leading theme at their 1997 Annual Meeting in Hong Kong.

For a country to qualify for the initiative, it had to have complied with several other conditionalities, for example three consecutive years of successful implementation of a structural adjustment programme with the IMF and the World Bank. At the time, Mozambique already had ten years of successful implementation. On merit, Mozambique managed to reach the decision point in April 1998. The decision point is when the IMF and World Bank determine whether the country qualifies for assistance under the initiative, as well as deciding the amount of the assistance.

The calculations gave promised assistance under original HIPC from all creditors of US$1.716 billion, of which US$124.6 million was from the IMF. Mozambique reached the conclusion point, which is when the country receives the value of the promised assistance, in June 1999.

Even with the support provided under the original relief package, Mozambique's debt remained unsustainable. The assessment of sustainability is made on the basis of the value of the money over time. The sums presented are in the form of net present value. Thus it was necessary to draw up another package, known as enhanced HIPC. Mozambique reached the decision point of this new package in April 2000, and the conclusion point in September 2001. The additional relief was estimated at US$307 million.

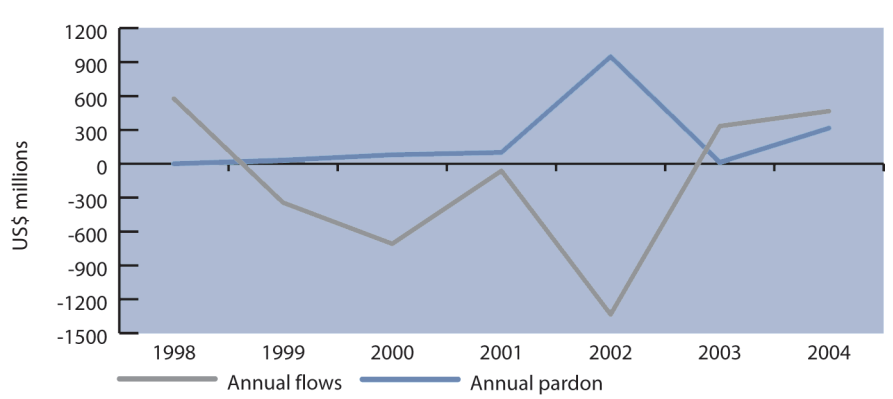
Thus, under the HIPC initiative, Mozambique gained total relief of US$2.023 billion (the sum of the US$1.716 billion from initial HIPC and US$307 million from enhanced HIPC). The International Development Assistance (IDA) contributed with a total of US$444 million in net current value terms, which in nominal terms was about US$875 million. The World Bank remains Mozambique's largest multilateral creditor.

Since the enhanced HIPC conclusion point was reached in September 2001, the relief occurred in 2002, and the total foreign debt at the end of that year was US$3,605.9 million dollars. The debt has been falling since 1999, as shown in Graph 7.1 which depicts the evolution of the total annual flows of foreign debt alongside the debt relief, starting with the debt cancellation that the country benefited from as from 1999 and the original HIPC.

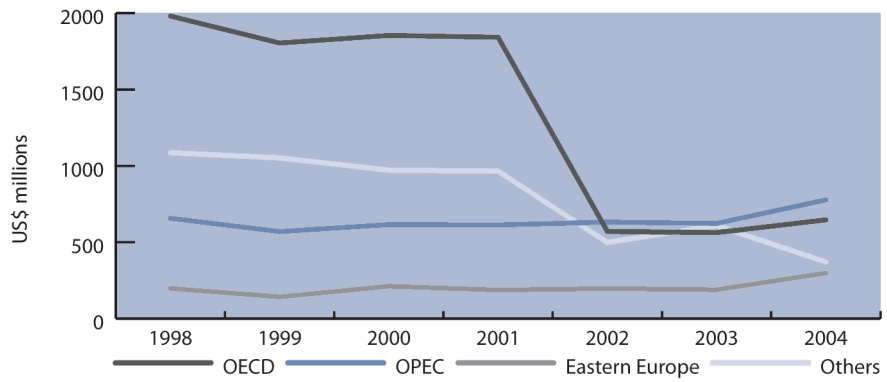
The debt relief affected both multilateral and bilateral debt. The bilateral debt cancellation covered debt with the countries of the Organisation for Economic Cooperation and Development (OECD) and a few other countries. Mozambique's debt to the former socialist countries of Eastern Europe and to members of Organisaton of Petroleum Exporting Countries (OPEC), did not record any significant alterations in this period, since they are not members of the Paris Club, as shown in Graph 7.2.

Graph 7.2 shows that the debt with the Eastern European and OPEC members remained practically unchanged over this period, with an increase that likely results from accumulated interest on the debt. This is the debt that, according to members of the Paris Club, is covered by the clause on comparability, so that diplomatic effort and creativity are needed for Mozambique to bring these creditors to the negotiating table, seeking relief on the debt.

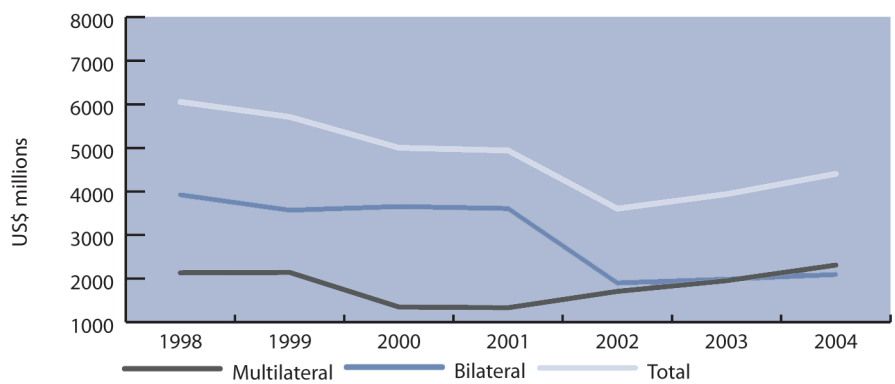
Graph 7.1 Evolution of annual flows *vs* debt pardon



Graph 7.2 Evolution of bilateral debt



Graph 7.3 Total multilateral and bilateral foreign debt



The current profile of Mozambique's foreign debt, after the HIPC debt relief, can be seen in Graph 7.3.

Graph 7.3 shows that the Mozambican foreign debt fell from 1998 until 2002, as a result of the debt cancellation, covering both multilateral and bilateral debts. At the end of 2004, the country had a foreign debt of US$4,404.5 million. Bilateral debt accounted for 48% of this, and multilateral debt for 52%.

Before and after 2002, the country continued to contract loans abroad. But, given the highly favourable nature of the soft loans from multilateral institutions, the Mozambican authorities are changing the concentration of the weight of debt to this, rather than the bilateral credits that had been the preference in the past.

After HIPC, which made the Mozambican debt sustainable in term of the value of money over time, foreign aid continued to flow into the country, both to support the budget and in the form of investment grants.

Debt relief under HIPC, which helped to cement economic stability, plus the conclusion of the second multi-party elections in 1999 which helped to maintain political stability, among other factors, continued to send encouraging signals to the private sector to believe that Mozambique was a good destination for their investments.

The debt relief still poses the challenge of the sustainability of the Mozambican debt – how to avoid falling into the debt trap again. The IMF and the World Bank (2001) defined the sustainability of foreign debt as "the capacity and readiness of a debtor country to be able to comply with its present and future obligations, to honour its foreign debt service in its totality without resorting to rescheduling or accumulation of arrears, and without compromising growth."

Starting from the concept of sustainability and the indicators chosen to analyse it (debt/export ratios), it may be concluded that the IMF and the

World Bank designed HIPC to solve the situation of "heavily indebted countries", while relegating to a secondary position their condition as "poor countries".

Mozambique still has various challenges to face. Some of the factors that caused the unsustainability of debt in the past are still present, since Mozambique is, in general, characterised by:

- Limited or zero access to the international financial market. In other words, even if it wanted to, Mozambique could not, on its own merit, obtain finance on market conditions;
- A high probability of shocks, because it is still highly dependent on the production and export of agricultural goods where price volatility on the world market is also high;
- Not being an oil producer, it is very vulnerable to high oil prices;
- Although the overall level of aid is high, the periods at which this aid enters the country are unpredictable, and often concentrated at the end of the year.

It is thus clear that original and enhanced HIPC were not designed by taking poverty reduction into consideration, and not based on needs for achieving the MDGs.

It is necessary that the next debt relief takes poverty reduction as its fundamental objective, and the contribution this effort can make towards reaching the MDGs.

Box 7.5 Domestic government debt after HIPC

As foreign debt responsibilities declined, the Mozambican authorities began to increasingly resort to domestic indebtedness, through issuing treasury bills with a maximum maturity of a year and treasury bonds with long periods of maturity.

Indebtedness through issuing these market instruments has the merit of expanding the securities market, but given interest rates of above 10%, the ensuing interest payments may have a negative impact on the state treasury.

Taking into account that this volume of domestic indebtedness refers to the last day of each year, it means that the amounts in question will require an additional fiscal effort the following year.

Some of the reasons given for the growth of domestic indebtedness concern:

- A clear expression of the effects of a budget still highly dependent on foreign aid;
- Late arrival of the promised foreign aid;
- The seasonal nature of tax collection, while current expenditure cannot be delayed;
- Additionally, a political posture seeking to absorb the liquidity in the economy, thus contributing to controlling the general level of prices and the desired macro-economic stability.

This scenario shows that Mozambique needs more debt cancellation in order to concentrate its efforts on vigorous and inclusive growth with an impact on poverty reduction in accordance with the MDGs.

Thus the decision of the G8 leaders to pardon the multilateral debt of some low income countries, including Mozambique, would seem an opportune measure, because it would mean the release of additional resources for the sectors regarded as priorities in poverty reduction.

Final considerations and recommendations

The reflections presented in this report on the MDGs, from the perspective of Human Development in Mozambique, portrays a reality characterised by a mixture of optimism and concerns. Optimism because some indicators of economic and social performance show advances which, if maintained, guarantee the achievement of respective millennium goals; but concerns because of the countless challenges ahead in order to achieve the MDGs.

In this context, the following key interventions in sector and thematic areas would accelerate progress towards overall achievement of the MDGs:

Reduction of poverty and hunger

- Maintain the balance of macroeconomic stability and wide-ranging, sharp and sustainable economic growth which has occurred in recent years.
- Rethink the agricultural development strategy in distributing the state budget, taking into account agriculture's importance in creating well-being for the majority of Mozambicans.

Major endemic diseases

- Invest still more in inter-sector collaboration. This collaboration should be centred mainly on key areas such as agriculture, water and sanitation, and education, without forgetting the partnership with civil society, and international partners. The degree of community involvement is determinant in complying with the norms for disease prevention, a healthy diet, hygiene and sanitation, and the use of the health services.

- In the HIV area, promote innovative approaches, which give women a much more active role in prevention, and in educating young people, stress abstinence and safe sex.

Women's health

At the level of women and the family

- Establish conditions for empowering women to take care of their own health, and to become more independent in their choices, by exercising their sexual and reproductive rights. For this to happen, women must know more about health matters, hence the importance of attending school while they are girls or literacy courses when they are adults.
- Promote empowerment of the family itself, especially the influential members (husband, mother-in-law, mother) on matters concerned with health and disease. The family should protect women during pregnancy, freeing them from heavy work, and improving their diet.

At community level

- Strengthen existing community structures, and encourage the creation of others that are organised to support women though actions with an immediate impact: such as, waiting houses, means of transport such as bicycle-ambulances, insecticide-treated mosquito nets, and the creation of a network of community health agents.

In the health sector

- Improve management, increase human resources, involve men and the community in the approach to women's health.
- Monitor the quality of the health care provided, from the client's perspective.
- Set up maternal and peri-natal death committees to monitor the quality of the services provided.

Reducing infant and child mortality

- Ensure that complete vaccination covers ever larger numbers of children under the age of 12 months, including anti-measles vaccination.
- Design and adopt an intervention strategy seeking to solve the problem of malnutrition among children and women.
- Combine the availability of foodstuffs with the dissemination of knowledge on the nutritional value of foods and how to preserve them.

Education

- Promote the accelerated construction of community primary schools.
- Revisit the strategy and methodologies for teacher training, so as to guarantee a better quality of teaching, particularly in the primary schools.
- Encourage incentives for girls who want to follow a teaching career.
- Speed up community involvement in mobilising parents and guardians in defining the curriculum.
- Design as quickly as possible a strategy to care for and integrate orphans, who are highly prone to dropping out of school.

Environmental questions

- Define technological choices regarded as adequate to respond to various sustenance capacities and expectations of the population.
- Design a long-term integrated strategic plan, as a dynamic and flexible instrument to guide priorities, articulation with the authorities at various levels, and the rational allocation of financial resources. A new financing strategy at various levels will also be needed.

Partnerships

- Continue to encourage partnership practices between the government and civil society, including the private sector, so as to maximize the potential for complementarity between these stakeholders.
- Define clearly the government's vision and policy towards the transfer of technology to Mozambique, in the framework of strategies to attract investment, in order to promote not only growth but also the development of the country.
- Consolidate the fiscal system so that it can guarantee growing levels of internal mobilisation of budgetary resources, and ensure improvements in the management of public expenditure.
- Actions in this direction, linked to others that form part of a general framework of promoting good governance in Mozambique, could lift the levels of confidence of international cooperation partners towards the country.

Technical Notes

Technical Note I

Calculating progress towards each MDG

According to the Global Human Development Report (UNDP, 2004), progress towards each goal is evaluated by comparing the actual annual progress (aap), should current trends prevail until 2015, with the annual progress required (apr) to reach the target, assuming linear progress.

The document distinguishes between an **evaluation of actual progress** and an **evaluation of the progress required**. The difference between the two measures shows the country's potential to achieve, with greater or lesser probability, the targets for each of the eight goals.

For an **evaluation of actual progress**, the rate of annual actual progress is calculated by using the general formula:

$$\textit{Rate of annual actual progress} = \frac{(x_{t_1} - x_{t_0}) / x_{t_1}}{t_1 - t_0}$$

Where t_0 is 1990 or the year nearest to 1990, for which data are available; t_1 is the most recent year for which data are available; x_{to} and x_{t1} are the values of the indicator for these years. For rates of hunger, poverty and under-five mortality, for which the desirable value is 0, the formula is applied without modification.

For the rate of net primary enrolment, gender equity in education (ratio of girls to boys), and the percentage of the population with access to drinking water and sanitation, for which the most desirable value is 100%, progress is expressed as a "relation of shortfall", according to the following formula:

$$\textit{Rate of annual actual progress} = \frac{(x_{t_1} - x_{t_0}) / (100 - x_{t_0})}{t_1 - t_0}$$

For an **evaluation of the progress required**, the rate of progress needed to reach the target in 2015 (or in 2005 for gender equity in education) is determined by the target. The values for α are: -1/2 for poverty and hunger; 1/2 for drinking water and sanitation; -2/3 for under-five mortality and 1 for primary school enrolment and gender equity in education. The annual rate of progress required is then calculated in a simple way, dividing α by the number of years between the year t_{ODM}, the year when the target should be reached and t_0, the year closest to 1990 for which data are available. Formally:

$$\textit{Annual rate of progress required} = \frac{a}{t_{ODM} - t_0}$$

To assess progress in income deprivation, the UNDP (2004) recommends using the GDP per capita (in PPP dollars) growth rate.

Technical Note II

Calculating the Human Development Index disaggregated by provinces and regions

One of the innovations of Mozambique's National Human Development Report (NHDR) is the presentation of the Human Development Index (HDI) disaggregated by provinces and regions. A fundamental step for this innovation is the disaggregation of the Gross Domestic Product (GDP) by provinces and regions at both current prices and constant prices.

This technical note describes in terms of national accounts the methodology used to break down the Gross Value Added (GVA) from 2000 to 2004 by provinces and regions and how this indicator is adjusted to arrive at the concept of the GDP. The material takes up and updates the methodologies for disaggregating the national GVA by provinces and regions described in the previous NHDRs.

Principles and Methods of Regionalisation

This section explores the general principles used in disaggregating the GDP produced by the INE's Department of National Accounts by provinces and regions. Thus we start by defining the concept of Regional Accounts and regional territory, and then establish rules for the provincial/regional breakdown of the GDP.

In an initial approach, the regional/provincial accounts consist of the regionalised registration of operations concerning

the flow of goods and services between the residents of a region/province, and make possible the construction of a series of macro-economic indicators that facilitate comparisons of structure and evolving analyses of different regions. Thus each region is treated as a specific economic entity.

However, this undertaking runs into some serious conceptual obstacles, particularly the fact that the regional territory is not a "closed area" from the point of view of its economy; that is, the complete description of the economy of each region/province cannot be obtained with the same depth or breadth as a national economy, given the multiplicity of statistical restrictions on deeper knowledge of regional or provincial activities.

Like the national accounts, the regional accounts are governed by the principle of residency, according to which each economic or productive unit is allocated to a particular economic territory in relation to which it has a centre of economic interest. Thus the application of the principle of residency, as a general principle, in the regional/provincial accounts by area of activity means that the Gross Value Added should be allocated where the production unit resides. In the case of households, since they are single-region institutional units, it is considered that their centre of economic interest is in the region where the majority of their activities take place, which corresponds to the region where they live, but not necessarily the region where they work.

Delimiting the regional economy rests on the functional perspective, that is, the technical economic unit of reference is the establishment whose activity in the region where it is located it is intended to capture. Since the establishment is the unit which best represents regional activity, it is also here that one finds the greatest constraints on constructing an accounting system identical to that used for the national accounts, since the establishment, unlike the company, does not possess legal status, and has no autonomous accounting. This fact makes it difficult to individualise an important part of the flows supporting the production of regional accounts (IGBE, 1999).

Methods of Regionalisation

The regionalisation of operations varies since it is determined by the type of data available, and on the organisation of the National Statistical System itself. According to IBG (1999) and Eurostat (1995), in general there are three methods of regionalisation:

- The Ascending Method, which presupposes the collection and treatment of the elementary statistical units, taking into consideration local level units of economic activity (establishments) and institutional units (households and public administrations) and gradually adding them together until reaching the desired regional level. This method, although it ensures the use of statistical data strictly linked to the variables that it is intended to measure at regional level, does not guarantee *a priori* consistency with national figures.

- The Descending Method consists of disaggregation of the national product on the basis of a regional indicator resulting in the use of apportioning units, i.e. it functions by reference to a regional indicator that is as close as possible to the variable to be estimated. The method is called descending because the aggregate is allotted to a region and a year on the basis of a local or regional unit of economic activity. However, the notion of unit of local economic activity, in most cases, continues to require an accurate regional allocation. For example, the Gross Value Added of rail transport can be allocated to regions according to the number of passengers and aggregate tonnage transported. This method has advantages over the previous one because of guarantees that the national figures and the regional figures are consistent, since the latter result from a division of the national total based on a distribution key – but it has disadvantages in that the regional valuations do not always result from data directly linked to the variables to be measured and the basic units in question. But this disadvantage can be less serious if the distribution indicator is correlated with the operation in question.

- The Mixed Method, which consists in using simultaneously the ascending and descending methods, since the ascending method is rarely found in its pure form. There are always gaps in the data which have to be filled by using the descending approach. Similarly many descending methods frequently include data from exhaustive sources, as do ascending estimates. Thus mixed methods are the norm, and their degree of reliability depends above all on the available statistical sources.

In this work, priority has been given to the descending method, where the main regional aggregate is a replica of the following aggregates in the national accounts: Production, Gross Value Added and the Gross Domestic Product (GDP), in the perspective that the resulting estimates reflect the National Accounts produced by the National Statistics Institute (INE).

One advantage of this method is the numerical coherence between the national accounts and the regional ones, i.e. it guarantees that the national figures and the regional figures are consistent, knowing that the latter result from a division of the national total based on a distribution key. This method is cheaper to develop in that its uses existing data, and does not require new exhaustive records. It is the method most recommended in situations where there is no information from the units of local economic activity.

Sources of Data

To regionalise most of the operations, priority was given to the sources and statistical indicators from the provinces/regions, while simultaneously verifying whether they admit the possibility of certain operations being multi-regional. In cases where the quality of the data was mediocre or unsatisfactory, or because it simply did not exist and hence for a particular operation it was not possible to use sources or indicators based on place of residence, the regional allocation of production was undertaken on the basis of estimates and approximations resting on empirical knowledge of the reality of the provinces.

Thus for the operations of allocating production and Gross Added Value where adjustments were made to reach the concept of regional/provincial GDP, the main statistical sources were the balance sheets for 143 products drawn up by the INE's Department of National Accounts, the State Budget, the Provincial Statistical Yearbooks, the data from the Early Warning System, the data from surveys and censuses (IAF, QUIBB, CAP, TIA, IAF, RGPH, etc.), accompanied by estimates and approximations resting on empirical knowledge of the reality of the provinces.

For agricultural products, the annual data from the Early Warning System was used, which provides estimates of production and cultivated area by province for seven major crops (unhusked rice, maize, sorghum, beans, fresh cassava, groundnuts and millet). It is estimated that, taken together, these crops account for about 75% of agricultural production (IAF96). Apart from the data from the Early Warning System, the provincial yearbooks have information on other crops. For the remaining agricultural produce, for which there is no detailed provincial/regional information, the authors took the population growth rate, on the assumption that, when the market is saturated and there is no possibility of exports, production becomes stabilised at the size of the market, and its growth, in the case of perishable products, in the absence of other distorting factors, approaches the population growth rate.

For livestock produce, the data from the Agricultural and Livestock Census held by the INE in 1999-2000 was used. This information is updated by using data on livestock inventories by province, and by category and species, providing data on cattle, goats, pigs and other species.

For the fisheries, mining and commercial services sectors, the allocation of production to provinces was based on the number of people employed in the respective economic activity, in accordance with the results from IAF 2002/03 and the projections from the 1997 Population Census.

For the industry and construction sectors, the allocation was based not only on the number of people employed in the respective economic activity, but also on estimates and approximations resting on empirical knowledge of the reality of the provinces. For example, allocation of production in the construction sector paid a great deal of attention to Maputo and Inhambane provinces which in the last four years have benefited from large investments in manufacturing industry and in mining respectively.

For electricity, both the amount generated and the amount invoiced by provinces, and included in the EDM annual reports, were used. The application of the principle of residence according to which production of Gross Value Added should be allocated where the unit of production is resident allowed the production of HCB to be entirely allocated to Tete province. From the production point of view, for piped water services, the reference data come from the water companies in each province. This information was complemented by the IAF data registering expenditure on water that is not piped. This value is updated annually by the population growth rate, on the assumption that the service bears a direct relation to the number of people who need these services.

For most activities in the tertiary sector (trade, banking and insurance, and real estate services), although they have a huge weight in the national economy,[55] they are the least known part of the regional estimates. In many countries, the methodology used for estimating even the national Gross Value Added of this sector is not very good. In this work, recognizing the poor quality of the data or this sector, the allocation of operations was based on the number of people employed in the service sector.

For restaurants and hotels, production was allocated according to the guest nights in hotel establishments, as registered in the provincial yearbooks. This criterion is more consistent with that used by the INE's Department of National Accounts in calculating quantitative indices for the sector.

The distribution of production in the transport and communications sector was based on an index combining statistics of the number of vehicles, cargo handled in the ports, passengers transported, and telephone coverage.

Finally, for the public administration and defence services, and for health and education services, the authors used the expenditure in the State Budget, and number of health staff and school attendance respectively.

Disaggregation/Regionalisation of Operations

To allocate production to provinces, the reference point taken was the balance sheets for each year drawn up by the INE's Department of National Accounts for each of the 143 products, on the assumption that the sum of the production of all of the provinces should be approximately equal to the value of production on the balance sheets.

As the main rule, the regional data with provincial detail is used to estimate the relative participation of each region in the

55 As a whole, the tertiary sector accounted for 28% of the GDP in 2004

national sum by areas by variables. This establishes a key of distribution by province. However, it is not possible for all areas to obtain regional information for all variables. Hence alternative methods are used so as to obtain better estimates for the variable in question. This implies, in practice, that the same regional distribution can be applied both for production and for value in the various fields of activity at the most detailed level. Thus the technical coefficient of intermediate consumption is assumed, that is, the ratio between production and intermediate consumption is the same in all regions. This hypothesis, although difficult to confirm, cannot be avoided as a result of the methodology used in this study.

Adjustment of the Provincial Values

From the conceptual point of view, it was not possible to establish an objective criterion for a provincial allocation of customs duties and services of indirectly measured financial intermediation (SIFIM). Arising from the difficulties in obtaining indicators to share out the customs duties and SIFIM by provinces, the distribution was done proportionately to each province. This adjustment made it possible to reach the concept of the GDP.

Quality and Precision of Estimates

The precision and quality of the estimates presented here depend on the type of methodology applied, but above all on the quality of the data, a factor which is beyond our control, and necessarily involves improving the provincial statistical information. In general, the regional/provincial data are less exact than the national data, because they are based on smaller samples, and on databases of inferior quality.

The national economy has a strong identity: the national frontiers are fixed and cross-border flows (of people, goods, services and financial assets) are habitually measured, or are even regulated. The regional economy is much more open: the regional/provincial boundaries vary from time to time, and the flows between regions/provinces are so common that they are rarely regulated or measured. Even so, based on the available data and the criteria we have defined, it has been possible to present an estimate that we believe reflects what is really happening in the Mozambican economy.

Conclusions

In this work, the Descending Method has been used to disaggregate the 2000-2004 GDP by provinces and regions. For sources of data, the authors used the balance sheets, the Provincial Statistical Yearbooks, data from the Early Warning System, as well as the data from surveys and censuses (IAF, QUIBB, CAP, TIA, IAF, RGPH, etc.), accompanied by estimates and approximations based on empirical knowledge of the reality of the provinces to disaggregate production and Gross Value Added by provinces/region and produce estimates of the GDP from the perspective that the resulting estimates would mirror the national accounts compiled and published by the INE.

Based on these assumptions, first distribution keys were constructed based on the balance sheets of the national accounts formed by a sample of 143 products. Based on the distribution keys, proportional allocation of the national sums was made for each field of activity and by provinces/regions. Arising from the difficulties of obtaining indicators for sharing out customs duties and SIFIM by provinces, the national values of these operations were allocated proportionately to the Gross Value Added of each province. This adjustment made it possible to reach the concept of the Gross Domestic Product of the province or region.

The precision and quality of the estimates presented here depend on the type of methodology applied, but above all on the quality of the data, a factor which is beyond our control, and necessarily involves improving the provincial statistical information. Even so, based on the available data and the criteria we have defined, it has been possible to present an estimate that we believe reflects what is really happening in the Mozambican economy.

Technical Note III

Calculating the Human Development Index (HDI)

The HDI is based on three indicators: longevity, as measured by life expectancy at birth; educational attainment, as measured by a combination of adult literacy (two-thirds weight) and the combined gross primary, secondary, and tertiary enrolment rate (one third weight); and standard of living, as measured by real per capita GDP (in PPP $).

To calculate the HDI, the parameters used are derived strictly from the methodology of the Global Human Development Reports, which fix for each of the indicators of the HDI, the following minimum and maximum values:

- Life expectancy at birth: 25 years and 85 years;
- Adult literacy: 0% and 100%;
- Combined gross enrolment rate: 0% and 100%;
- Real per capita GDP (PPP $): $100 and $40,000.

Thus, the results obtained are comparable with the indicators of other countries and to the figures published in the GHDRs, diverging only in the sources of the data used. However, since it makes no sense to use a per capita GDP in PPP dollars to compare the level of human development between regions within Mozambique, the minimum and maximum values of the GHDRs were converted into Meticais based on the PPP dollar conversion rate, and then applying a deflator allowing comparisons between years along a series under analysis.

Based on these fixed minimum and maximum values, the indices for life expectancy and educational attainments were calculated according to the following general formula:

$$Index = \frac{Actual\ x_i\ value - minimum\ x_i\ value}{Maximum\ x_i\ value - minimum\ x_i\ value}$$

Taking as an example Mozambique's life expectancy at birth (43.3 years), the adult literacy rate (43.3) and the combined gross primary, secondary and tertiary enrolment rate (31.6), all for the year 2000, then the life expectancy index (I_{LE}) and the educational attainment index (I_{EA}) for this year would be:

$$I_{LE} = \frac{44.3 - 25}{85 - 25} = 0.322 \qquad I_{EA} = \frac{2*\frac{44.3}{100} + \frac{31.6}{100}}{3} = 0.394$$

Constructing the income index (I_y) is a little more complex, and it is not the aim of this technical note to present the details of how it is built. But we can summarise the construction of the income index by using the following formula:

$$I_y = \frac{Log(y_{actual}) - Log(y_{minimum})}{Log(y_{maximum}) - Log(y_{minimum})}$$

Taking as an example the real per capita GDP in PPP dollars of 2000 (996.3), we can calculate the corresponding index in the following way:

$$I_y = \frac{Log(996.3) - Log(100)}{Log(40000) - Log(100)} = 0.384$$

Once the indices for life expectancy, educational attainment and income have been obtained, the HDI is calculated as a simple average of the three indices.

$$HDI = \frac{0.322 + 0.394 + 0.384}{3} = 0.366$$

Technical Note IV

Calculating the Gender-related Development Index (GDI)

Calculating the GDI is based on the same variables as the HDI, with the difference that the GDI adjusts the average achievement in life expectancy, educational attainment and income in accordance with the disparity in achievement between women and men. In other words, the GDI is the HDI adjusted to take account of sexual inequality.

In this study the weighting formula was set at $\varepsilon=2$, taken from UNDP (2004) which expresses a moderate aversion to inequality.[56] As in the HDI, in constructing the GDI the following maximum and minimum values were established, taken from the GHDRs.

Life expectancy at birth: Maximum 82.5 e 87.5 years for men and women respectively; Minimum 22.5 and 27.5 years for men and women respectively. The difference reflects the fact that women tend to live longer than men, given the same care (medical care, nutrition etc.).

The same maximum and minimum values as used in calculating the HDI were maintained for the Adult Literacy Rate, the Combined Gross Enrolment Rate, and real per capita GDP, as well as the formula for calculating the individual indices. However, to allow comparability of the administrative regions within Mozambique, the minimum and maximum values were converted into nominal meticais, based on the PPP conversion rate, and then applying a deflator that allows comparability between years along a series under analysis.

The equally distributed life expectancy index is given by:

$$\{\text{Female population share x (Female life expectancy index)}^{(1-\varepsilon)} + \text{male population share x (Male life expectancy index)}^{(1-\varepsilon)}\}^{(1-\varepsilon)}$$

Likewise, **the equally distributed educational index is given by:**

$$\{\text{Female population share x (educational attainment index)}^{(1-\varepsilon)} + \text{male population share x (educational attainment index)}^{(1-\varepsilon)}\}^{(1-\varepsilon)}$$

Income calculation

Values of real per capita GDP (PPP US$) for women and for men, in an ideal situation, are calculated, following UNDP (2004:264) recommendations, from the female share (S_f) and male share of earned income, using the ration between female non-agricultural wages (W_f) and male non-agricultural wages

56 Expresses a moderate degree of inequality aversion and is calculated as a constant average of the male and female values.

(w_m) and the percentage shares of women (ea_f) and men (ea_m) in the economically active population. Formally:

$$\textit{Female share of the wage bill} = \frac{(W_f / W_m)*ea_f}{(W_f / W_m)*ea_f + ea_m}$$

Assuming that the female share of earned income is exactly equal to the female share of the wage bill:

$$S_f = \frac{(W_f / W_m)*ea_f}{(W_f / W_m)*ea_f + ea_m}$$

When data on the wage ratio are not available, as is the case in Mozambique, the same document suggests an estimate of 75%, the weighted average of the wage ratios for countries with wage data out of the series of countries included in the study, of which Mozambique was part. This value means that, on average, the wages of women are 25% lower than those of men.

It is then assumed that the total GDP (PPP US$) of a country (Y) is divided between men and women in accordance with the female share of earned income. Formally,

Total GDP (PPP US$) going to women = S_f x (Total GDP PPP$ of the country)

Total GDP (PPP US$) going to men = Total GDP PPP$ of the country x $(1 - S_f)$

The per capita GDP (in PPP US$) of ($y_f$) and of men ($y_m$) is obtained by division by the female and male population of the country.

The adjusted income both for women W (y_f) and for men W (y_m) is dealt with in the same way as in the construction of the HDI:

$$W(y_f) = \frac{Log(y_f) - Log(y_{minimun})}{Log(y_{maximum}) - Log(y_{minimun})}$$

&

$$W(y_m) = \frac{Log(y_m) - Log(y_{minimun})}{Log(y_{maximum}) - Log(y_{minimun})}$$

The equally distributed income index is given by:

{Female population share x $[W(y_f)]^{(1-\varepsilon)}$ + Male population share x $[W(y_m)]^{(1-\varepsilon)}\}^{(1-\varepsilon)}$.

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Statistical Annex