



Ministry of Planning and International Cooperation

MILLENNIUM DEVELOPMENT GOALS

NEEDS ASSESSMENT

YEMEN COUNTRY REPORT

September, 2005

EXECUTIVE SUMMARY

Despite the substantial advancements on many development fronts, Yemen continues to face multi-dimensional challenges in its endeavor to pursue economic development, political reforms, and enhance peace and security in the region, especially in the post 11 September 2001 international context. The Government of Yemen is extremely concerned about those interrelated challenges which contribute to being one of the poorest countries in the world and to the country's low level of human development. Yemen ranks 151 out of 177 countries in the 2005 UNDP Human Development Index, underscoring the need to enhance the accessibility of the population to the basic necessities of their livelihood.

The structural and long-term development challenges facing Yemen have adversely undermined the effort of the state as well as the other stakeholders in improving the livelihood of the people. Population growth remains very high, although declining to 3.02%, indicating that population is doubling every 19 years, reaching 38 million by 2026. Sharp imbalances between the available water resources and consumption lead to increased demand gap and further depletion of the ground water reserves. Limited human resource development reflected in low enrollment in basic education as more than 2 million children are still outside schools, in addition to high child malnutrition (46%) and maternal mortality (366 in 100,000 live births). Also, unemployment is on the rise due to insufficient jobs created in the economy. Finally, weak infrastructure is exemplified in limited road stretches (11km for each 1000 km²), electricity coverage (30%), safe water (36%), and telecommunication (4 lines per 100 inhabitants).

In an effort to address those challenges, the Government of Yemen (GoY) has set a number of socio-economic development goals as stipulated in the Yemen's Strategic Vision 2025. The vision aims at transforming Yemen to a middle human development country with a diversified economy and social, scientific, cultural and political progress. It implies raising the living standards to ensure decent and dignified lives for all Yemenis.

Other medium term frameworks drafted by the GoY aim at aligning the national planning processes with the Millennium Development Goals (MDGs) and targets, while at the same time generating a stronger sense of ownership among the national stakeholders of the development agenda.

With the cooperation of the UN specialized agencies and the World Bank, the GoY has prepared a Needs Assessment Report with the objectives to identify a set of *integrated interventions* that will enable Yemen to meet the MDGs over the medium to long-term through to 2015. The report also identifies the necessary infrastructure, human, and financial resources required to support a scale-up of interventions over the same period. Furthermore, it develops a transparent approach to MDGs planning and outlines a financing strategy for achieving the MDGs.

For each of the sectors and sub sectors for which needs assessment was undertaken, four issues were addressed including current situation and challenges faced. Consequently, an investment plan was drawn and costed as basis for defining anti poverty strategies and programmes, forecasting needs and gaps, and mobilizing additional resources. However, it is important to note that MDGs targets are inter-related. The existence of inter-linkages among targets leads to “externalities” or synergies. For instance, nurses, doctors and hospital beds help to achieve several MDGs targets such as child and maternal mortality and malaria control. Hence, costs for separate targets can not sometimes be specified independently. Identifying the manner in which specific inputs help achieve multiple goals remains unresolved.

MDGs costing must go hand in hand with financing. A survey of various potential sources of funding including levels of taxation, costs recovery for non basic services, private-public partnership, foreign aid and debt relief, provides the basis for crafting a combined financing strategy based on the mobilization of both domestic and external resources. The main task on the financing issue is for the government to renew its efforts at reforming policies, instituting an enabling legal and regulatory framework, and putting in place transparent and accountable governance structures. Such efforts are not only

critical in mobilizing domestic resources and in promoting private sector activities in the economy, but also in attracting external resources in terms of donor assistance (ODA) as well as foreign direct investment (FDI).

Yemen will need to make significant investments to build capacity in human resources, infrastructure and public administration. The MDGs are achievable, but as the 2003 Human Development Report outlined, with entrenched poverty what is needed, urgently, is international follow-through on the commitments the world has made. Success will require the international community to develop with the country in place an operational framework for achieving the MDGs, one to guide policies, programs and development assistance.

The Needs Assessment Report gives some indication of the enormity of the tasks the country faces to mobilize the resources required. ***What will be needed, in resource terms, to meet the MDGs over the next 10 years is \$ 48 billion*** in order to halve poverty, improve the investment environment and better integrate in the regional economy. Such integration could be obtained by accelerating the process of accession to WTO, the effective participation to the Arab Free Trade Zone, strengthen partnership with the Arab Gulf States, and attract more regional and international investors. Local financing will improve as a result of accelerated economic growth, but a considerable amount of external financing is needed at around 35 % of the total, amounting to \$ 1.8 billion a year.

Yemen is one of the least aid recipients, getting currently around \$350 million a year, hence showing a financing gap of almost \$1.5 billion per year. In the medium-term, Yemen is in need of external resources to finance the investment programs and projects that have been identified as priority in the Needs Assessment Report. External financing will close the investment gap in the various sectors as follows:

Investment Plan to achieve the MDGs by 2015 (\$ million)

Indicators	Total Sector Needs	Annual Average
<i>Food security</i>	2,130	213.0
<i>Education</i>	16,309	1,630.9
<i>Vocational Education</i>	3995	399.5
<i>Higher Education</i>	1964	196.4
<i>Health</i>	14,131	1,413.1
<i>Water and Sanitation</i>	3677	367.7
<i>Environment</i>	530	53.0
<i>Roads</i>	3614	361.4
<i>Energy</i>	2532	253.2
Total Resources Required	<u>48,935</u>	<u>4893.5</u>
Total Mobilized Public Expenditure	<u>31010.0</u>	<u>3,101</u>
Additional Resources Needed (Financing Gap)	<u>17,849.6</u>	<u>1,785</u>

As is, Yemen requires consolidated international assistance to overcome the financing challenges. To reach the MDGs, the economy will need to sustain an average annual GDP growth of at least 5%. The level of economic growth rate will require higher volume of investment as well as high saving rate and more efforts to attract FDI. Therefore, expanded and concerted international cooperation is required to address a wide range of development issues and the well being of the people, including those related to democratic governance focusing on modernizing civil service and reforming the judiciary system, enhancing accountability and transparency in the public sector, and improving institutional capacity building in all state agencies.

LIST OF ABBREVIATIONS

ACB	Agricultural Credit Bank
ACCB	Agricultural and Cooperative Bank
ACT	therapy
APFPF	Agriculture Production and Fisheries Promotion Fund
ARV	Antiretroviral
BEDS	Basic Education Development Strategy
BEDS	Basic Education Development Strategy
CAU	Cooperative Agricultural Union
CBY	Central Bank of Yemen
CCF	Country Cooperation Frameworks
CEDAW	Convention on the Elimination of All Forms of Discrimination
CFC	Coastal Fisheries Corporation
CSO	Civil Society Organizations
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFA	Education for All
EFARP	Economic, Financial and Administrative Reform Programme
EIA	Environmental Impact Assessment
EPA	Environment Protection Authority
EPL	Environment Protection Law
EPS	Environmental Protection Strategy
EMP	Environment Management Plan
ESP	Essential Services Package
FAO	United Nations Food and Agricultural Organization
FAO STAT	
FCU	Fisheries Cooperative Union
FDI	Foreign Direct Investment
FFYP	First Five Year Plan
FGM	Female Genital Mutilation
GDP	Gross Domestic Product
GEF	Global Environment Fund
GER	Gross Enrollment Rate
GNP	Gross National Product
GoY	Government of Yemen
HBS	Household Budget Survey
HDI	Human development Index
HDR	Human Development Report

ICT	Information and Communication Technology
IMCI	Integrated Management of Childhood Illness
IMO	International Marine Organizations
Kg	Kilogramme
Km	Kilometer
LDC	Least Developed Countries
LLIN	Long Lived Impregnated Net
MAI	Ministry of Agriculture and Irrigation
MCIT	Ministry of Communication and Information Technology
MCS	Monitoring and Control Surveillance
MoE	Ministry of Education
MoT	Ministry of Transport
M&E	Monitoring and Evaluation
MDGR	Millennium Development Goals Report
MDGs	Millennium Development Goals
MFW	Ministry of Fish Wealth
MPH	Ministry of Population and Health
MPIC	Ministry of Planning and International Cooperation
MPWR	Ministry of Public Works and Roads
MTEF	Medium Term Expenditure Framework
MTR	Mid Term Review
MWE	Ministry of Water and Environment
NA	Needs Assessment
NC	National Committee
NCSFM	National Corporations for Services and Fish Marketing
NDPPR	National Development Plan and Poverty Reduction
NEAP	National Environment Action Plan
NGOs	Non Governmental Organizations
NPS	National Population Survey
NWS	National Water Strategy
NWSSIP	National Water Sector Strategy and Investment Programme
OI	Opportunistic Infections
O&M	Operations and Maintenance
PAPFAM	
PHC	Public Health Care
PIMS	Poverty Information and Monitoring System
PPA	Participatory Poverty Assessment
PMS	Poverty Monitoring System

PRS	Poverty Reduction Strategy
PRS-MS	PRS Monitoring System
PRSP	Poverty Reduction Strategy Paper
SIC	Supreme Import Council
SFYP	Second Five Years Plan
SMC	Surveillance Monitoring and Control
STDs	Sexually Transmitted Diseases
SSN	Social Safety Net
TB	Tuberculosis
U5MR	Under-Five Mortality Rate
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
US	United States
WC	Women Committee
YSV 2025	Yemen's Strategic Vision 2025

Table of Contents

EXECUTIVE SUMMARY	Error! Bookmark not defined.
LIST OF ABBREVIATIONS	Error! Bookmark not defined.
<i>Table of Contents</i>	ix
CHAPTER ONE	Error! Bookmark not defined.
INTRODUCTION	Error! Bookmark not defined.
Background	Error! Bookmark not defined.
MDGs Needs Assessment Conceptual Framework	Error! Bookmark not defined.
CHAPTER TWO	Error! Bookmark not defined.
AN OVERVIEW OF SOCIO ECONOMIC PERFORMANACE	Error! Bookmark not defined.
Governance, Demographic and Social Status	Error! Bookmark not defined.
Structure of the Economy and Macro-economic Policy	Error! Bookmark not defined.
Human Rights Issues	Error! Bookmark not defined.
CHAPTER THREE	Error! Bookmark not defined.
NATIONAL DEVELOPMENT CONTEXT	Error! Bookmark not defined.
The Agriculture Sector	Error! Bookmark not defined.
Food security and poverty	11
Dynamism of agriculture and farming system	12
Challenges	13
Agriculture Investment Plan	Error! Bookmark not defined.
The Fisheries Sector	Error! Bookmark not defined.
Challenges	Error! Bookmark not defined.
Investment Plan	Error! Bookmark not defined.
Costing Investments	Error! Bookmark not defined.
Education	Error! Bookmark not defined.
Challenges	Error! Bookmark not defined.
Investment Plans	Error! Bookmark not defined.
Technical and vocational training	25
Higher education	26
Health	27
Challenges	Error! Bookmark not defined.
Maternal Health	Error! Bookmark not defined.
Intervention package	29
Targets and Cost	29
Child Health	Error! Bookmark not defined.
Intervention package	30
Communicable Diseases	Error! Bookmark not defined.
Intervention package	31
Tuberculosis	Error! Bookmark not defined.
Health Systems	Error! Bookmark not defined.
Intervention package	33
Environment, Water and Sanitation	Error! Bookmark not defined.
Challenges	Error! Bookmark not defined.
The Environment	Error! Bookmark not defined.

Current situation and challenges	Error! Bookmark not defined.
Intervention packages	Error! Bookmark not defined.
Future and Long Term Environmental Interventions.....	41
Legal framework and environmental policy.....	42
The Environment protection strategy.....	43
Environmental Impact Assessment and linkages with other sectors.....	44
Investment Plans and Costs	Error! Bookmark not defined.
Improving Slum Dwellings.....	Error! Bookmark not defined.
Gender.....	Error! Bookmark not defined.
Sector-Specific Gender Issues.....	47
General Gender Issues.....	49
Private Sector	Error! Bookmark not defined.
Challenges	Error! Bookmark not defined.
Policy Directions	Error! Bookmark not defined.
Good Governance.....	53
Civil Service Modernization.....	54
Enhancing and Strengthening Democracy.....	55
Implementation and Enforcement of Laws and Regulations.....	55
Strengthening Local Authority and Decentralization.....	55
Civil Society Organizations	Error! Bookmark not defined.
Annex I.....	57
Annex II.....	59

CHAPTER ONE

INTRODUCTION

Background

World Leaders attending the United Nations Millennium summit in year 2000, committed themselves to eradicating poverty and improving the lives of poor people in developing countries. In essence, the declaration aimed specifically to combat poverty, hunger, diseases, illiteracy, environmental degradation and discrimination against women.

Towards achieving these specific objectives, the declaration came up with a set of Millennium Development Goals (MDGs) to be achieved come year 2015. These MDGs are centered on the following eight major goals along with 18 targets and 48 indicators. These goals include:

- Halving the proportion of the population whose income is less than \$ 1 per day.
- Halving the proportion of people who suffer from hunger.
- Ensuring that all children complete primary school, and eliminating gender disparities in education at all levels.
- Reducing by two-thirds the mortality rate of children under five.
- Reducing by three-quarters the maternal mortality rate.
- Halting and beginning to reverse the spread of HIV/AIDS, malaria and other major diseases.
- Halving the proportion of people without access to safe drinking water and adequate sanitation.
- Develop a global partnership for development.

Attaining the MDGs requires both the political will of World leaders and financial resources. The political framework for realizing the MDGs was forged at the Monterrey Conference in 2002 on financing for development. At this conference, the countries of the North agreed unanimously and committed to remove trade barriers, provide more aid

and debt relief to countries of the south that are willing to undertake political and economic reforms while ensuring the practice of good governance is in place.

The Government of Yemen has set for itself, as part of its commitment with the international community and partners in development a number of goals as coined in Yemen's strategic vision 2025. The vision aims to improve the level of human development and to upgrade Yemen to join countries with middle human development, reflecting higher standards of living and decent lives for individuals and society at large. To accomplish this goal, the vision foresees:

- Improving the demographic and health conditions, including mainstreaming gender.
- Eliminating illiteracy by increasing school enrolment.
- Raising per capita income by diversifying the economic base.
- Enhancing democratization, decentralization, participation and rule of law.

These overriding objectives of the Yemen's strategic vision coincides clearly with the MDGs targets.

MDGs Needs Assessment Conceptual Framework

Yemen was one of eight pilot countries selected by the UN Millennium Project to ensure the achievement of MDG's by year 2015. Towards this endeavor, the MDGs Needs Assessment and Costing (NA) has been carried out, to align policy initiatives with the MDGs. Policy initiatives, where in operation, should be prepared within the framework of longer-term plans to achieve the MDGs. The NA assessment helps to compare the current situation with MDGs targets as well as identify public investments that enable achieve the MDGs.

To strengthen linkages between the MDGs and the policy frameworks in the context of the upcoming Third Five Year Development Plan for Poverty Reduction (TFYDPPR) for the period 2006-2010, the NA provides the necessary methodology, which has the following objectives:

- Identify a set of **integrated interventions**, broadly defined as provision of goods, services and infrastructure that will enable a country to meet the MDGs through to 2015. Achieving the Goals in any country will require simultaneous investments and progress across all areas.
- Adopt a long-term approach to identify the necessary infrastructure, human, and financial resources required to support a scale-up of interventions through to 2015, and to think how these resources and absorptive capacity can be built up over time.
- Develop a **transparent approach to MDGs planning** that countries can use and adapt for their own long-term planning towards achieving the MDGs.
- Outline a **financing strategy** for achieving the MDGs, including an assessment of resources that can be mobilized domestically by governments and households. Donors will have to finance costs that cannot be covered through domestic resource mobilization alone.

The NA also identifies policy priorities and coordinates international effort and campaign for increasing ODA for MDGs related investments. Hence, the strategic importance of Yemen's NA is to provide basis for the up-scaling of programs, making them more ambitious and comprehensive. It also involves, but not limited to the following:

- Reviewing the current situation including the particular barriers that prevent faster economic growth and accelerated progress towards poverty reduction, and identifying the public investments necessary to achieve the MDGs by 2015, while also working to remove the obstacles to progress. The longer time horizon (2006-2015) requires strong national policy planning capacity. In essence, the time horizon calls for linking the NA and the MDGs to the ongoing national development plan and policies as well as influencing the process.

- Building international consensus and advocacy around scaling up poverty reduction strategies to achieve the MDGs, and thereby mobilizing targeted and sufficient international support for implementation.

To this end, Yemen can identify the trajectory it needs to follow in order to meet the Goals, which can also form the basis for preparing the new TFYDPPR and Medium Term Expenditure Frameworks while ensuring consistency with achieving the Goals. Links between the MDGs and the TFYDPPR need to be particularly strengthened in three areas, which are target setting for poverty reduction; pro-poor policy content and prioritization; and resource requirements for meeting targets. For Yemen, achieving the MDGs stands as a top priority, and the government has shown sustained commitment towards policy reforms aimed at reducing poverty and hunger and promoting sustainable human and economic development.

CHAPTER TWO

AN OVERVIEW OF SOCIO ECONOMIC PERFORMANCE

Governance, Demographic and Social Status

Republic of Yemen was established on 22nd of May, 1990 by unifying two states, former Yemen Arab Republic and Peoples' Democratic Republic of Yemen. The unification of Yemen marked a new era in the history of the country, with the new regime following a liberal economic system, adopting democracy and political pluralism, decentralization and enhancing the role of local authorities in managing economic and social affairs.

Efforts have been exerted by the government to instill democracy and reinforce popular participation, to protect the rights granted by the law to the citizens in electing their representatives in the local councils and to activate roles of these councils. Nonetheless, the government is confronted with pressure to run its responsibilities more efficiently and at lower cost, by means of a small decentralized administration that adheres to principles of transparency and accountability.

Yemen has a population of about 19.7 million; with annual population growth of 3.02% and almost 76% of population living in rural areas. The whole population occupies only 2% of the total geographical area of around 45 million hectares and is scattered among 41,800 villages, thus making it difficult to provide basic services to all these small settlements. According to the 1998 Household Budget Survey, 17.6% of the population lives in extreme poverty, while 41.8% is below the upper poverty line. Rural population suffers more than their urban counterparts. The under-15 age group represents 46.3% of the population, which translates into growing demand for educational and health services as well as for access to drinking water and job opportunities.

The Family Health Survey of 2003 indicates that the under-five mortality rate (U5MR) dropped down from 122 per 1000 in 1991 to 105 in 1997, and further to 102 in 2003.

Hence, Yemen will not be able to achieve the MDG of reducing child mortality by two thirds by year 2015, nor that of reducing maternal mortality of about 365 per 100,000 live births. Malaria is a major disease in Yemen, with estimated 2-3 million cases per annum. However, HIV/AIDS is not widely-spread, although it is on the rise. The 2005 Global Human Development Report ranks Yemen 151 among 177 countries in terms of Human Development Index.

Structure of the Economy and Macro-economic Policy

Yemen is a low-income economy and is one of the least developed in the Arab World. Its per capita GNP was \$473 (\$1.3 per day at nominal terms) in 2000. It has achieved reasonable, although variable economic growth over the past decade. On average, GDP grew by 5.5% over the period 1991–2000. However, with high population growth, average per capita GDP increased by only 1.55 over the same period.

Moreover, GDP and its growth rates are heavily influenced by the oil sector. Yemen's economy is traditional, with the agriculture sector accounting for around 14-19% of GDP, absorbing almost 52% of the work force and providing livelihood and income for 77% of the population. Despite this apparently low share, agriculture contribution is still much higher than the average of 13.5% in water-constrained Middle East and Africa region. Arable land is estimated at 1.6 million hectares, while the cultivated area is estimated at 1.3 million hectares. Agriculture mainly depends on rainfall, thus rendering agricultural produce vulnerable to climatic variation. Agriculture exports constitute around 32% of non-oil exports. Apart from mining and quarrying, agriculture witnessed the lowest average growth of 3.47% among all sectors over the period 2000 to 2003, compared to an average of 5.21% for the years 1991-95. The major two constraints have been water scarcity aggravated by inappropriate management policies, and insufficient investments.

The oil sector accounts for 30-35% of GDP. Also, oil revenues contribute by 60-70% of the State's budget and accounts for over 90% of commodity exports. This highlights the

vulnerability of the economy to fluctuations in international oil prices, not to mention the declining trend for the Yemeni oil production over the next years. The industrial sector contributes by 33.3% to GDP compared to 47.7% for services, which include government services. The manufacturing sector at present plays a minor role, accounting for less than 10.5% of GDP. Its growth has been relatively slow, although its potential is yet to be realized. The sector is characterized by small and medium size enterprises, limited technological capabilities, few inter-industry linkages, inadequate infrastructural facilities, skill shortages, and inadequate institutions. There is limited direct foreign investment, and privatization has so far little impact.

Yemen has an established culture of trade, and there is as yet little evidence of the emergence of a dynamic private sector. With the rise in oil prices since the late 1990s, Yemen has been enjoying a surplus in its trade account. The trade balance improved dramatically from -\$785.1 million in 1998 to \$357.8 million in 1999, and peaked at \$1,312.8 million in 2000, leading to real appreciation of the Yemen Rial. As a result, the current account enjoyed a healthy surplus of \$1,336.6 million. The overall balance of payments mirrored the current account and helped the Central Bank of Yemen (CBY) accumulate reserves. However, CBY's effort to sterilize the impact of foreign reserve build-ups on money supply was not fully successful, which had inflationary impact.

The public budget deficit that rose from 5% of GDP in 1990 to 17% in 1995, posed a serious problem to the government. Controlling the deficit was the main objective of the economic reforms launched by the Government of Yemen (GoY) in early 1995. The reforms aimed at reducing the deficit to less than 2% of GDP, which was successfully achieved during 1996-1999 except in 1998 when the deficit rose due to falling oil prices and revenues. Current deficits are around 4% of GDP.

The (GoY) has articulated a number of policy documents and strategies in order to accelerate economic growth and progress in human development. Such efforts have

included the first and second Five-year plans, Yemen's Strategic Vision 2025, the Poverty Reduction Strategy Paper (2003-05), and the human development-centered MDGs National Report.

In 1995, the government initiated the Economic, Financial and Administrative Reform programme (EFARP) to cope with the economic imbalances. The reforms were aimed at minimizing economic hardships and strengthening prudential regulations. Concessional loans were abolished and commercial banks became allowed to charge their own lending rates. However, the CBY retains some controls on deposits rates through establishing minimum benchmark on commercial bank deposit accounts.

In the context of drafting the Second Five-year Plan for socio-economic development (SFYP) 2001-2005, and on the basis of assessing the course of development in the last decade, a careful juncture was deemed necessary to identify challenges as well as opportunities. Attaining goals and objectives of Yemen's strategic vision 2025 requires improving the demographic and health conditions, eliminating illiteracy, increasing basic education school enrollment, especially among girls, and raising per capita income. Diversifying sources of generating GDP rather than relying almost completely on oil is crucial in raising incomes, which in essence requires identifying sources of growth and the promising sectors, enhancing creation of jobs and strengthening the export sector. The SFYP adopted new approaches based on long-term policies to address those long-term challenges. Those policies will be continuously subjected to revisions through the medium term plans.

However, the inevitable adverse impacts of implementing the EFARP necessitated introducing a Social Safety Net to protect the poor. It consists of funds and programmes working mainly on the provision of basic services and creation of temporary and long-term job opportunities. Moreover, the GoY's directions for poverty reduction have culminated in drafting the PRSP (2003-05). The PRSP sets out the objectives, the policies

and measures for intervention. The PRSP further, specifies four main axes of intervention, namely, achieving economic growth, human resources development, improving infrastructure and ensuring social protection, in addition to an auxiliary pillar of good governance.

On the other hand, the first MDGs progress report for Yemen was published in 2003. This intensive and elaborative work culminated in the adoption of Cabinet resolution No. 104 for year 2003, which endorsed commitment to achieve the MDGs in close cooperation and coordination with development partners; integrating the MDGs in the present and future strategies, plans and programs; and setting up a mechanism for follow-up and monitoring progress achieved.

In early 2000, indicators have shown significant progress in improving economic situation such as higher economic growth, decline in inflation, stabilized exchange rate, reversal of the budget deficit, surpluses in the balance of payments and drop in external debt.

Human Rights Issues

Reinforcing democratic practice and political participation is currently an important pillar and is part and parcel of Yemen's Strategic Vision 2025. It is based on political pluralism as well as peaceful transition of power, which entails ingraining the constitutional right of voting, nomination, establishment of and membership in associations, unions, political parties and organizations, etc. On the other hand, women participation in political activities has become an important factor for the acceleration of political progress and development. According to the Vision, deliberate effort is needed to set up a suitable climate for more involvement of women and contribution to public life and to take leadership positions.

The government's respect for and commitment to general freedoms and human rights has become an essential yardstick. Issues of legislation and laws that guarantee the rights of citizen and their general freedom are addressed in Yemen's Strategic Vision 2025.

CHAPTER THREE

NATIONAL DEVELOPMENT CONTEXT

The Agriculture Sector

The agriculture sector plays an important role in the Yemeni economy. It contributes by 30% of the GDP, employs more than half of the labor force, and provides livelihood to more than two thirds of the population. In 2000, agriculture accounted for 58% of employment in the country, and was reduced to 53% in 2003. Around 1.49 million households in Yemen are engaged in agriculture out of a total 2.5 million, of which 1.18 million households are farmers only. Working women make up 20.3% of the labor force, and are mainly engaged in agriculture (85%).

Yemen is divided into four agro ecological zones, which are the Highlands, the Eastern plateau, The Tihama and the Coastal area. About two thirds of the arable land is currently under cultivation, and 50% of the cultivated area is planted with cereals, 16% with fruits and vegetables, 11% with livestock grass, 11% with qat and 5% with pulses. The dominant crop in term of value is qat with 32% of total output, followed by fruit production (20%). The livestock represents about 17% of total agriculture output. In 2003, total agriculture output was estimated at \$ 1.87 billion, equivalent to \$1,260 per agriculture household. The share of agriculture in GDP averaged 19.5% during 1990-2000, falling from 24% in 1990 to 16.2 % in 2004.

Food security and poverty

Between 1985 and 2003, total cereal area declined by -2.4%, compared to a current fall at 0.9% per annum. Average cereal production during 2001-2004 amounted to 559,000 tons covering only 20% of the domestic demand estimated at 2.7 million tons. Production declined further to 417,000 tons in 2003 due to drought conditions, low prices and low incentives. Consequently, Yemen imports most of its cereal needs to meet the growing

demand. Per capita cereal consumption amounted to 159 kg in 2001, and has been highly dominated by wheat consumption (114 kg).

Half a million households representing 21.8% of total households in Yemen are food insecure. Around 4 million individuals who are most vulnerable are in rural areas. According to the 1998 HBS 17.6% of the population lives below the food poverty line and 41.8% lives below the upper poverty line. The majority of the poor are rural dwellers. About 84% of the poor work within the private sector of which 47.3% are engaged in agriculture.

Dynamism of agriculture and farming systems

The declining trend of cereal production was even more apparent in sorghum (-3.5%) and maize (-2.3%) over the same period. Wheat showed positive trend increasing the cultivated area by 0.9% per annum since 1988. In the period 1991 to 2003, fruit production increased, where citrus output reaching 198,000 tons in 2003 grew by 20% per annum and the cultivated area by 7.7%. Citrus production is dominated by orange (82%), which is growing by 25% per annum. Tansarine and clementine grew by an average of 15%. This trend reflects a strong preference from cereals production to fruit cultivation.

The second major fruit production is banana of over 90,000 tons growing at an average 5% per annum. Mango and apple have good potentials, as the area planted with mango has grown by 13.5% per annum and production increased by 12% amounting 27,500 tons in 2003. Apple production is emerging with 6.4% annual increase in the last 12 years, although production remains low at 2,500 tons.

According to the 2003 agriculture census, Yemen has over 85 million fruit and coffee trees covering almost 128,000 hectare, of which 69% are productive while the remaining 31% have not matured. These figures reflect a good fruit and coffee potential in the

coming years, if adequate support is provided to farmers. Production increased by an average of 2.8% for pulses, 2.9% for potatoes, and 2.3 % for vegetables over 1991 to 2003 as a result of increasing cultivation areas by about 2-3.1% for each product. Expansion of qat has been significant reaching 367 million trees equivalents to 122,000 hectare in 2003. It is worth YR 112 billions, employing around 24% of agriculture labor, thus reflecting a pattern towards high value crops.

The cultivated area in Yemen is distributed among 1.2 million landholders, of whom 79% are cropping less than one hectare. Only 4% of farmers are cropping more than 5 hectares. The agriculture census reported that 65% of farmers practice mixed farming, 76% produce for their own consumption, and that 51% are illiterate. There are on average 2.5 permanent workers per hectare. Moreover, it has been estimated that 60% of agricultural labors are women.

Challenges

Draught and rainfall are the major factors for the performance of agriculture. Other factors are:

Land tenure: Agricultural land tenure is small and scattered, as 73.4% of tenures is less than one acre and only 57.7% of land owners have more than three plots. Moreover, farmers pay more than 50% of their earnings for rent, irrigation, and Zakat.

Credit access: Only 2,230 farmers managed to get loans from the agriculture credit bank in 2003. Availability of agriculture credit falls to \$ 30 per hectare, which is far below rates in countries like Egypt or Jordan.

Input quality/access: Agricultural inputs are inappropriate; as use of improved seeds is limited and only YR 1.2 billion worth of imported fertilizer (39,000tons in 2003) is envisaged equivalent to around 36 kg per cultivated hectare, in addition to continued dependence on traditional irrigation.

Segmented market: Limited market information and inefficient marketing systems contribute to price fluctuation.

Low level of extension services: The continued use of traditional agriculture techniques is blamed on inadequate inputs and support services provided to farmers. Furthermore, there is little public investment in agricultural research and extension services.

Water scarcity and inefficient irrigation system: Water use is inefficient due to dominance of traditional flooding and gravity irrigation, despite existing water depletion in almost all water basins.

Low productivity: Fragmentation of land holdings, inappropriate inputs, and water scarcity lead to low productivity, which is reflected in low labor wages. Yields for many crops are well below technical potential compared to that in other countries. The yield gap can be as high as 40% for potato and tomato, 60% for banana, and 20% for oranges. Post harvest losses are high due to harvesting techniques which are seen to reflect rough handling, poor packaging and weak transport networks. Also, lack of quality control undermines competitiveness of agriculture exports.

Growing Qat production: it is inevitable that any interventions or solutions will have to touch upon all various aspects of Qat production and consumption, making use of advantages and overcoming negative aspects. The GoY, having convened a national conference in 2003 to address these issues, is drafting a strategy and an action plan which builds consensus around the various qat issues.

Despite all these constraints, Yemen has considerable agriculture potential. A recent World Bank report concludes that (i) rain fed cereals have the potential to grow at 12% per annum with improved quality of indigenous seeds and better crop husbandry; (ii) vegetable and fruits have the potential to grow annually at 16% with the provision of improved extension services and better irrigation management; and (iii) livestock has high potential for growth with improved husbandry practices, cross breeding and improved management of range lands.

Agriculture Investment Plan

The agricultural sector has developed diversified production, and most farmers grow a wide range of crops. More production can be achieved through expanding credit services at the governorate and district level, especially where sufficient agricultural inputs are available including water; as well as introducing and applying modern and appropriate techniques such as drought resistant crops. The SFYP highlighted the importance of selecting such crops, which will also reduce the import bill and improve balance of trade. The SFYP, Aden Agenda, and the National Water Strategy call for the following:

- Introducing new crops of high yield and varieties suitable for the local environment through benefiting from research and extension services;
- Expanding rain-fed and drought resistance crops;
- Identifying competitive crops to reduce Qat production and promote olive cultivation, which is rain-fed and draught resistance.
- Establishing a Qat Replacement Fund to support Qat growers in gradually replacing Qat;
- Regulating natural resources' use and protecting environment and biodiversity;

The agriculture programme identified key strategic areas for investment:

Irrigation and watershed management: through upgrading pipe-irrigation delivery systems (15% of water saving), conversion of open to piped irrigation delivery system (25% of water saving) and introducing modern on-farm pressurized irrigation systems which allow up to 35% water saving. It is estimated that 560 million liters of water will be saved per annum. Part of the savings will be used for expanding irrigated areas. There is also planned effort relating to water harvesting and improving water shed harvesting, in particular activities within the Sana'a water basin programme. The watershed management includes important actions to be partly implemented by a food redistribution framework targeting vulnerable households through food for work.

Land title, registering and redistribution: the government is working on improving land registering practices. This is also necessary to expand access to credit. The government is also planning to redistribute 50,000 hectares to combat poverty and provide work opportunities.

Credit support: the Agricultural and Cooperative Credit Bank is the specialized bank responsible for providing credit to activities in the agriculture sector in all Governorates. Only 2,200 farmers benefited from its loans. Hence, need is apparent to raise its credit capital from \$ 3 to \$50 million, which also requires restructuring the Bank. Furthermore, privatization and market oriented policies call for improving credit policies and systems.

Direct commodity support: to complement investments in irrigation; research, extension services and credit is of critical importance. Direct support will be channeled to cereal production, livestock and marketing, bee keeping, fruits (mango, dates), vegetables and coffee production.

Institutional Support: which will be more focused on: (i) support to MAI restructuring, (ii) capacity building/ training, and (iii) strengthening planning, policy design, investment program design, consensus-building in participatory policy process, policy impact analysis and monitoring and sector program implementation and monitoring, and finally water/land resource monitoring. It also includes a monitoring system of the agriculture and rural development impact on households.

Expansion and rehabilitation of rural road network: apart from the existing rural road programme costing \$ 108 millions during 2003 to 2005, it is deemed necessary to allow for appropriate rehabilitation, maintenance and expansion of the network.

Total investments required for 2006-2015 is estimated at \$ 2.204 billion. The table below presents the detailed costs according to subcomponents.

Table 3.1: Agriculture Investment Program (2006-2015)

		\$ million	%
Irrigation and Watershed management	Irrigation	881.4	40.0
	Water harvesting	237.0	10.8
Pro-poor policy	Land distribution	90.0	4.1
	Credit support	64.0	2.9
Commodity Chain Support	Cereal support	74.0	3.4
	Livestock production	56.0	2.5
	Livestock marketing	38.0	1.7
	Honey sub sector	8.1	0.4
	Fruit sector programme	32.0	1.5
	Mango sub sector	12.0	0.5
	Date palm	9.0	0.4
	Olive sub sector	5.6	0.3
	Vegetable sector programme	30.0	1.4
	Coffee sub sector	30.0	1.4
Institutional support	Research & extension	61.0	2.8
	Strengthening MAI	275.5	12.5
Road	Rural roads rehabilitation & maintenance	300.0	13.6
Total Agriculture sector Investment		2,204	100
<i>Annual investment</i>		220	

Current expenditure of the Ministry of Agriculture and Irrigation (\$ 25 million/ year) has been integrated to this estimation of public sector funding to be mobilized. The program is highly targeted on water issues. Around 51% of the global investment is targeted on water saving by improving irrigation efficiency, improving watershed management and promoting water harvesting.

The Fisheries Sector

The National Poverty Survey of 1999 indicates that half a million households are food insecure, representing 21.8% of all households. Two main sectors are targeted to achieve MDG's Hunger target by 2015, these are fisheries and agriculture. Yemen's Strategic Vision 2025 regards fisheries as a promising sector providing currently more than 53

thousand jobs. Yemen's coastlines and territorial waters extending along the Red Sea to the Gulf of Aden and the Arabian Sea contain large fish stock.

The objective of the fisheries policy framework is to optimize the use of fish wealth without harming the fish stock. Policy measures to achieve the objective include reviewing laws and regulation, establishing more fish cooperatives and quality control laboratories as well as strengthening monitoring and inspection system. The PRS targeted an average growth of 7.8% for fisheries compared to 12% achieved during the FFYP (1996-2000). Fish production in 2003 increased by 27% reaching 228,000 tons at a value of \$101 million. Nevertheless, the fish sector is constrained by a number of factors including limited access to information, inappropriate technology, poor processing, and weak controls over the fisheries public sector.

Stakeholders in the fisheries sector include fishermen, licensed auctioneers, fishmongers, wholesale traders, transporters, consumers as well as sellers of fishing equipment, ice containers and fuel. The Government has been supporting research activities, undertaking assessment of fish stock, establishing integrated marine control and inspection systems, as well as quality control laboratories, improving traditional fishing, and setting a fisheries promotion fund. Consequently, significant improvement has been observed in the performance of the sector, as current contribution to total food exports is estimated at 64%.

Challenges

A sizeable foreign industrial fleet operates from the industrial fishing port in Aden, with limited control over its operations leads to overexploitation of the fish wealth. Also, modest local fish processing capacity necessitates restructuring public sector corporations and addressing the inadequate institutional capacity to plan, manage, develop and implement sector policies and plans. There is also shortage of reliable data and un-reported fish exports, in addition to lack of an effective fisheries monitoring and control

system. The poor regulatory and legal framework and the modest and insufficient research capacity impede the sector's performance.

The future of the fisheries sector is bright if potentials are exploited. The GoY has adopted policies to address the above challenges, with a view to increase fish production and exports, especially processed products. Revising the organizational by-laws of MFW and restructuring Aden Centre, improving credit programs and legal frameworks are expected to foster growth in the sector. However, to realize the growth objective, a number of critical issues need to be addressed as follows:

- Strengthening research and management of fish resources, instituting effective monitoring and control, and enforcing fishing regulations.
- Improving quality of fish products to access EU and Gulf markets
- Strengthening fishermen's organizations and cooperatives.
- Strengthening infrastructures including fish landing, feeder roads and air transport.

Investment Plan

The targeted average growth for 2006-2010 is 10%. Such growth will result from increasing the fish catch by an average 6% and from improving management and prices by 3.8%. The average growth for 2010-2015 is 7%, which will combine a quantitative catch increase of 4% and a 2.9 % price increase due to better quality. The MFW has estimated the fish stock at approximately 700,000 tons, and the volume for catch without damaging the stock ranging between 350,000 and 400,000 tons every year. Targeted growth rates will be realized by adopting multi dimensional policies as follows:

- Developing an integrated marine inspection and control system.
- Establishing two quality control laboratories with the necessary testing equipment.
- Establishing more fisheries cooperatives.
- Expanding the provision of credit to fish projects.

- Reviewing the legal frame work for controlling fishing.

In the long term, priority programs will focus on:

- Strengthening research and resource monitoring capacity.
- Improve fish quality (quality control laboratories, fish catching, landing and auction systems).
- Enhance the role of fisheries cooperatives as service providers for artisan fishing.
- Investing in coastal infrastructure through:
 - Expansion of core fishing ports.
 - Developing a set of 10 satellite landing places.
 - Provision of basic services in other locations.

Table 3.2: Fisheries growth targets

	2004	growth target 2006-2010	Projection 2010	growth target 2010-2015	Projection 2015
VALUE (AT FISHING AREAS)					
production (000 Tons)	250	7%	375.2	6%	502.1
price per kg (\$/kg)	0.91	2.4%	1.05	2.7%	1.20
value (millions Yr)	42200				
value (millions \$)	228.1	10%	393.9	9%	602.5
VALUE (AT MARKETS)					
% sold on domestic market	71%		60%		53%
Fish sold at domestic market (000 Tons)	176.5	4.00%	223.3	3.50%	265.2
price per kg (US\$/kg) (+50%)	1.37	2.4%	1.58	2.7%	1.80
Value (million \$)	241.6	6%	351.7	6%	477.4
VALUE (FOR EXPORTS)					
% exported	29%		40%		47%
Volume of fish export (000 Tons)	73.5	13%	151.9	9%	236.8
price per ton (\$/T)	2853	3.10%	3427	4.00%	4169
value of exports (million \$)	209.7	16%	520.3	14%	987.4
TOTAL VALUE	451.3	12%	872.1	11%	1464.8

The fisheries sector is expected to achieve an average growth of 12% over 2005 to 2010 and 11% over 2010 to 2016. Production is expected to reach 240,000 tons with an export value of \$ 1.4 billion by 2015.

Costing Investments

Achieving the planned growth rates requires \$ 226 million over the period 2006-2015, where the main portion of investments (\$132 million or 58% of the program) goes to support coastal infrastructure.

Table 3.3: Fisheries Investment Plan (2006-2015)

	2006-10	2006-15
	(million \$)	
Component 1: Direct support		
1.Improvement of qualify	7	10
2. Fish products quality control laboratories at fish ports and main landing centers.	2	3
3. Institutional support for fisheries cooperatives.	5	8
4. Credit and soft loans	7	10
5. Support investments in fisheries industry (support installations and tax facilities)	5	40
<i>Sub-total</i>	26	71
Component 2: Support to costal infrastructure		
1. Expand the main fishing ports (Aden, Al-Hodeidah, Al-Mukalla and Nastoon) together with area for the traditional fleet, fish landing harbors, expansion of auction areas and trucks access roads.	25	40
2. Construction of fishing ports and headlands (boat docks) and wave breakers in 15 locations.	45	75
3. Development of landing centers and main auction locations.	4	10
4.Development of main services provided in other landing centers including the islands of: Socotra, Abd Al-Kori, Mayon, Hunaish, Zokar, Al-Sawabe, Al-Tair, Kamaran, Dhu Hurab, Baklat and Tekfash (small landing harbors, ice, fuel, electricity and water supply).	4	7
<i>Sub-total</i>	78	132
Component 3:Institutional support for the Ministry of Fish Wealth		
1. Strengthen policies and capacity of controlling resources.	5	10
2. Plan and design sector development policy and formulate projects and programs.	2	3
3. Develop the monitoring, control and supervision system of resources management.	4	6
4. Prepare an updated organizational and legal framework.	1	1
5. Develop management programs and activate monitoring.	2	3
<i>Sub-total</i>	14	23
Total	128	226

In order to enhance absorption capacity, the MFW institutional support will be strengthened, particularly in the areas of planning, project formulation and monitoring. Thus, the annual budget for the MFW for the period 2006-2010 for running /managing its activities and building its capacity will amount to \$17.35 million.

Table 3.4: MFW budget for 2006-2010

YEAR	2006	2007	2008	2009	2010
Current expenditure (million YR)	500	580	650	720	770
Current expenditure (million \$)	2.7	3.1	3.5	3.9	4.15

Education

The National PRSP considers education key in reducing poverty and sustaining human development. The GOY is concerned with factors that impede progress towards the objective of Education for All (EFA) and the 2nd Millennium Development Goal of Achieving Universal Primary Education by 2015. In full agreement with its development partners, the GOY prepared a sound basic education development strategy (BEDS) as basis for upgrading the sector and achieving its goals.

Recent statistics show about 4 million children attending basic education schooling. Approximately 33.5% of school-age children (6-14 years) are out of school. Gross enrollment at the basic education level has improved from 57.9% in 1997/98 to 66.5% in 2003/4. The GER for girls has increased from 37.9% to 51.5% over the same period, and hence female to male ratio rose from 30.6 to 38.7. The GER for grades 1 to 6 (primary level) has also improved from 62.8% to 72.2%. Despite considerable reduction of the gender gap reaching 58.5% in 2003/4 compared to 85.9% in 1997/8, gender inequality is still significant.

The GER for secondary education (15-17 years) has also witnessed improvement from 37.9% in 2000/1 to 41.4% in 2003/4. The gender gap is relatively large, as the girls' GER is 25% in 2003/4 compared to 57.8% for boys, although girls to boys ratio has improved from 23.3% in 1997/8 to 30.2% in 2003/4.

Challenges

Basic challenges facing the education sector in Yemen towards achieving the 2nd MDG are enormous. Population is estimated at 19.7 million growing at 3.02%; rural to urban ratio stands at 74%; age group of 0-14 years makes up 46.2% of the population; and illiteracy reaches 47.2% of those 15 years and above. Illiteracy is even greater amongst females (67.5%) compared to males (27.7%). Also, all education levels suffer from poor internal *efficiency*, as illustrated in the grade-specific enrollment rates, despite the percentage of repeaters in basic education has relatively declined. In 2003/4, the first-grade access rate was 84.3 %, but it falls dramatically to 55.5% by grade six and to 46% by grade nine. This points to the low level of retention and indicates the weak internal efficiency due to high dropout and repetition rates. Factors behind this situation include: (i) scattered distribution of population, (ii) insufficient number of girls' schools, and (iii) long distances between schools and population settlements.

In secondary education, only 6% of students enrolled in first secondary can complete the secondary education level in three years. In 2003/4, access to the first secondary was 43.5% falling to 36.1% when reaching third secondary. On average, students take 3.6 years to complete secondary education instead of 3 years.

Equality is another challenge, particularly in relation to gender and geographical disparities. Gender gap has been shown to be considerable, and the girls' dropout is high especially after grade 5, which is largely due to unfavorable environment for girls' education resulting from (i) insufficient female teachers especially in rural areas (ii) inadequate infrastructure that burdens girls in rural areas to spend hours in fetching water and fuel from long distances, (iii) cost of schooling, and (iv) early marriage.

Boys and children in urban regions enjoy greater education opportunities and higher enrollment rates. Disparities also exist among and within governorates, and are reflected in terms of number of teachers. To close urban/rural and gender gaps, the government is

building more schools in rural areas with priority given to girls' schools. Some schools work two shifts; one for girls and the other for boys. Awareness is being raised on the importance of education for girls.

Poor quality of basic and secondary education reflects also the low qualification of teachers, especially in rural areas. The 2003/4 education survey estimated that only 38% of teaching staff hold secondary school certificates or higher, while the big majority of 60% have only completed basic education with one or two years of additional training. While school curricula and textbooks have been updated recently and 'in-service teacher training' is being expanded, the education system still faces serious difficulties, including: (i) inadequate school buildings, (ii) shortage of teaching and learning materials, and (iii) weak community involvement.

Investment Plans

To address the challenges above, the need arises to implement institutional reforms and bridge the existing gender and geographic gaps through increasing number of female teachers to 63,263 by 2015 and ensuring their fair distribution according to governorate needs, as well as continue updating curriculums. The quantitative needs the interventions in basic, secondary and pre-school education in the medium-term (2006-2015) and long-term (2006-2015) are shown below.

Table 3.5: Investing in Basic Education

Item	Needs		(million \$)	
	2006-2010	2006-2015	2006-2010	2006-2015
New Classrooms	52,709	118,266	542	1,272
Other rooms	46,810	116,322	338	1,187
Furniture	4,526,958	10,810,308	233	630
Staff salary	304,168	412,585	3,363	8,813
Maintenance	92,625	242,872	1	3
Other interventions			96	395
Special Programs			31	84
Service Training			40	131
Tex-books			247	606
Total			4,991	13,121

Table 3.6: Investment in Secondary Education

Items	Needs		Cost (million \$)	
	2006-2010	2006-2015	2006-2010	2006-2015
New Classrooms	11,527	28,778	119	309
Other rooms	9,677	35,875	94	275
Furniture	935,645	1,524,039	45	127
Staff salary	49,732	76,922	510	1,424
Maintenance	19,161	44,661	1	3
Other interventions			9	37
Special Programs			2	6
Service Training			4	17
Text-books			123	49
Total			933	2,321

Table 3.7: Total Cost of Education Projects (million \$)

Education Level	2006-2010	2006-2015
Childhood	712	867
Basic Education	4,991	13,121
Secondary Education	933	2,321
Total	6,636	16,309

To ensure successful and sustainable implementation of BEDS and the MDGs, Ministry of Education regards institutional capacity building as the most important priority over the next three years, in addition to placing emphasis on awareness raising and communication. Commitment and dedication on the part of governorates, ministries, private sector, civil society organizations and local communities is essential to reach objectives.

Technical and vocational training

Technical and vocational training witnessed dramatic progress during the past few years. Number of technical institutes and vocational centers reached 55 by end of 2005, and enrollment amounted to 10336 in vocational training and 9,873 in technical education; representing 1.5% of all secondary level students.

Technical and vocational training faces a number of challenges as follows:

- limited number of technical and vocational institutes.
- uneven distribution of these institutes among governorates.
- under-utilization of current training institutes.

- Insufficient qualified teaching staff.

The strategic Objective

The technical and vocational training strategy aims at accommodating 15% of both basic and secondary schools graduates. To overcome the above challenges, the following policies will be adopted:

- Enhance ability to respond adequately and to provide equal opportunities to all.
- Establish proper linkages with the labor market and adequate participation of the private sector.
- Emphasize building institutional capacity as well as expand training requirements.
- Increase financial resources.

Table 3.8: Investments in Technical Education & Vocational Training (2006-2015)

Item	Total (million \$)	Annual average
Vocational institute	922	92.2
Technical institutes	978	97.8
Operating and training costs	1,415	141.5
Institutional capacity building	430	43
Preparation of curriculums and training programs	250	25
Total	3,995	399.5

Higher education

Higher education has also witnessed tangible growth. The number of universities increased to 19, of which eight are public containing 86 faculties, while the 11 private universities contain 58 faculties. University students increased to 186,316 students in 2005, representing 8% of the age group (19-24 years), of which 27% are females. Around 9% of university students are in private universities. Higher education remains constrained by limited financial and human resources, and the dominance of theoretical fields and humanities over applied sciences. Moreover, university graduates do not match the labor market needs.

Major challenges facing the sector are to motivate students to join applied sciences and technical specializations, revive research centers, and enhance the role of universities to serve the community. Hence, the strategic objectives for the sector are:

- Increase enrollment to 10% of the age group 19-24 years, and link admission policies to available capacities and development needs.
- Upgrade legislation to become more supportive to educational reforms, expanding institutional capacities and diversifying financial resources.
- Expand the role of private universities through opening new and qualitative fields that also contribute to scientific research.
- Update curriculums and promote research.
- Encourage the provision of information technology to enable linking higher education institutes via networks.

Table 3.9: Investment plan for higher education (2006-2015)

Item	Total (million \$)	Annual Average (million \$)
Faculties and lecture halls	570	57
Rehabilitation	545	54.5
Institutional support & capacity building	480	48
Operation costs	369	36.9
Total	1964	196.4

Health

Health and population issues are confronted by complicated challenges. To achieve the MDGs by 2015, the following shortcomings need to be addressed: (a) low health service coverage and poor quality, (b) weak institutional capacity to translate decisions into actions, (c) insufficient human and financial resources, and (d) inefficient use of the available resources. Women's access to health services is very low due to social barriers. Yemen suffers from communicable diseases, where 60% of population lives in malaria regions with 2.5 millions infected annually. These shortfalls are intertwined with other

related problems including high fertility, scarcity of water, scattered population, and low quality education, housing and basic services.

Challenges

Progress has been made in prolonging life expectancy at birth, estimated in 2002 at 60.4 years, which is an increase of 14 years over the past 20 years. However, the sector faces a number of challenges in maternal health, child health, communicable diseases including HIV/AIDS, health systems and access to essential drugs.

Maternal Health

Yemen's 2003 Family Health Survey estimated that 365 women per 100,000 live births die as a result of pregnancy complications, thus making maternal mortality the leading cause of deaths among women in reproductive age (42%). Moreover, 18% of mortalities occur during pregnancy and 82% during delivery and postpartum period. Only 16% of deliveries take place in a health facility and the rest at homes; in total, 25% of deliveries are attended by a skilled person. There are several factors that augment maternal mortality and morbidity; specifically high fertility rates, early pregnancies, short pregnancy spacing, and low rates of antenatal care and attended births.

Indicators of Maternal Health

• Fertility rate	6.2
• Maternal mortality rate	361/100,000
• % of women receiving antenatal care	45
• % of deliveries performed by a skilled attendant	25
• % of women with access to EmOC	16
• Contraceptive prevalence rate (modern Methods)	13.4

In addition, data reveals that 58% and 25% of mortalities are among mothers in the age groups of 15-25 years and over 35 years, respectively. The high mortality of the first age group reflects the reproductive risk of the combination of early marriage, early childbearing, and less than 2 years birth spacing. Average live births among this age group is 4.3, with 37% of the mothers having more than 5 children and only 8% of them use contraceptives. Maternal complications include hemorrhage (45.3%), fever (40.4%) and loss of consciousness and convulsion. Moreover, 57% of mothers suffer from other illnesses including malaria (30%), high blood pressure (13%), tuberculosis (6.3%), hepatitis (15%), and others. Prevailing family planning means is important to improve maternal, child and the entire family's health. Use of modern methods of family planning is less than 13.4%, while unmet contraceptive needs is estimated at 44%.

Intervention package

The proposed package includes a list of interventions to overcome the above challenges. These are:

- Family Planning; which includes the use of female and male modern methods and counseling.
- Provision of antenatal and delivery care.
- Management of obstetric complications and other maternal conditions including infections, fistulas, and prolapse.
- Screening and treating infections of newborns.
- Management of sexually transmitted infections.

Targets and Cost

The target is to increase the population coverage with the above listed services to 100%, in addition to increasing family planning prevalence to 56% by 2010 (accelerated scenario). Accordingly, the cost of the package would reach to \$755 million over the period (2006-2015).

Child Health

Under5 child mortality declined slightly from 121 per 1,000 live births in 1992 to 102 in 2003. Mortality causes include reproductive behavior of having more than 6 births per woman, high malnutrition (about 47% of under5 children are under weight), high disease prevalence (34% diarrhea and 25% respiratory tract infections), and on average less than 40% receive health care. Other factors, such as the socioeconomic status worsens the problem. Immunization still varies between 60% and 70 % among the Under5.

Some related child health indicators

• Infant mortality rate	74.8/1,000
• Under 5 mortality rate	101.9/1,000
• Prevalence of Diarrhea	30%
• Low weight to age (stunting)	46%
• Immunization Coverage	70%

Intervention Package

Enhancing the immunization system would contribute to better health status of increasingly growing age cohort. Also, improving the nutritional status through encouraging breastfeeding, complimentary feeding and proper nutrition including the provision of micronutrients would complement these efforts.

The Integrated Management of Childhood Illness (IMCI) is the proposed package among others to be delivered to this age cohort on two levels; primary health care level and hospital level. It would address the major five diseases that cause 80% of childhood deaths, which are the Acute Respiratory Infections (ARI), Diarrhea, Fever, Malnutrition, Anemia. The package includes immunization services against diphtheria, Pertussis,

Tetanus, Polio, Measles, Hepatitis and BCG (TB vaccine), as well as awareness raising and counseling to the target groups.

Targets and Cost

By the year 2010, the target is to ensure coverage with the necessary health services to reduce both ARI and diarrhea to 3.5 children per year, which would require increasing target group coverage to 100% of primary health care and hospital care, compared to the current rates of 40% and 30%, respectively. At the same time, immunization services are to reach 100% coverage. Accordingly the total cost would amount to \$ 1,324 million over the period (2006-2015).

Communicable Diseases

Malaria is one of the most prevalent diseases due to climatic and natural factors. Around 60% of the population lives in malaria endemic regions, and are thus susceptible to infection. Annual cases are estimated at 3 (2) million with 1% fatality rate. Pregnant women and children under5 are the most vulnerable groups, while all age groups in the endemic areas remain at great risk. In fact, 25% of incomes go to treating malaria incidences. Also, although Yemen is a low HIV/AIDS prevalence country, the situation may conceal potential spread of disease among risk groups due to low awareness. Reported HIV/AIDS cases increased from one case in 1990 to 60 cases in 1996 and to 1,593 in 2004 (14%), which is believed to be underestimated. Incidence is higher among vulnerable groups, emphasizing the need to direct interventions to high risk groups. Several factors contribute to its spread, including social-cultural, economic and political factors and most importantly poverty.

Intervention Package

To prevent Malaria, the package consists of a long-lasting insecticide treated bed nets and insecticide spraying. The package will also provide three different regimes for Falciparum and non-Falciparum malaria, and severe cases, each with different drugs to be

used in mono-therapy and ACT therapy. The target is to totally (100%) cover endemic regions by the year 2010 up from the current 65%. A total of 4.2 million square meters will be covered by larviciding, where on average more than 140 thousand houses will be sprayed per year. Similarly, for malaria treatment, the target is to reach 100% coverage by 2010 up from the current 40%. Hence, incidence will be halved by 2015 from the current 75 per 1,000 people. Treatment of Malaria will include a prerequisite testing and outreach programs.

HIV/AIDS prevention includes surveillance and behavioral change studies and interventions, bio-and blood safety measures, upgrading national capacity to handle HIV/AIDS problems and psychosocial support. HIV/AIDS treatment consists of treatment of opportunistic infections and antiretroviral therapy which includes both the medication for both first and second line treatment (10%), and the monitoring and testing of the patient. The target group is total population, while prioritizing special risk groups. On the other hand, the aim is to reach total management of cases, including treating of opportunistic diseases and ART medication for both first and second line regimes.

The total cost of both malaria prevention and treatment would amount to \$621million over the period (2006-2015), while that of HIV/AIDS prevention and treatment would reach \$364.

Tuberculosis

Tuberculosis (TB) is one of the major communicable diseases with a prevalence rate of 0.08% of total population and 2,500 death cases annually. Treating TB is mainly based on the DOTS approach through the health service outlets and other health workers affiliated to the system. The overall target of TB treatment is to reach 100% coverage by the year 2010 up from the current level of about 25%. Treatment of TB requires interventions for case detection, testing and treatment including drugs and supplies for testing as well as treatment by DOTS. It also considers strengthening TB control network,

raising awareness and conducting surveys. Accordingly, the total cost amounts to \$92.5 million over the period (2006-2015).

Health Systems

Health systems are very important in preventing and treating diseases. The Primary Health Care system covers 45% of total population and only 30% of the population in rural areas. There are only 2,099 health units, of which 1,700 are functioning, 569 health centers and 180 hospitals with 12,252 beds. Currently, those systems face a number of constraints;

- Limited health service coverage.
- Inadequate health facilities and low quality services.
- Shortages of quantity and quality of human resources.
- Low remuneration and lack of incentives.
- Lack of coordinated management, monitoring and information system.
- Limited financial resources and insufficient community involvement.

Intervention Package

Interventions aim at upgrading and improving performance of the health system through the following:

- Health Facilities: construction of new health facilities and providing the necessary equipment, upgrading existing facilities, ensuring providing operation and maintenance costs for all health facilities.
- Human resources: provide pre-service training, recruiting new staff to meet the needs of expansion based on the essential services package (ESP); training of old and new staff, encouraging women employment in the health sector; and providing incentives.
- Strengthening the management capacity at the central, governorate, and district levels, and the capacity of health information systems and research.

- Improving monitoring, evaluation and quality assurance.
- Improving access to affordable essential drugs.

Table 3.10: Health Investment Costs (2006-2015)

Intervention component	million \$
Maternal Health	756
Child Health	1,325
Malaria	622
TB	93
HIV/AIDS	365
Construction and providing equipment for new facilities	827
Upgrade Existing Facilities	73
Operation and Maintenance	671
Pre-service Training of New Health Facility Staff	736
Salaries for Health Facility Staff (incl. in-service Training)	4,937
Management (incl. capacity strengthening)	1,619
Monitoring, Evaluation & QA (15% of Recurrent Cost)	1,214
Health Information Systems and Research	154
Community Demand	525
Total	14,134

Environment, Water and Sanitation

Yemen faces a chronic imbalance between population and water resources, resulting from high population growth and continued scarcity of water resources. Annual per capita consumption of 120-150m³ is far below the regional average of 1,250m³. Indiscriminant water extraction, of which 90% goes to agriculture, is largely responsible for the depletion of groundwater. Annual water deficit exceeds one billion m³. The country's 250 mm average rainfall is simply insufficient to re-charge aquifers and meet the demands of both rural and urban populations. Water tables are declining in various regions by as much as eight meters per year, some of which reaching critical situation.

Coverage of water supply and sanitation services is low, especially in rural areas. The sanitation infrastructure includes the public networks, covered pits and open pits. The public network services are limited to urban areas and the only means of sanitation services in rural areas is in the form of open pits. The MDG target is “to half by 2015 the proportion of rural population without access to water supply and sanitation”. In 2004, the estimated rural population was about 15.35 million inhabitants, which is approximately 72.8% of the national total. Only 32% of rural settlements have access to improved water supplies, while 23% have similar access to safe sanitation services. At the current growth rate of between 3.1-3.3%, rural population will reach 18.9 million by the year 2015.

Inadequate access to safe rural water has its greatest impact on women, girls and adolescents. In search for water, they are forced to travel long distances (84.3% of women bring water from remote sources). Also, time spent in fetching water does not allow for educational advancement, skill development, economic participation and social interaction. Water fetching is in part responsible for the low school attendance rates.

Urban population is estimated at 5.75 million. At an average growth rate of 4.3-4.6%, it will reach almost 8.1 million by 2015. Currently, only 54% of urban population has access to piped water and 26% to safe sanitation services. Most water supply systems in urban centers suffer from interruptions due to absence of standards for construction and design, poor contracting works, lack of qualified supervisors, and deficiencies in the supply of spare parts. Water consumption has been on the increase. In May 2003, the Ministry of Water and Environment (MWE) initiated the National Water Sector Strategy and Investment Program (NWSSIP) that incorporates the requirements for achieving its objectives over the period 2005-2009.

Table 3.11: Water Consumption

Water Consumption (million m ³)	2000	2001	2002	2003	2004
Urban	66	65	75	76	79
Rural	89	93	97	101	108

As regards to sanitation services, the situation has improved. In 2004, the coverage has increased to 26%, 38% and 7% in urban areas for public network, closed pits and open pits, respectively. In rural areas, sanitation coverage rose to 23% for closed pits and 34% for open pits. About 43% of households in rural areas remain with no means of sanitation services.

Challenges

The water and sanitation sector is confronted with a number of challenges, most importantly are: (i) water resources scarcity and over exploitation of ground water, (ii) growing water deficit, (iii) low coverage of sanitation services in both urban and rural regions, and (iv) inadequate human, financial and institutional resources and capabilities. To overcome those challenges, the GOY is pursuing the following policies and measures:

- Strengthen and establish water resources information and monitoring systems.
- Enhance awareness raising programs.
- Strengthen water resources infrastructure.
- Upgrade human resources and empower women to participate in water and environmental projects.
- Institute regional water resources plans.
- Implement, enforce and monitor water resources management.

Table 3.12: MDG-targets for rural and urban water supply and sanitation

	1994/2000*		2004		2015	
	Rural	Urban	Rural	Urban	Rural	Urban
Water supply coverage %	24	50	32	54	62	75
Sanitation services coverage %	17	25	23	26	58.5	62.5
Population served with water supply (millions)			4.9	3.1	11.7	6.1
Population served with sanitation services (millions)			3.5	1.5	11.1	5.1
Total Population (millions)			15.4	5.7	18.9	8.1

* 1994 coverage data were taken as reference to calculate the MDG-target for rural WSS; 2000 coverage data were taken as reference to calculate the MDG-target for urban WSS.

The investment plan for water and sanitation identified three major areas of focus, which are:

Integrated water resources management: targets five objectives, which are: (i) ensure greater degree of sustainability; (ii) give priority to domestic needs of rural and urban population; (iii) improve water allocation while considering just distribution and social norms; (iv) promote efficient water use and maximize economic benefits; and (v) establish a realistic and holistic water approach among the general public. Those objectives are translated into an investment programme that includes:

- Developing regional water resources plans.
- Supporting water use associations, community-based organizations and water basin committees.
- Implementing, monitoring and enforcing the law.
- Strengthening and improving institutional and sector coordination.
- Designing and implementing NWSSIP monitoring systems.

Rural Water Supply and sanitation: The proposed approach to achieve the rural water and sanitation objectives are (i) Improving project/scheme implementation; (ii) Broadening the range of partners; (iii) Widening technology choice and adapting appropriate ones; (iv) Integrating sanitation and hygiene in rural water schemes; (v) Ensuring and protecting water resources and their quality; (vi) Improving targeting and sustainability; and (vii) Directing available finance to priority needs.

Table 3.13: Rural Water Supply and Sanitation Investment Plan (million \$)

	Coverage in 2000 (%)	% of defective infrastructure	Target by 2015 (%)	Cost per Unit (\$)	O&M cost per unit (%)	Rehab. cost per unit (%)
Water supply interventions						
Household Connection	19	6	36	805	4	50
Public stand post	5	8	10	714	4	50
Boreholes with hand pumps	0	0	1	322	4	30
Rainwater collection	5	1	11	1,050	4	20
Protected dug wells	1	1	4	231	4	20

Sanitation interventions						
Conventional sewerage	0	-	1	434	4	50
Simplified sewerage	0	-	1	364	4	50
Internal WC w/external soak way/pit	10	-	29	280	4	40
External latrine, traditional and VIP	5	-	15	245	4	50
Improved pit latrine	5	-	13	140	4	50

Hence, \$1.9 billion will be needed over the period 2005-2015 to achieve rural water and sanitation objectives. About \$575 million will cover O&M costs, to be paid through user fees. Approximately \$ 1.3 billion will be capital investments. Capacity building, institutional development, awareness and hygiene education will cost about \$ 1.2 billion.

Urban Water Supply and Sanitation: The proposed approach to achieve the urban water supply and sanitation objectives are; (i) Expanding coverage; (ii) Deepening the reform program after evaluation; (iii) Developing a regulatory framework; (iv) Monitoring support and policy functions; (v) Achieving financial sustainability of water utilities; (vi) Subsidizing the low income segments of the population; (vii) Promoting private investments and public private partnerships; (viii) Continuing capacity building and improving performance; (ix) Enhancing community participation; (x) Securing additional water sources for cities; (xi) Formulating a policy for sea water or brackish ground water desalination.

Table 3.14: Urban Water Supply and Sanitation Investment Plan (million \$)

Water supply interventions	Coverage in 2000 (%)	Target by 2015 (%)	Cost per Unit (\$)	O&M cost per unit (%)	Rehab. Cost per unit (%)
Household Connections	50	75	1000	4	-
Sanitation interventions					
Conventional sewage	25	62.5	1500	4	-

It is estimated that \$ 2.2 billion will be required over the period 2005-2015. About \$ 650 million will cover O&M and will be paid through user fees. The remaining \$ 1.56 billion will be capital investments and costs for capacity building, institutional development, and awareness raising and hygiene education.

The Environment

Achieving environmental sustainability is very complex as it involves multi sectors, as well as being linked to various MDGs. Envisaged interventions should adequately capture environment sustainability issues, entailing combating degradation, pollution, and ensuring sustainable use of natural resources. The mandates of the MWE and of the Environment Protection Authority (EPA) emphasize policy coordination and environmental laws and standards, enhancing environmental awareness, and dissemination of information. Line ministries and government agencies are also responsible for implementing environmental activities within their jurisdiction. Other agencies support and facilitate realization and implementation of environmental activities and development of management tools. The public too contributes to environmental work through NGOs, community based organizations (CBOs) or through community participation at local levels. The constitution of the Republic of Yemen in article 5 stipulates that the conservation of the environment is the responsibility of the state, individuals and society. This has to be translated into clear cut commitments, including change of behavior currently harmful to the environment and improper management of natural resources.

Current situation and challenges

Despite insufficient quantitative and qualitative data on the status of the environment, the 1995 and 2000 reports on the Status of Environment gave ample information, and flashed out broad indicators on trends associated with natural resources and others. Enforcing legislation on environmental issues faces difficulties, in particular as a result of overlapping responsibilities and tasks among various agencies.

Weak environmental management and rapid population growth pose mounting pressure on natural resources. Natural resources have been under over-exploitation over the decades. Also land and habitat degradation and loss of biodiversity is apparent, and

marine and coastal zone management is weak. The water level in most aquifers is declining due to heavy extraction. In some cases, water is extracted twice as much as water recharge. In the urban areas, waste and sewage problems pose threat to ground water.

Desertification covers around 30 million hectares, accounting for over 50% of the total land. The potential for greater desertification is high as a consequence of changing socio-economic factors and farming practices, which in turn cause increased demand for fuel, abandonment of terraces, overgrazing and depletion of tree cover and water erosion.

Table 3.15: Patterns of Land Degradation

Area (hectares)	Area (sq km)	Type of Land
4856896.905	48568.96905	Desert Land
37089.60031	370.8960031	Chemical Degradation of land (Saline agriculture land)
5815936.852	58159.36852	Land dunes
475245.7641	4752.457641	Land degraded by heavy wind erosion
102942.7659	1029.427659	Land degraded by light wind erosion
12717.48286	127.1748286	Physically degraded lands
28196803.55	281968.0355	Rocky Land
661504.1653	6615.041653	Mountainous Terraces
272154.2381	2721.542381	Naturally Stable Land (Forests and trees)
643960.2307	6439.602307	Land affected by water light erosion
1846813.407	18468.13407	Land affected by water medium erosion
2579835.374	25798.35374	Land degraded by water heavy erosion
48346.4273	483.464273	Wet lands (Sabkha)

The coastline extends 2,350 kilometers with high tourist and economic potential. Fisheries and marine life are diverse, rich and have high economic value as well as contribute to providing food needs. The major threats to marine resources are pollution from land such as agrochemicals wash and discharge of untreated domestic and industrial wastes, and from marine sources such as oil spills and discharge of ship wastes cruising through the Red Sea and the Gulf of Aden. Heavy navigational traffic, particularly of oil tankers from the Gulf accentuates the problem.

The ecological systems and biodiversity are endangered due to land resources degradation in various forms, over hunting and overexploitation. Socotra Island is a good example of rich biological diversity. The island has more than 850 species of plants of which 30% are endemic and 8 species have been listed at IUCN as endangered species. Also, 120 birds' species have been recorded in the island, of which 30 species breed on the island and 7 birds' species are endemic.

Urban centers are expanding at high rates and pose pressure on available resources and services. The major problems relate to water supply, sanitation, air pollution, and liquid and solid waste management. Only 60% of domestic waste is collected in 2000, and main hazardous wastes include waste oil, hospital waste and old stocks of pesticides.

The PRSP acknowledges the relationship and linkages between poverty and environment issues. The poor are the most reliant on environment for their livelihood. Similarly, they are the most affected by environmental problems and the way natural resources are exploited. Conversely, poverty increases pressure on natural resources, though poverty does not necessarily lead to environmental deterioration.

Intervention packages

Future and Long Term Environmental Interventions

Enhancement of Yemen's ability to ensure sustainable development calls for interventions in environmental monitoring and assessment; environmental research and application of sound environmental technologies; updating and implementing appropriate policy instruments; strengthening management systems and improvement of coordination mechanisms; promotion and application of appropriate management tools; awareness raising and promotion of public participation. The main areas for development and improvement are:

- Strengthening and enhancing national institutions capacities to apply sound environmental management practices and to integrate social, economic and environmental issues at all levels of planning and implementation.
- Enhancing coordination mechanisms among relevant agencies.
- Developing and applying economic instruments to encourage careful use and management of natural resources.
- Investing in environmental infrastructure and technologies such as introducing low cost solar and wind energy and exploitation of surface water.
- Promoting investment in pollution control and re-use and recycling of waste.
- Strengthening national information databases and improve the use of data and information at all stages of planning and management, in addition to encouraging application of analytical methods.
- Assessing impact of developmental projects and programs, and provide alternative ways of operation and management to ensure economic sustainability.
- Enhancing human resources capacities to plan and apply sound environmental management practices through designing special programs for rural areas, the urban poor, women and children.
- Promoting public awareness at large on environment, and introducing interdisciplinary and integrated approaches in the curricula of schools and universities.
- Establishing measures to facilitate and enable involvement of local groups and communities in sustainable management and protection of natural resources.
- Promoting NGOs' activities and community driven initiatives and approaches.
- Upgrading research and technological capacity to address environmental problems at the national and local levels.

Legal framework and environmental policy

Yemen's environmental legislation is relatively recent, as the government recognized the importance of integrating environmental issues in the developmental plans. Provisions have been made in the Environment Protection Law to enable incorporation of environmental aspects and concerns at all stages of the development plans. The *National Environment Action Plan of 1996 (NEAP)* acknowledged the inter-relationship between

socio-economic developments and sound environmental plans. The NEAP formed a basis for inputs into the FFYP (1996-2000) and the National Population Strategy and Action Plan. These provisions and documents reflect the commitments and efforts to integrate environmental concerns into development plans.

The *NEAP* promotes sustainable use of natural resources through a set of priority policy options, which deal with legislative, institutional, economic and financial measures, in addition to information and community involvement. Priority environmental issues identified in NEAP are as follows:

Water depletion and pollution
Over extraction of ground water
Lack of water allocation and conservation systems
Inadequate water supply services
Land degradation
Soil erosion
Deforestation
Agricultural and range land deterioration
Loss of farm land due to urban encroachment
Habitat degradation
Degradation of natural habitats (forests, wetlands, coastal habitats)
Loss of biodiversity (extinction of endemic, rare and endangered species)
Lack of management of ecotourism
Waste management
Solid waste management
Hazardous waste management
Pesticide management

The Environment protection strategy

The SFYP called for the sustainability of natural resources and maintenance of ecological systems through ensuring a balance between socio-economic growth and the available resources. The Environment protection strategy proposes a number of measures and actions including:

- Restructuring environmental agencies and strengthening working relationships.
- Finalizing the legal framework and regulations relating to environmental protection, maintenance of ecological systems and environmental impact assessment.

- Enhancing and up-grading human resources capacities in environmental protection techniques and management.
- Managing protected areas.
- Undertaking surveys and studies to assess and monitor environmental impacts.
- Enhancing relevant units dealing with efforts to fulfill national obligations under international environmental conventions.
- Providing adequate resource mobilization mechanisms to finance environmental protection and pollution control programs.

Environmental Impact Assessment (EIA) and linkages with other sectors

Conducting EIA studies in Yemen is undertaken under the Environment Protection Law (EPL) No. (26) for 1995 and supported by other specific sectoral regulations. The EPL forms the umbrella for all environmental policies. In particular, it identifies EAI policy in chapter (3) articles (35-47), which deal with the Environmental Assessment of new and old projects. The Prime Minister's Resolution (148) of 2000 on the Executive Regulations of the EPL covers, inter alia, EIA guidelines and projects categories for projects requiring EIA.

Although regulations are clear, their implementation is either weak or inadequate. A major step towards the sustainability of the environment will be to comply with the environmental laws and regulations. Most of the existing environmental problems, including degradation and depletion of resources, are due to the lack of EIAs and EMPs in many development projects.

Investment Plans and Costs

The present environment needs assessment has identified the interventions which could be undertaken by the EPA/MWE as well as other line ministries and government agencies in close collaboration with the EPA. Total investments for the period 2006-2015

amount to \$ 529.9 million. This amount, however, does not include costs for EIAs and EMPs in all projects.

Figure 3.1: Annual Investments Needs for Environment Interventions

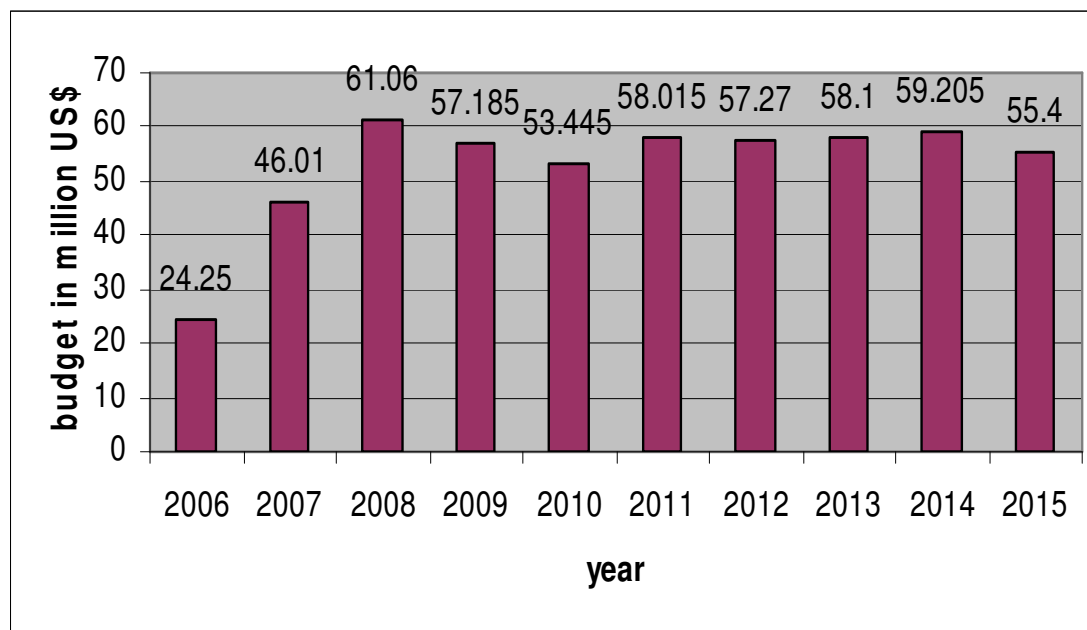


Table 3.16: Environmental Investments in Other sectors

Item	Million \$
EPA/MWE/Health	18.1
EPA/MWE/Water	1.00
EPA/MWE/Oil	41.8
EPA/MWE/Agriculture	16.05
R.S center	0.3
EPA and Fisheries	9.85
EPA and ICZM	51.55
EPA/NGO/Gender	9.88
EIA/MCUP	14
Total	162.53

Total investments for interventions in other sectors amount to \$ 162.5 million. Such figure does not include \$ 367.4 million as costs for Studies, Training, Equipment, O&M and Awareness raising programs. Studies include designs, standards, environmental database, network and consultancies.

Table 3.17: Investments in Studies, Equipment, Training, O&M and Awareness (million \$)

Studies	Equipment	Training	O&M	Awareness	Total
43.16	206.96	24.07	65.3	27.9	367.39

The environment needs assessment for the period 2006-2015 is estimated at a total \$ 529.9 million without including EIAs and EMPs costs in all sectors. A major thrust of the assessment is the urgent need for a continuous effort and commitment by the government towards environmental sustainability.

Improving Slum Dwellings

A meaningful PRS seeks to improve economic, social, environmental, and health conditions of the poor, including their neighborhoods and dwellings. Slum house and shanty towns became apparent and grew considerably as a result of the unexpected return of about a million Yemeni from the Gulf States and mainly Saudi Arabia during the second Gulf crisis in 1990-91. Homeless people started to occupy land, mainly state property or endowment; and built shelters for themselves lacking any infrastructure service like road, paths, water and sanitation, electricity, and communication networks. As a result, those communities suffer from many environmental problems.

Table 3.18: Slum Dwelling Development Initiatives

	Interventions
Strengthening administration and urban planning	<ul style="list-style-type: none"> • Area planning renovation and restructuring including random areas. • Apply Aerial surveillance for major cities and towns. • Develop and allocate urban, trade, and market centers according to the general plan. • Draft a flexible dwelling strategy that focuses on suitable alternatives and costs to attract people to new areas that suit low income earners. • Protect urban architecture from distortions through legislation.
Renovation of poor dwellings	<ul style="list-style-type: none"> • Carry out field studies to identify problems in order to set programs, priorities, and designs to resolve these problems and improve those areas. • Specify slums and shanty towns for plan renovation and reconstruction according to suitable strategies. • Construct low-cost housing. • Encourage dwellers to form associations to undertake repairing, painting, maintenance and other requirements.
Securing property	<ul style="list-style-type: none"> • Discuss regulatory aspects of property rights, setting up protective rules, and defining the rights of dwellers in shanty towns.
	<ul style="list-style-type: none"> • Resolve existing problems relating to property rights and stopping aggression against agricultural land.

	<ul style="list-style-type: none"> • Plant trees in open spaces.
Provide infrastructure and services to shanty towns.	<ul style="list-style-type: none"> • Streets, paths, side pavements, and lighten streets. • Bus services. • Police and security services. • Fire brigade services.
Support access to credit and financing schemes	<ul style="list-style-type: none"> • Facilitate access to soft loans to families of low income and provide technical assistance.
Improve economic conditions	<ul style="list-style-type: none"> • Organize trade and commercial centers in those areas. • Encourage small industries and activities to improve the living conditions.

Gender

Gender related problems arise from the fact that (i) women experience poverty much more than men, (ii) social norms and structures re-enforce gender division of labor, (iii) women's marginalization and exclusion from the social-economic and political process are not merely due to poverty, (iv) gender inequalities exist in all social institutions from household, community, market as well as state, and (v) gender inequality influence women's access to and control over resources.

Sector-Specific Gender Issues

The right to work is recognized as a basic entitlement to all citizens. In practice, gender disparities in employment still exist as women's economic participation does not exceed 21.8%. In addition, women's work is often low skilled and poorly paid. Moreover, 72% of women's labor comprises unpaid family work in agriculture.

Key Interventions:

- Promote women's economic opportunities in all sectors, mainly in manufacturing and services.
- Provide credit to encourage women's off-farm work.
- Provide incentives for private sector to employ women.
- Review and engender Labor Laws to provide suitable working environment for women.

The fertility rate is as high as 6.8 and only 35% of women receive medical attention. Maternal mortality is 366 for every 100,000 live births. Gender gaps in health personnel are evident (28% women). Only 22% of the deliveries are under qualified medical supervision. Also, prevailing social and cultural norms constrain use of different family planning methods, which has increased from 22% in 1997 to 23.1% in 2003.

Key Interventions:

- Increase budget allocation for the health sector and improve spending efficiency.
- Provide affordable and accessible health care services.
- Increase the coverage and improve the quality of PHC services.
- Increase female medical recruitment and build their capacity.
- Integrate reproductive and sexual health services into primary health care and increase males' awareness on reproductive matters.
- Enhance health services, through provision of drugs, equipment and training programs.
- Provide free health services for the poor and disadvantaged groups; especially women.
- Initiate sexual health programs in communities and schools.
- Encourage use of family planning methods addressing both men and women.

The existing infrastructure is far behind the demand, especially in rural areas. Moreover, most of the available infrastructure does not respond to women's needs. Inadequate water sources - especially in rural areas – overburdens women and girls who are usually assigned the task of fetching water. Also, irrational use of natural resources is significant. Moreover, internal migration to urban areas disrupts gender roles in rural areas as women become responsible for the households.

Key Interventions:

- Increase the provision of water and energy sources especially in rural areas.
- Support rural roads to enhance women and girls' accessibility to schools, health facilities, markets, etc.

- Encourage women's participation in environmental projects and provide awareness raising programmes.

General Gender Issues

Political participation is fundamental to making change in the life of women. Despite considerable progress in the democratic process of the country, women's political participation continues to remain low (0.5% in elected institutions). Gender disparities in also evident in government with 16,200 women compared to over 430 thousand civil servants and only 32 female judges.

Key Interventions:

- Adopt quotas for women at all levels of political process.
- Sensitize political parties' leaders to catalyze gender sensitive reforms, and provide their parties with technical assistance to engender their policies and programs.
- Train women candidates in leadership and campaigning skills, and increase their visibility in media.
- Build capacity of elected women parliamentarians and local councils' members.

Yemen is a signatory to the convention on the Elimination of All Forms of Discrimination (CEDAW), as well as has signed the Optional Protocol. Nonetheless, Yemeni women still experience inequalities both in terms of access to law as well as inconsistencies in interpreting some rights. Moreover, domestic violence exist.

Key Interventions:

- Amend laws to match the constitution and the international conventions.
- Prevent violence against women through legislation, awareness campaigns and education.
- Establish women's units in law enforcement institutions, including Police stations.
- Promote awareness on women's rights to legal redress and state services.
- Train prison staff to ensure proper treatment of women prisoners.

- Provide counseling, shelter, rehabilitation, conciliation and medication services.

Knowledge on gender is rather weak at all levels, despite its importance as a prerequisite for successful implementation of all interventions and programs.

Key Interventions

- Undertake intensive gender sensitizations for government officials at the central, governorate and district levels, as well as for parliamentarians, religious and social leaders.
- Build capacities of policy makers and technical personnel including judges and law enforcement officers in all ministries, civil society and private sector in gender mainstreaming.

Private Sector

The role of the private sector in social and economic development is gaining momentum as a result of political and economic developments taking place in Yemen. The SFYP aimed at re-defining the role of the state to concentrate on setting up a conducive legal framework and favorable environment for private sector, whereas the private sector assumes the engine of growth role. Current reforms target enabling the private sector to achieve economic growth by diversifying production and export activities.

The Yemeni private sector has been involved in industry, agriculture, fishing, trade, banking and tourism, but only quite recently indulged in education, health, and infrastructure. Private sector's activities have been contributing significantly to the GDP and employ the largest segment of the work force. However, the non – oil formal private sector is still limited and dominated by very small firms with relatively low productivity.

The private sector is also dominated by services. Inadequate infrastructure, red tape and the judicial system have been the greatest barriers to private sector development. In recognition of those obstacles, the government since the SFYP took a deliberate set of policies to (i) strengthen the economic programs which gave private sector the leading role in economic development; (ii) improve the general climate for investment; (iii) provide greater incentives for private sector; (iv) involve private sector's representatives in high – levels committees and board of directors of government organizations; (v) establish a partnership committee under the chairmanship of Prime Minister; (vi) undertake financial sector reforms to provide financial support to private sector; (vii) reform the tax and customs systems; (viii) turn public enterprises into private ownership; (ix) attract foreign investors and transfer technology and expertise; and finally (x) encourage integration and merger of small and single proprietorship companies to benefit from economies of scale.

Private sector's contribution to total industrial output amounts to 71.4%. Also, about 78.1% of its employment is generated by private sector activities. In construction, private sector contribution is very significant, although remained over the last years around 40%. In terms of gross investment, private sector contribution reached 60.2% in 2001, fluctuated in later years, and expected to be at 46.3% in year 2005.

Table 3.19: Private Sector Contribution to Gross Investment (million rials)

Sector	2000	2001	2002	2003	2004	2005
Private and mixed sector Investments	159,183	180,415	168,462	227,027	150,441	307,440
%	57.7	60.2	51.4	48.8	31.1	46.3
Government and Public Investments	116,708	119,046	159,019	238,582	333,871	356,216

Challenges

In spite of improvements in the investment environment over the past few years, the private sector is still facing a number of impediments, both internal and external. Those

impediments have detrimental impact on the “enabling business environment”. The most prominent among them are:

- Insufficient access to credit; business licensing; delays and high cost of setting up a business.
- Inadequate government response to private sectors needs and poorly motivated civil service.
- Inadequate infrastructure, especially electricity services and roads.
- Ineffective private sector institutions and weak coordination with government.
- A large informal sector with backward production methods and inability to modernize.
- Smuggling and dumping continue posing challenges to private sector activities.
- Judiciary suffers from many shortcomings, notably:
 - Failure of judiciary and public prosecution to keep abreast of the rapid developments in the area of copyrights, protection of property or enforcement of contracts, mobility of capital, and multinational companies.
 - Long delays in trial procedures and failure to enforce rulings passed by courts and public prosecution.
- Marketing and transportation difficulties and inadequate cooling and storage facilities.

Other challenges facing private sector are those resulting from globalization and liberalization of foreign trade. Yemen economic structure is weak and characterized by low level of competitiveness. The service sector, especially financial and banking is among those most exposed to winds of globalization. The industrial private sector also suffers from obsolete and aging technology. The weakness of the technological structure is manifested in absence of scientific research and modernization of technology in both

government and private sector establishments, and limited university programs in the fields of science and technology.

Moreover, the ability of the private sector to penetrate foreign market depends on the competitiveness and the comparative advantage of the economy. Exports also face difficulties including air transport of perishable food products. Other limitations includes (i) limited number of regular and direct maritime services to and from Yemen, (ii) high cost of handling containers in sea ports and of air transport, (iii) delays on procedure and systems in seaport and airports, and (iv) weak infrastructure for exports.

Policy Directions

To overcome those difficulties and support the private sector to be an engine of growth, the GoY has adopted a set of policies and measures to improve the investment climate which highlights market access, attracting foreign investment, provide more investment incentives, and redress deficiencies in the judicial, control and security systems through ensuring rule of law, protecting property rights, and enforcing contracts. The GoY also continues to deepen the decentralization process to streamline administrative procedures, enhance infrastructure and availability of industrial sites, and provide social services such as education, health care, housing and leisure facilities.

The institutional capacity of government aims at improving public services delivery to private sector, including engaging the private sector in the preparation, formulation, implementation and evaluation of development plans and programs, as well as empowering the private sector in understanding government policies and public finance. The approach also considers strengthening private sector's systems and institutions that will ensure accountability, ethics, and transparency of both the Government and private sector. To this end, the GoY is fostering dialogue with the private sector, which has become formal, while ensuring adequate representation of entrepreneurs at the bottom of the pyramid.

Good Governance

Good governance gains its significance from being influential and having impact on achieving development goals and objectives, in addition to being a prerequisite for realizing sustainable development. It also possesses means of directing resources and growth through the public budget and investment programs, in particular by prioritizing sectors and projects. Also, despite accountability takes a form that is political in nature, it makes government administration and institutions and service provision more efficient and accountable. The ongoing institutional reforms in Yemen are addressing fields that are considered critical in furthering the investment environment, especially in the modernization of the civil service, reforming the judiciary and strengthening local authority.

The government is following a policy to enhance good governance enabling the optimization of the country's resources, realization of the objectives of society and allowing for the participation of all segments in society in the decision making process.

Civil Service Modernization

Civil service modernization, which is an integral part of the reform program, occupies top priority due to the fact that no economic development can be achieved without a modern government administration. In 1998, the Civil Service Modernization Strategy had been put for debate and was later approved in a national conference. The Strategy aims at developing a modern administration apparatus to complement economic reforms and assist in accelerating economic growth through promoting private sector's leadership in the economy and the provision of efficient, effective and transparent government services under which performance and incentive are criteria applied in actual practice. The adopted policies are:

- Completing the process of job description in the civil service and getting rid of ghost names, double dippers and redundant labor.
- Restructuring government agencies, beginning with the major and central agencies;
- Focusing on measures to enhance the efficiency of government agencies and improving procedures for control and transparency;
- Implementing a general policy on wages that ensures acceptable living standards, and taking into consideration productivity and inflation.

Enhancing and Strengthening Democracy

Democracy is the guarantee to hearing voices of the governor and the governed alike. Hence, the GoY pursues strengthening democracy in Yemen and the continuation of democratic practices that have become an integral part of the life of society until they become daily attitudes in society. The adopted Policies are:

- Work and commit to transparency in all affairs of governance and administration which would keep society away from ill use and personal interest, and would also make work free from oppression, deprivation and the control of the powerful;
- Promote participation away from formality and hesitancy;
- Raise public education and awareness on rights and duties, and encourage political parties and civil society organizations to carry out their role in society;
- Safeguard freedom of press and of expression;
- Ensure separation of the three authorities;
- Ensure conducting general elections regularly and on time.

Implementation and Enforcement of Laws and Regulations

The precise and accurate application of the law away from favoritism serves all citizens topped by the poor who would be able to obtain their rights and safeguard their dignity. It would also ensure the fight against corruption and further strengthen the solidarity and unity in society. The government policies are:

- Consolidate the respect of law, commitment to observing it fully and resemblance of role models by state leaders;
- Identification of fields and sectors that face legislative weakness or deficiency, addressing these flaws, the removal of contradiction in legislation and laws especially those related to the poor and poverty reduction programs;

- Improve performance of the judiciary system, general prosecutors and courts and enhancement of the role of inspection and financial control units in government agencies;
- Swift implementation of court rulings.

Strengthening Local Authority and Decentralization

The local authority contributes better and more precisely than the central government in the identification of needs of local communities. It also works in addressing and answering to such needs swifter. The local authorities in many countries have proved their effectiveness due to closeness to the people especially the poor. Therefore, the state will work on maintaining support for local councils as the main local vehicle for democracy, which play a substantial role in assessing the needs of the poor and support for poverty reduction programs at the local level. The goal is for the administrative units to take charge of tasks that enable them to improve the livelihood of the people in their local communities and addressing their problems and participation in accountability and decision-making. The major policies adopted are:

- Strengthening the capacities of local authorities and their role in decision-making especially in issues related to the basic needs of local communities;
- Spreading awareness among the public and conducting general referendums on all important issues;
- Improving monitoring and follow-up to ensure a local authority that is pro-poor.

Civil Society Organizations

Globally, the role of Civil Society Organizations (CSOs) in development, particularly in contributing to poverty reduction, promoting good governance and ensuring human rights, is steadily increasing. They reflect and voice the concerns of the massive population. Also, given the limited government resources and capacities to achieve all development objectives, the role of CSOs become indispensable.

In Yemen, CSOs are actively engaged in drafting national policies, testing to the true partnership between government and CSOs in all stages of the development process. The number of CSOs in Yemen has risen to about 4,888 in 2004 compared to 3,175 in 2000. The dominance is for charity oriented CSOs (44%), followed by those involved in development programs and projects (36%), human rights (3%) and other fields (17%). The GoY emphasizes and values partnership with CSOs. However, it is working towards further strengthening this partnership through revising the legislative framework to avoid confrontation among the different laws, and also address current organizational and technical barriers to CSOs.

ANNEX I

KEY DEVELOPMENT INDICATORS

INDICATORS OF TARGET 1	1990	2000	2015
Percentage of population with an income of less than \$1 per day (according to Purchasing Power Parity {PPP})		10.7	5.4
Rural	-	12.4	6.2
Urban	-	5.2	2.6
Percentage of population with an income of less than \$2 per day (according to Purchasing Power Parity {PPP})	-	47	23.5
Rural	-	50.2	25.1
Urban	-	36.4	18.2
Poverty Gap	-	10.7	5.4
Share of the most impoverished one-fifth of the population from national consumption	-	8	12
INDICATORS OF TARGET 2			
Percentage of under-five children who are under weight	30	46	15
Percentage of population below food poverty line	N/A	17.6	8.8
INDICATORS OF TARGET 3			
Average net enrolment rate in primary education (5)	52.7	59.5	100
Children reaching grade five (5)	56.3	75.1	100
INDICATORS OF TARGET 4			
Proportion of girls to boys in basic education	44.6	55.7	100
Proportion of girls to boys in secondary education	13.7	36.6	100
Proportion of girls to boys in tertiary (University) education	20.5	32.3	100
Proportion of women in paid-work in the non-agricultural sector	N/A	7.0	N/A
INDICATORS OF TARGET 5			
Under-five child mortality rate (per 1,000 live births)	122	94.1	40.6
Infant mortality rate (per 1,000 live births)	83	69.4	27.2

INDICATORS OF TARGET 6	1990	2000	2015
MMR (per 100,000 live births)	-	351	87.8
Deliveries attended by trained medical cadres	16	22	43.7
Pregnancy care level	26	43	49.3
Prevalence of modern contraception methods	6.1	10	19.5
INDICATORS OF TARGET 7			
AIDS reported cases	1	874	--
INDICATORS OF TARGET 8			
Proportion of Malaria cases as per cent age of all reported cases	22.9	35	3
Malaria incidence per 100,000 people	1263.4	1532.0	N/A
TB incidence per 100,000 people	12	31	3
Tb coverage rate %	28	70.2	100
INDICATORS OF TARGET 9			
Proportion of forest areas %	1	0.9	-
GDP per ton of consumable energy	\$2.5	\$4.4 (1999)	-
Dioxide emissions (metric ton per person)	0.7	0.9 (1999)	-
INDICATORS OF TARGET 10			
Population without sustainable access to safe drinking water	65.1	64.1	32
INDICATORS OF TARGET 11			
BP deficit (surplus) as % of GDP	-1.97	16.4	-
External debt as % of GDP	114	65	-
Debt service as % of total exports of goods and services	12.4	1.8	-
Per capita ODA (\$)	-	11	-

Annex II

Investment Plan to achieve the MDGs by 2015 (In US \$ million)

Indicators	Sector Needs	Total	Annual Average
<u>Food security</u>		2,130	213.0
Agriculture	1,904		
Fishery	226		
<u>Education</u>		16,309	1,630.9
Preschool	867		
Basic Education	13,121		
Secondary Education	2,321		
<u>Vocational Education</u>		3995	399.5
<u>Higher Education</u>		1964	196.4
<u>Health</u>		14,131	1,413.1
Child Health	1,324		
Maternal Health	755		
Malaria	621		
T.B.	93		
H.I.V/ AIDS	364		
Infrastructure (Health facilities and staffing)	7,457		
Health System Strengthening	3,517		
<u>Sustainable Environment</u>		4210	421.0
Environment	530		
Water and Sanitation	3677		
<u>Infrastructure</u>		6146	614.6
Roads	3614		
Energy	2532		
<u>Grand Total</u>		<u>48,935</u>	
<u>Annual Average</u>		<u>4893.5</u>	