

# Indonesia

## National Health System Profile

### 1. TRENDS IN POLICY DEVELOPMENT

Indonesia has made substantial progress, particularly in stabilizing political and economic conditions. During the period 1968-86, per capita income increased sharply from US \$ 50 in 1968 to US \$ 385 in 1986, mainly due to oil boom in the early 1980s. In 1996, the per capita income had risen to US \$ 1124, driven by alternative sources of income such as manufacturing, international trade and services, etc.

National Socio-Economic Survey, 2002, showed that in the past 32 years, Indonesia has undergone a major improvement in the area of education. The literacy rate among persons aged 10 years and above has increased from 61 percent in 1971 to 91 percent in 2002. School attendance among children aged 7-12 years has increased from 62 percent in 1971 to 96 percent in 2002 for males, and from 58 percent in 1971 to 97 percent in 2002 for females.

Health law No. 23 enacted in 1992 provides a legal basis for the health sector activities. It stipulated the goals of the health programmes to increase awareness, willingness and ability of everyone to live a healthy life. The law emphasized the decentralization of operational responsibility and authority to the local level as a prerequisite for successful and sustainable development.

In the second 25-year development plan (1994-2019), economic and human development is identified as the key to national development and self-reliance.

Following the National Guidelines on state policy issued in 1993, strategy was adopted to improve the health and nutritional status of the population by improving the quality of health services to all, and to promote a healthy life style with adequate housing and environmental sanitation.

The government of Indonesia places great emphasis on intersectoral coordination, joint responsibility of local government and the community, region-specific programmes, targeting of vulnerable groups, and building strong information and communication programme.

### 2. TRENDS IN SOCIOECONOMIC DEVELOPMENT

#### 2.1 Economic trends

There has been a relatively constant annual growth rate in the gross national product (GNP), of almost 7.25 percent, between 1992 and 1995. The GNP per capita has increased from US \$ 661 to \$ 978 during the same period but later on it decreased to US\$710 in the year 2002 (WHO CORE Indicators 2005). The percentage of poor, both total and rural, has shown marginal declines to 11.7 percent and 12.6 percent respectively. Oil and natural resources remain the

predominant contributors to growth. However, several other sectors, particularly agriculture, home industries and tourism, have grown quite significantly. Poverty still remains a substantial problem. Regional inequities in healthcare are important considerations, particularly maternal health, which is still a major problem in rural areas.

According to Human Development Report 2006, the national Human Development Index (HDI) was estimated at 0.711, ranking Indonesia 181 among 177 countries. However, it has improved from the HDI value of 0.623 in 1990. Similarly, Indonesia's Gender Development Index is 0.704, ranking it at 81 among 177 countries (UNDP, Human Development Report, 2006).

Applying the international criteria of \$ 1 per day, the proportion of poor population in Indonesia in 1990 was 20.6 per cent and 7 in 2004. The proportion of poor population – those living below the national poverty line is 17 in 2004. In 1998, the Indonesian Government adopted new thresholds for the national poverty line that reflected a higher standard of living. Subsequently, 1996 poverty levels were adjusted to incorporate the 1998 criteria. During the economic crisis, the proportion of poor population increased to 23.4 per cent in 1999, and then declined to 18.2 per cent in 2002 and 17 per cent in 2004.

## **2.2 Demographic trends**

According to final results of population census 2000, the population was 205.8 million (2000). Population of Indonesia in 2006 was estimated to be 222 million (according to Selected Indicators of Indonesia, Pusat Statistik June 2006). The annual growth rate of population decreased sharply from 1.97 in 1980-90 to 1.34 during 2000- 2005; but it has slightly increased to 1.5 during 2000-03. The crude birth rate (CBR) and crude death rate (CDR) per 1000 population were 19.5 and 6.6, respectively in 2005. The total fertility rate (TFR) in 2005 was estimated at 2.2.

The urban population in Indonesia in 1990 was 31 percent, which increased to 42 percent in 2000 and 48 percent in 2005 (according to Selected Indicators. Social-Economic of Indonesia, July 2006).

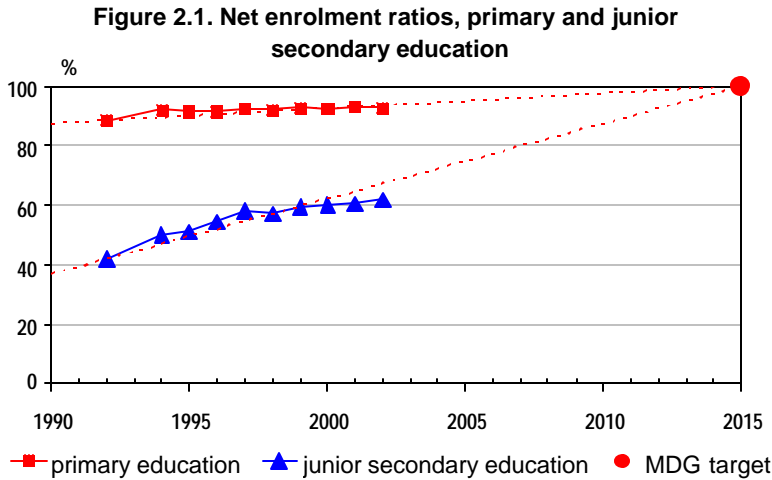
According to Selected Indicators, Social-Economic of Indonesia, July 2006, the population under 15 years of age is 20 percent, population aged 15-59 years is 62.5 percent, and population of 60 years and above is 7.5 percent. There is an increasing trend in the number of older persons (over 60 years), which will demand more personalized healthcare services. The needs of an increasing older population will add to the existing burden of disease, with prevailing communicable diseases on the one hand and the rising prevalence of non-communicable diseases on the other.

The Life Expectancy at birth for males has increased from 57.9 years in 1990 to 69 years in 2005. Since 1960, the IMR in Indonesia has decreased from 128 per 1,000 live births in 1960, to 68 between 1986 and 1991, and to 32 per 1,000 live births in 2005.

**2.3 Social trends**

**Literacy:** The adult literacy rate >15 years in 2004 was 91 percent overall literacy rate in 2003 was 91 percent (Welfare Statistics 2004). Literacy and numeracy are being addressed through non-formal group education, the main constraint being the ability to reach out to the poor and those in remote areas.

**Primary Net Enrolment ratios:** Data from the National Socio-Economic Surveys (Susenas) show that Indonesia has achieved high levels of access to primary education for children aged 7 to 12 years. The Net Enrolment Ratio (NER) has increased from 88.7 percent in 1992 to between 92 and 93 percent in recent years (Figure 2.1). Data from the Ministry of National Education (MoNE) show slightly higher NERs over the years (94 percent in 2002).



Source: Susenas

**Primary Gross Enrolment ratios:** The NERs are significantly different from the Gross Enrolment Ratio (GERs). For example, MoNE data shows the primary GER in 2002 at 112 percent, which is significantly higher than the NER of 94 percent. This indicates a high number of under-aged (under seven years of age) and over-aged pupils (over 12 years of age). According to MoNE data, 10.3 and 4.9 percent of primary school students are under-aged and over-aged, respectively. Under-aged children can enrol in primary schools, a trend that has increased, especially in urban areas. Over-aged students may be a result of late enrolment – for example, 42.2 percent of newly enrolled primary-school students were aged eight years and more in the 2000-01 school year. Also, by repeating grades, students complete primary school, when they are older than 12 years.

**Disparities in primary education:** Further analysis, based on 2002 *Susenas* data, shows consistently high NERs and GERs in primary schools in all population groups, with no significant disparities between rural and urban areas, between girls and boys, and among poverty quintiles. However, inter-province variation is considerable, with the NER of some provinces below 90 percent.

**Junior secondary education:** The access to junior secondary education has increased significantly since 1994, following the implementation of the Nine-Year Compulsory Basic Education Programme. The NER at junior secondary level has increased from 41.9 percent in 1992 to 61.7 percent in 2002, while the GER has increased from 65.7 percent in 1995 to 79.8 percent in 2002.

**Disparities in junior secondary education:** Unlike in primary education, junior secondary education enrolment numbers show considerable disparities between rural and urban areas, and among poverty quintiles, but not, however, between girls and boys. For 2002, the NER in rural areas (54.1%) is significantly lower than in urban areas (71.9%) and the NER of the poorest quintile (49.9%) contrasts starkly with that of the richest quintile (72.3%). The junior secondary GERs also vary widely between rural (69.7%) and urban (93.5%) areas, and between poor (64.8%) and rich (94.6%) population. Among provinces, wide disparities exist in junior secondary NERs. The NERs of several provinces are still below 60 percent (Central Kalimantan, Central Sulawesi, East Nusa Tenggara, Gorontalo, Papua, South Kalimantan, South Sulawesi, South Sumatra, Southeast Sulawesi, West Kalimantan and West Nusa Tenggara). According to 2001 *Susenas* data, Papua has a much lower NER (40.5%).

**Labour Force:** In Indonesia, Labour Force Participation Rate (LFPR) in 2003 was 65.72 percent. It went down compared to LFPR in 2002. However, the female job seekers were fewer than male job seekers, though the female job vacancies were higher than male job vacancies.

Around 90.5 percent out of 100.3 million labour forces was working in 2003. The majority (76.78%) of workers were poorly educated (under senior high school), and the high educated workers (senior high school and above) were only 23.22 percent.

**Human Resource Capacity:** According to Statistical Yearbook of Indonesia 2003, there were 146,052 Primary Schools, 20,918 Junior High Schools, 8,036 General Senior High Schools, 4,943 Vocational Senior High Schools, and 1,924 Universities (78 State and 1,846 private) in the year 2002-03, under the Ministry of National Education.

## **2.4 Food supply and nutritional status**

The proportion of children under five years of age, who are underweight, decreased from 37.5 percent in 1989 to 28 percent in 2003. Severe malnutrition has increased slightly, from 6.3 percent in 1989 to 8 percent in 2002. There were overall improvements in nutritional indicators between 1986 and 1997. In 1997, the incidence of low birth weight was 7.7 percent, which has decreased to 6 percent in 2002, according to IDHS 2002-03.

The proportion of children under five years, whose weight-for-age was below 80 percent of the median, was 20.3 percent. The proportion of school children with iodine deficiency disorders (IDDs) was 27.2 percent (1992), with disparities in prevalence among provinces. The proportion of pregnant women with anaemia was 51.0 percent, and children under five years with anaemia were 40.5 percent (1995). The reduction in the prevalence of vitamin A

deficiency has been substantial. The national xerophthalmia survey (1992) revealed a national prevalence of 0.33 percent, which is less than the accepted cut-off point. However, three provinces still have a problem of vitamin A deficiency. The main constraints are inadequate coverage by supplementation programmes (iron, vitamin A and iodine) due to geographical and socio-cultural factors, inadequate funding, and supplementation being restricted to endemic areas. Other general factors include low community awareness, lack of community participation in nutrition activities, and indifferent support from other sectors in the implementation of integrated nutrition programmes.

According to IDHS 2002-03, 25.7 percent of women in urban areas and 28.2 percent in rural areas started breastfeeding the baby within 24 hours of birth. There was hardly any difference in initiation of breastfeeding to male and female babies. However, 16 percent of mothers in urban areas and 19 percent in rural areas also gave pre-lacteal feeds to babies.

## **2.5 Lifestyle and Risk Factors**

Health problems related to changes in lifestyle have been associated with changing food habits. For example, adolescents and fast-food; smoking, particularly the increase in young smokers; has led to an increase in lifestyle related health problems. The proportion of the population aged 15 and above, who are regular smokers, was estimated to be 23 percent in 1995. In 2001, 31.5 percent of Indonesian adults smoked; the vast majority of them men. About 62.2 percent of male adults smoke regularly, with higher rates in rural areas (67%). At the provincial level, the highest male smoking rates are in Gorontalo (69%) and the lowest in Bali (45.7%). Substance abuse, sedentary lifestyles, lack of exercise, and violence also contribute to health problems. The main constraint is lack of social support and national commitment, particularly with regards to smoking.

## **3. HEALTH AND ENVIRONMENT**

### **3.1 General protection of the environment**

Information is given under Millennium Development Goals (MDGs), Goal 7 in Annex-2.

### **3.2 Water supply and sanitation**

Between 1989 and 1994, access to piped water in urban areas increased by 6.5 percent per year, while the size of the population without piped water, increased by 4.3 percent per year. By 2000, the water supply provided by PDAMs (regional drinking water companies) covered 51.7 percent of the urban population and 5.4 percent of the rural population. In 2004, 88 percent of population (89% in urban and 87% in rural) had access to improved water source and 78 percent of the population (90% in urban and 69% in rural) had access to improved sanitation.

## **4. HEALTH RESOURCES**

### **4.1 Human resources for health**

The number of physicians has been decreasing from 1999 to 2001 (from 31,603 in 1999 to 26,917 in 2001). Similar is the case with other medical graduates, as well as nursing paramedics (Statistical Yearbook of Indonesia 2003).

### **4.2 Financial resources for health**

The main sources of finance are public, private, and out-of-pocket expenses by individual families, social security and external funding.

During 2003, Total Expenditure on Health (THE) as a percentage of Gross Domestic Product (GDP) was 2.8 percent; Public Expenditure on Health (PHE) as a percentage of Total Expenditure on Health (THE) was 34 percent; Private Expenditure on Health (PvtHE) as a percentage of Total Expenditure on Health (THE) was 66 percent.

In 2003, the private sector expenditure on health out of total health expenditure was 66 percent, whereas the general government health expenditure (GGHE) was 34 percent. The net out-of-pocket spending on health was 74 percent of total private expenditure on health. Further, during the same period, social security expenditure on health as a percentage of GGHE was 10 percent.

### **4.3 Physical infrastructure for health**

Government efforts in providing health facilities, such as hospitals, public health centres and public health sub-centres, have been increasing. The number of hospitals nationally has increased from 1,145 in 2001 to 1,215 in 2002. The number of hospital beds has also increased from 124,834 in 2001 to 130,214 in 2002. There are 0.6 beds per 1000 population.

The number of public health facilities has also increased from 7,235 units in 2001 to 7,309 units in 2002; the number of public health sub-centres has increased from 21,587 units in 2001 to 21,790 units in 2002; and the number of moving public health centres was 5,638 in 2002 (Statistical Yearbook of Indonesia 2003).

### **4.4 Essential drugs and other supplies**

There is a National Agency for Drug and Food Control, which is not part of the Ministry of Health. The National Agency is, among others, responsible for the registration of medicines and medical supplies and inspection of manufacturers. The agency can, upon request and provided a justification is given, authorizes the importation in Indonesia of drugs and medical supplies that are not registered in Indonesia. The National agency has branch offices in most of the provinces.

Accessibility of medicines in Indonesia is through pharmaceutical wholesalers and dispensaries. From 1998 to 2002, the number of pharmaceutical wholesalers was continuously increasing. In

addition, the number of dispensaries also increased from 5,471 units in 1998 to 7,139 units in 2002 (Statistical Yearbook of Indonesia 2003).

## **5. DEVELOPMENT OF THE HEALTH SYSTEM**

### **5.1 Health policies and strategies**

The creation of “Healthy Indonesia 2010” forces the Ministry of Health and Social Welfare to forge collaborative relationships with others. As health is a shared responsibility, the Ministry of Health and Social Welfare must involve all strata of the community, all related government departments and agencies, and the private sector. In the effort to achieve “Healthy Indonesia 2010,” the Ministry of Health and Social Welfare must also be proactive and forward-thinking.

The ‘Healthy Indonesia 2010’ goals are:

- To initiate and lead a health orientation of the national development
- To maintain and enhance individual, family, and public health along with improving the environment
- To maintain and enhance quality, accessible, and affordable health services
- To promote public self-reliance in achieving government health

While the Ministry of Health and Social Welfare was redefining the new Vision and Mission, two new fundamental Acts were enacted, namely Act No. 22/1999 on Local Governance and Act No. 25/1999 on Financial Balance Between Central Government and Local Governments. The two Acts are a reference for the implementation of decentralization policy in Indonesia, which give provinces and districts a large autonomy to manage their own home affairs except defence, monetary and fiscal, foreign affairs, justice, and religion.

Based on the new Vision and Mission of National Health Development and in line with the decentralization policy, it is agreed that there are four paramount issues to serve as the pillars in formulating a **Strategy for National Health Development**. These are:

- Initiating health-oriented national development
- Professionalism
- Community Managed Healthcare Programme (JPKM)
- Decentralization

The identification of these four elements as pillars of the Strategy for National Health Development does not mean that other programmes should not be supported. All programmes and plans of potential assistance to the Ministry of Health and Social Welfare in achieving the new Vision and Mission should be continued, even though these four pillars have the highest priority.

### *Millennium Development Goals (MDGs)*

The progress made towards achievement of health related MDGs is given at Annex-2.

## 5.2 Organization of the health system

### Structure of the Health System

There are 33 provinces and each province is sub-divided into districts and each district into sub-districts. As decentralization had been already implemented, the 349 regencies and 91 municipalities are now the key of administrative units.

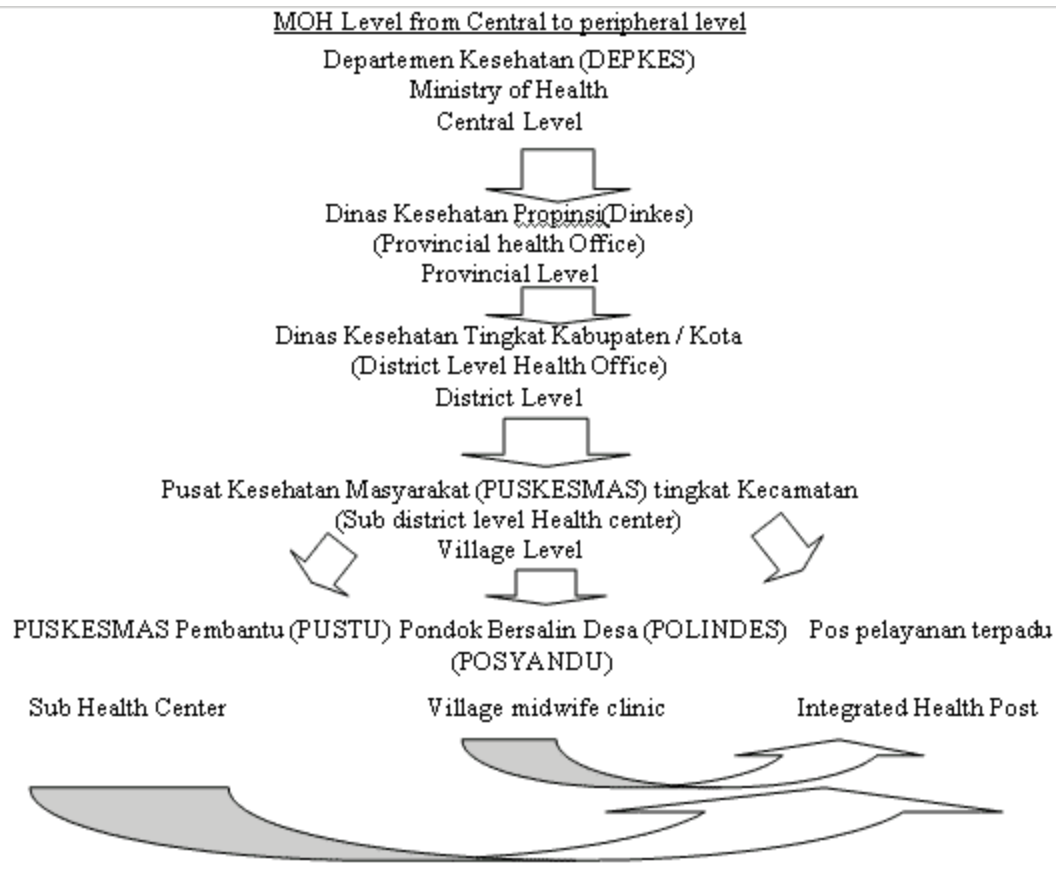
Each sub-district in Indonesia has at least one health centre headed by a doctor, usually supported by two or three sub-centres, the majority of which are headed by nurses. Health centres mainly provide eight programs. Most of the health centres are equipped with four-wheel drive vehicles or motorboats to serve as mobile health centres and provide services to underserved populations in urban and remote rural areas.

At the village level, the integrated Family Health Post provides preventive and promotive services. These health posts are established and managed by the community with the assistance of health center staff. To improve maternal and child health, midwives are being deployed to the villages.

The Decentralization Policy has been implemented in Indonesia, with the implementation of Act No. 22/1999 regarding Regional Governance and Act No. 25/1999 regarding the financial equality between Central and Regional government. With the implementation of the aforementioned Acts, the government system in Indonesia has been changed from Centralized to Decentralized type of government, which provide regional autonomy. In the Act No. 22/1999, there have been three levels of regional autonomy, i.e., Province, District, and City regional autonomy.

Paragraph 4, sub-paragraph 2 stated that there is no hierarchical links between these three regional autonomy regimes. However, in the explanation of paragraph 4, it is stated that Governor (as Head of Province Regional Autonomy and Head of Administrative area) will have to perform links in guidance, monitoring and supervision to the District and City areas. This is in relation to the delegation of responsibility to Province which has been stated as having **limited autonomy**; but it has been also given **broader de-concentration** as representative of Central government. The rule of Guidance and Supervision has been clearly stated in the Government Act No. 20/2001 regarding Guidance and Supervision of Governance implementation applied to local government.

## Organizational Structure of Health System



In line with Province government responsibility, **Broader Decentralization** has been given to District and City levels. Regional government has also been given the authority of “support = perbantuan” or “medebewind”. This has an implication that regional development has to be performed by District/City, while the development at Province level is limited only to those, which have not been covered by District/City, and Inter-district/Inter-city. Meanwhile, the Central government has to perform the role of policy formulation, standards and providing guidance to Province and District/City government levels.

Government Act on Health No. 23/1992 has stated that Health Systems should be implemented by the community with government as facilitator. Private sectors will perform an active role, so that government will act in the provision of guidance and supervision.

### **5.3 Health Information System**

#### **A. NATIONAL HEALTH INFORMATION SYSTEMS (NHIS)**

National health information systems reforms has been indicated by the development of a new NHIS policy and strategy included in the Ministry of Health decree No. 468/MENKES-KESOS/SK/V/2001, dated 25 May 2001, which has been amended by decree No. 511/MENKES/SK/V/2002, dated 24 May 2002.

Although the NHIS Policy and Strategy has been developed in support of Decentralization on health to achieve Healthy Indonesia by the year 2010, current condition shows that constraints and classical problems have been chronically identified.

Below are the elaboration of vision and mission of NHIS, strength and opportunity, and constraints or challenges (SWOT analysis) of the current NHIS.

##### **A.1 Vision and Mission of NHIS**

The vision of NHIS is to support the achievement of Healthy Indonesia by the year 2010. Healthy Indonesia achievement will be accelerated with the provision of accurate, updated and timely presentation of information. Reliable and valid information in other word is a prerequisite for the achievement of Healthy Indonesia 2010. Motto of **NHIS VISION** is **RELIABLE HEALTH INFORMATION 2010**.

To support the above vision, the following **MISSION of NHIS** has been formulated:

- The development of data management, which includes data collection, storage and retrieval, and analysis
- The development of Data Bank, Health Profiles, and presentations of information for different purposes
- The development of networking/sharing information among different data and information users
- The development of methods for the use of data and information for action purposes

##### **A.2 Strength and opportunity**

The strength and opportunity that will contribute to the development of NHIS are:

Firstly, the strength to support the development of a comprehensive NHIS includes the provision of **adequate health infrastructures** have been provided by government from national down to sub-district level, different HIS for different purposes have been developed, the initiatives of HIS developed by the unit for local purposes, and the rapid development of Information Technology.

Secondly, there are opportunities which consider will accelerate the development of HIS, which includes **Regional Autonomy Implementation** which will consider HIS as an important support for the health provider in convincing other health related sectors of its usefulness for decision makers. Structural streamlining organization and empowering professional/functional health personnel, will allow the maximum utilization of HIS personnel. Independency policy of regional health unit with the obligation to provide the quality health services to the community will have to use evidence-based information for decision making purposes.

Considering the aforementioned strengths and opportunities, the development strategy of NHIS consists of the following:

- The integration of existing HIS
- The streamlining of current procedure and mechanism of reporting and recording systems
- The empowerment of regional capacity relating to HIS
- The development of HIS human resources, taken into consideration the rapid advance of Information Technology and maintenance of equipment
- The provision of adequate information for decision makers and community

For example, at the peripheral level of health management i.e. Health Centre level, apart from illustrating current health problem or situation, information should perform its usefulness as action oriented, which also involve situation analysis for the implementation of programme activity or prompt action to recover the health problems within the area of responsibility.

At the District/Municipality health level, apart from health services delivery monitoring, HIS will also include resources mobilization or relocation, as well as local health system planning and health management improvement

In line with the development of HIS, the improvement of data management should also include integrating data collection, reporting, and use of the information for improving health services effectiveness and efficiency through better management at District/Municipality under decentralized settings.

### **A.3 Constraints and challenge**

Some constraints identified regarding the development of NHIS includes fragmented HIS i.e. different HIS for different programme purposes, lack of regional capacity, minimum use of information for management purposes, minimum use of information by community, minimum usage of Information Technology. These constraints have been more burden to the fact that financial support for the implementation and maintenance of HIS facility and equipment are considered as the least priority in the budgetary line items and provision of an adequate and

dedicated HIS personnel is in fact not an evidence in most units either at the point of services or health management level.

## **B. DISTRICT/CITY HEALTH INFORMATION SYSTEMS**

The objective of HIS is to co-ordinate and provide planning and management support to the service delivery levels (Design and Implementation of HIS, WHO 2000)

The most important issue in which the Central Health Systems level can be situated are whether the system in the country is “Centralized” or “Decentralized”; government or private sector-managed systems’ horizontally and vertically managed health services systems. For example: budgeting and decisions on financial allocation will be made at the national level in a centralized system, while it will be delegated to the district/city level in decentralized systems. In a country with a predominantly private sector managed health systems, most of listed health functions are performed by private institutions, while the government only has a regulatory role, setting policies, and making legislation. In a health systems managed mainly through vertically organized health programmes, the manager has taken over responsibilities in resource management and supervision of the line managers.

Health Information Systems, in which District Health Report is one of its important elements, have to be developed in line with decentralization policy on health.

(Technical Guidelines, District/City Health Report under Decentralised Health Systems Implementation, Jakarta, June 2004)

### **5.4 Emergency preparedness**

Indonesia is located in an area of the world that experiences regular natural disasters, such as earthquakes, tsunamis, floods, severe droughts and volcanic eruptions. Since the Indonesian archipelago forms a part of the Pacific Ring of Fire, it is prone to earthquakes and volcanic eruptions. The government has since last year been putting 10 of its 129 active volcanoes on “alert” status.

In recent years, political, economic, religious and social crises have led to complex emergency situations in several provinces, notably Maluku, North Maluku, NTT (West Timor), Aceh, Sulawesi, Papua and Kalimantan. These civil disturbances have contributed to an increasing number of emergencies in Indonesia in recent years. Both, natural and man-made disasters have resulted in increased mortality and morbidity, as well as a growing population of displaced people.

*The Government of the Republic of Indonesia established a coordinating body, called BAKORNAS at central level, and SATKORLAK at provincial level, for response to both natural and man-made disasters. For Emergency Response and Preparedness, there is well defined political structure linked with the health system, as given below:*

Political Structure		Health Structure	
Level	Position	Level	Position
Central (Pusat)	Government of Indonesia (Pemerintah Indonesia)	Ministry of Health (Departemen Kesehatan)	Minister of Health (Mentri Kesehatan)
Provincial (Propinsi)	Governor = Gubernur	Provincial Health Office (Dinas Kesehatan Propinsi)	Head of Provincial Health Office (Kepala Dinas Kesehatan Propinsi)
District / Municipality (Kabupaten)	Head of District / Major = Bupati / Walikota	District Health Office (Dinas Kesehatan Kabupaten)	Head of District Health Office (Kepala Dinas Kesehatan Kabupaten)
Subdistrict (Kecamatan)	Head of Subdistrict = Camat	Health Center (PUSKESMAS)	Head of HealthCenter (Kepala PUSKESMAS)

## 6. HEALTH SERVICES

### 6.1 Maternal and child health/family planning/adolescent health

In Indonesia, 81 percent of pregnant women had four or more antenatal care coverage. The proportion of births attended by skilled health personnel has increased steadily from 40.7 percent in 1992 to 72 percent in 2004. There has been a slight increase in the contraceptive prevalence rate (CPR) in Indonesia – from 50.5 per cent in 1992 to 54.2 per cent in 2002. In 2005, the CPR was 74. (Selected Indicators: Social- Economic of Indonesia, July 2006).

### 6.2 Immunisation

In Indonesia, 70 percent of children were fully immunised against DPT and polio and 82 percent were fully immunised against Tuberculosis before their first birthday in 2005. Also, 71.6 percent of children fully immunised against measles in 2005.

### 6.3 Prevention and control of locally endemic diseases

Information given in Annex-2 under MDGs.

## 7. TRENDS IN HEALTH STATUS

### 7.1 Life expectancy

The Life Expectancy at birth for males has increased from 57.9 years in 1990 to 64.3 years in 2002. Similarly the Life Expectancy at birth for females has increased from 61.5 years in 1990 to 68.2 years in 2002. Expectation of life at birth in Indonesia was 58.1 years in 2002 and 69 years in 2005. (Selected Indicators of Indonesia: Badan Pusat, June 2006 and WHO Geneva, The World Health Report 2005).

## 7.2 Mortality

The IMR in Indonesia decreased from 128 per 1,000 live births in 1960 to 68 between 1986 and 1991, and to 35 per 1,000 live births between 1998 and 2002 and in 2005 it is 32. (IDHS 2002-03 and Selected Indicators of Indonesia: Badan Pusat, June 2006). The under-5 mortality rate for the period 1988-92 was 79, which has come down to 46 during 1998-2002. (DHS 2002-03).

Analysis of results of Indonesia DHS 1994 showed that the maternal mortality ratio for the five-year period prior to the survey (approximately 1990-94) was 390 deaths per 100,000 births. Analysis of unpublished data from the IDHS 1997 implied a slight decline to 334 deaths per 100,000 births for the period 1993-97. The maternal mortality ratio of 307 measured in IDHS 2002-03 seems to add to the evidence of decline. However, figures from all surveys are subject to high sampling errors and the 95 percent confidence intervals surrounding the figures overlap, making it difficult to conclude with confidence that there has been any decline in the level of maternal mortality over the past 10-15 years in Indonesia.

**Main causes of mortality:** The three main causes of infant mortality in 1995 were acute respiratory infections (ARIs), perinatal complications and diarrhoea. Together, these three accounted for 75 percent of infant deaths. By 2001, this pattern had not changed much, with the main causes of death in children younger than one year of age being perinatal causes, followed by ARIs, diarrhoea, neonatal tetanus and digestive tract and neural diseases. The main causes of death among children aged under five are similar (ARI, diarrhoea, neural diseases – including meningitis and encephalitis – and typhoid). Malaria and malnutrition are also underlying causes of child mortality.

The National Household Health Survey (2001) estimated the malaria-specific death rate at 11 per 100,000 for men and eight per 100,000 for women.

Using mathematical models, the WHO estimated the death rate from tuberculosis nationally in 1998 as 68 per 100,000 people.

## 8. OUTLOOK FOR THE FUTURE

In mid-September 1998, new health paradigm was introduced that focuses health development more on the health promotion and prevention than on curative and rehabilitative services. Through a series of in-depth discussions of Ministry of Health and Social Welfare leaders, a statement of the Ministry's new Vision and Mission for National Health Development has been formulated. A consensus on the formulation of the new **Vision** is reflected in the motto **Healthy Indonesia 2010**. The time limit of 2010 was chosen with considerations that a decade provides adequate time for achieving a dream or an ideal, and the time span is challenging and inspirational, yet achievable.

## 9. Basic Health Indicators including the U.N. Millennium Development Goals

See Annex-1.

### Annex-1

#### **Country reported Data for Basic Health Indicators including health related MDG Indicators**

<b>Indicator</b>	<b>Latest available data</b>	<b>Year</b>	<b>Source</b>	<b>Remarks</b>
<b>POPULATION AND VITAL STATISTICS</b>				
Total population (in millions)	222	2006	10	
Population density (persons per sq km)	116	2005	11	
Sex ratio (males per 100 females)	100.4	2003	4	
Population under 15 years (%)	28	2005	11	Census data
Population 60 years and above (%)	7.5	2005	11	Census data
Crude birth rate (per 1000 population)	19.5	2005	10	
Crude death rate (per 1000 population)	6.6	2005	10	
Natural (population) growth rate (%)	1.34	2000-05	11	
Total fertility rate (per woman)	2.2	2005	10	
Urban population (%)	48	2005	11	
<b>SOCIOECONOMIC SITUATION</b>				
Gross national product per capita (US \$)	710	2002	9	
Adult literacy rate (%)				
Male	92.9	2002	6	For 10+ years old
Female	86.4	2002	6	
Prevalence of low birth weight (weight <2500 grams at birth) (%)	6.0	2002	6	
Prevalence of underweight (weight-for-age) in children <5 years of age (%)	28	2003	10	Protein energy deficiency
<b>HEALTH SYSTEM</b>				
<b>INPUTS</b>				
<i>Facilities</i>				
Number of hospital beds	130,214	2002	4	
Population per hospital bed	1,667	2002	4	Computed value
Hospital beds per 10,000 population	6	2002	4	Computed value
Number of health centres	7,309	1998	4	

<b>Indicator</b>	<b>Latest available data</b>	<b>Year</b>	<b>Source</b>	<b>Remarks</b>
<b><i>Human resources</i></b>				
Number of physicians	26917	2001	4	
Population per physician	7987	2001	4	
Nurses per 10,000 population	13	2001	12	
<b><i>Budgetary resources</i></b>				
Total Expenditure on Health (THE) as % of Gross Domestic Product (GDP)	2.8	2003	13	
Public Expenditure on Health (PHE) as % of Total Expenditure on Health (THE)	34	2004	13	
Private Expenditure on Health (PvtHE) as % of Total Expenditure on Health (THE)	66	2003	13	
Social Security Expenditure on Health (SSHE) as % of Public Expenditure on Health (PHE)	10	2003	13	
<b>FUNCTIONS</b>				
Pregnant women attended by trained personnel during pregnancy (%)	81	2003	12	Four visits
Deliveries attended by trained personnel(%)	72	2004	2	
Contraceptive prevalence among married women of age 15-49 years (%)	74	2005	11	
Infants reaching their first birthday that have been fully immunized against diphtheria, tetanus, and whooping cough (%)	70.0	2005	12	DPT 3
Infants reaching their first birthday that have been fully immunized against poliomyelitis (%)	70.0	2005	12	Polio3
Infants reaching their first birthday that have been fully immunized against measles (%)	71.6	2005	12	
Infants reaching their first birthday that have been fully immunized against tuberculosis (%)	82.0	2005	12	

<b>Indicator</b>	<b>Latest available data</b>	<b>Year</b>	<b>Source</b>	<b>Remarks</b>
Women that have been immunized with tetanus toxoid (TT) during pregnancy (%)	84.1	2003	5	
<b>Environment</b>				
Population with access to improved water source (%)				
Total	88	2004	8	
Urban	89	2004	8	
Rural	87	2004	8	
Population with access to improved sanitation (%)				
Total	78	2004	8	
Urban	90	2004	8	
Rural	69	2004	8	

<b>OUTCOMES</b>				
Expectation of life at birth	69	2005	10	
Infant mortality rate (per 1000 live births)	32	2005	10	
Under-five mortality rate (per 1000 live births)	46	2002	8	
Maternal mortality ratio (per 100,000 live births)	307	2000	8	
Out-of-Pocket Spending on Health (OOPS) as % of Private Expenditure on Health (PvtHE)	94.8	2002	5	
<b>GENDER EQUITY</b>				
Life expectancy at birth ratio (females as a % of males)	106	2002	6	Computed
Seats held in parliament (% of women)	8.8	1999	8	
Female share in employment (non-agricultural sector) %	28.3	2002	8	
Adult literacy ratio (females as a % of males)	93.2	2002	6	Computed
Primary school Enrolment ratio (females as a % of males)	100	2002	8	

Indicator	Latest available data	Year	Source	Remarks
<b>MDG HEALTH RELATED INDICATORS</b>				
G1.T2.I4 - Prevalence of underweight children (under-five years of age)	28	2003	10	
G1.T2.I5 - Proportion (%) of population below minimum level of dietary energy consumption	65	2002	8	
G4.T5.I13 - Under-five mortality rate (probability of dying between birth and age 5)	46	2002	8	
G4.T5.I14 - Infant mortality rate	32	2005	10	
G4.T5.I15 - Proportion (%) of 1 year-old children immunized for measles	72	2005	12	
G5.T6.I16 - Maternal mortality ratio	307	2000	8	
G5.T6.I17 - Proportion (%) of births attended by skilled health personnel	72	2004	2	
G6.T7.I18 - HIV prevalence among young people (15-29 years) (%)	<0.1	2003	8	
G6.T7.I19 - Condom use in high risk population (%)	<10.0	2001-2003	8	Consistent use
G6.T8.I21b-Malaria death rate per 100,000 (all ages)				
Males	11	2001	8	
Females	8	2001	8	
G6.T8.I21c - Malaria prevalence rate per 100,000	850.2	2001	8	Based on data from public facilities
G6.T8.I22a - Proportion (%) of population under age 5 in malaria risk areas using insecticide-treated bed nets	0.2	2000	8	
G6.T8.I22b - Proportion (%) of population under age 5 with fever being treated with antimalarial drugs	4.4	2000	8	

Indicator	Latest available data	Year	Source	Remarks
G6.T8.I23a - Tuberculosis death rate per 100,000	68	1998	8	
G6.T8.I23b - Tuberculosis prevalence rate per 100,000	262	2002	12	
G6.T8.I24a - Proportion (%) of Smear-Positive Pulmonary Tuberculosis cases detected and put under directly observed treatment short course (DOTS)	29	2002	8	
G7.T10.I30a - Proportion (%) of population with sustainable access to an improved water source, rural	87	2004	8	Regardless of distance from excreta disposal
G7.T10.I30b - Proportion (%) of population with sustainable access to an improved water source, urban	89	2004	8	Regardless of distance from excreta disposal
G7.T11.I31 - Proportion (%) of urban population with access to improved sanitation	90	2004	8	
G8.T17.I46 - Proportion (%) of population with access to affordable essential drugs on a sustainable basis	52.2	2002	2	

#### Sources:

1. Indonesia, *Census 2000*
2. BPS, Indonesia, Welfare Statistics 2004, *National Socio-economic Survey*
3. Indonesia, Ministry of Health, Centre for Health Data, *Indonesia Health Profile 1999*, Jakarta, February 2000
4. BPS, Indonesia, *Statistical Yearbook of Indonesia 2002,2003*
5. WHO Geneva, *The World Health Report 2005*.
6. Indonesia, Demographic and Health Survey 2002-03
7. UNDP, *Human Development Report 2004*
8. Millennium Development Goals Final Report, Indonesia, April 2004
9. World Health Organization, CORE Indicators 2005, Health Situation in South-East Asia and Western Pacific Regions.
10. Selected Indicators of Indonesia. Ed. Directorate of Statistical Dissemination, June 2006, Badan Pusat Statistik, Indonesia
11. Selected Indicators: Social-Economic of Indonesia, July 2006, Badan Pusat Statistik, Indonesia
12. 11 questions of 11 SEAR countries, WHO - Regional Office for South-East Asia, New Delhi

13. World Health Report 2006. WHO Geneva

## Millennium Development Goals (MDGs)

A primary purpose of this first MDG Report of Indonesia is to establish consensus and reach agreement on Indonesia's progress with its MDG targets and to set benchmarks for future work. The report uses existing data sources and goes back to 1990, the baseline year for the MDGs. Wherever possible, this report examines the situation at both national and provincial levels.

**Data sources:** The Government of Indonesia's five Working Groups for the MDG Report, supported by the Central Statistical Office of Indonesia (BPS-Statistics Indonesia) and the UN Task Force, reviewed several data sources for the MDG indicators, which can conveniently be grouped into surveys and censuses, and institutional reporting systems.

Progress made by Indonesia towards achievement of health related MDGs is given here:

### GOAL 1: ERADICATING EXTREME POVERTY AND HUNGER

**Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger**

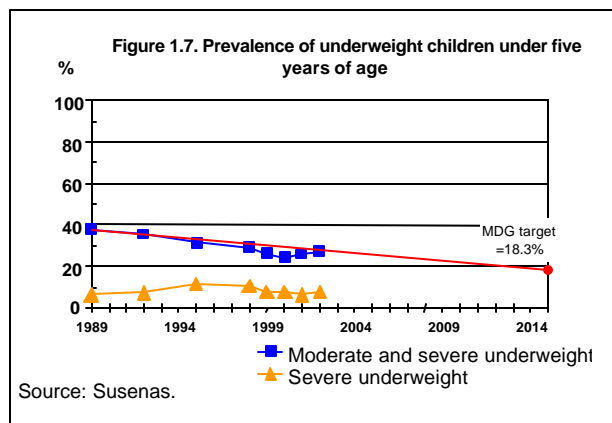
Indicators used:

- Prevalence of underweight children under five years of age
- Proportion of population below minimum level of dietary energy consumption (2,100 kcal per capita a day)

#### Status and trends

##### Prevalence of underweight children

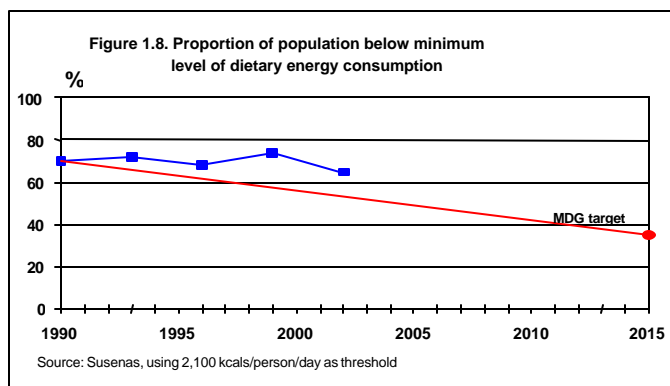
**Trends:** Child malnutrition, as measured by the proportion of children under five years of age, who are moderately or severely underweight, decreased from 37.5 percent in 1989 to 24.6 percent in 2000. However, a slight rise was seen between 2000 and 2002, reaching 27.3 percent in 2002. Over the same period, severe malnutrition has increased slightly, from 6.3 percent in 1989 to 8 percent in 2002. These statistics support the conclusion that Indonesia still has some way to go before reaching out to the poorest and most disadvantaged groups. It is also not on track in achieving the MDG target on malnutrition (Figures 1.6 and 1.7).



**Disparities:** There has been a greater reduction in numbers of moderately and severely underweight children in rural areas than in urban centres. In both areas, a consistently bigger proportion of male children are moderately or severely underweight than female children, across the years. The disparity in the proportions of underweight children between provinces is striking: from 17.1 percent in Yogyakarta and 17.9 percent in Bali to levels as high as 42.3 percent in Gorontalo and 38.6 percent in East Nusa Tenggara (NTT).

### Prevalence of under-nourishment

**Trends:** The proportion of people with insufficient food is still high in Indonesia. Two-thirds of the population still consumes less than 2,100 kcal a day. The trend has not changed much over the years (Figure 1.8).



### Challenges

The major challenges in reducing malnutrition and under-nourishment will be ensuring that the poor population, especially women and young children, have adequate nutritious food at an affordable price. Reaching this population with interventions for nutrition education will be another challenge.

## **Policies and programmes**

**Policy directions:** Policies to address hunger are reflected by trends in community nutrition and the food sector, where the focus is on developing and strengthening food security systems based on a diversity of food sources, and on local institutions, cultures and coping mechanisms. The purpose is to ensure the availability of food with adequate nutritional quality at an affordable price.

**Food and nutrition policies:** The priorities are:

- Empowering families and communities – especially poor families and other vulnerable groups – to develop self-sufficiency in food through community-based activities.
- Strengthening early warning systems for food and nutrition, so there will be preparedness for critical periods.
- Improving the quality of nutrition and food services, and integrating them into poverty-reduction programmes.
- Enforcing sanctions on violations of laws and regulations on food and nutrition, among them laws on food fortification, advertising and labelling.

**Programmes:** These aim to address hunger and malnutrition and improve household food security, and include:

- Providing complementary feeding for infants and children under five years of age, and supplementary feeding for pregnant women from poor families or households lacking food security.
- Promoting and “socializing” eating patterns that are balanced and healthy.
- Producing and diversifying foods, including local and affordable alternatives.
- Educating families on nutrition and caring for children.
- Improving the efficiency of food distribution systems to ensure household food security.
- Developing community self-sufficiency in food.
- Improving early warning systems for food security to alleviate the impact of natural disasters and conflicts on vulnerable groups.
- Establishing supporting regulations for the Law on Food (No. 7/1996) and implementing pro-poor regulations on food security and nutrition.

## **GOAL 4: REDUCING CHILD MORTALITY**

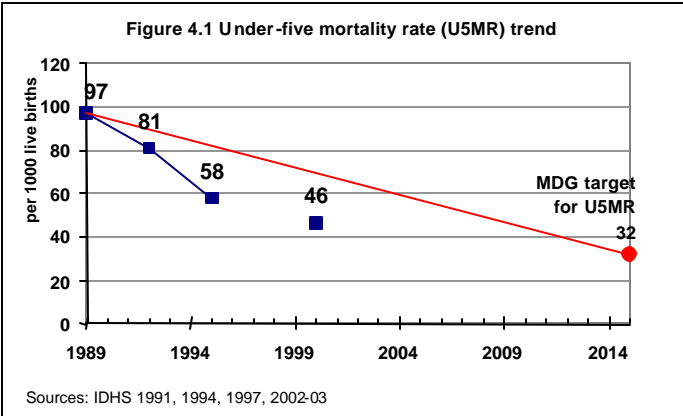
**Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate**

Indicators:

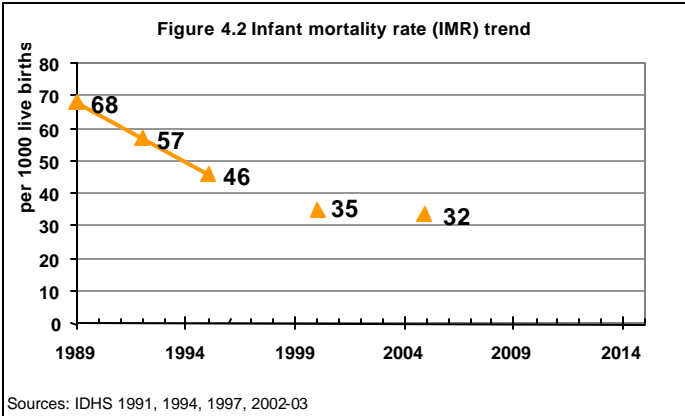
- Under-five mortality rate
- Infant mortality rate
- Percentage of one-year-old children immunized against measles

**Status and trends**

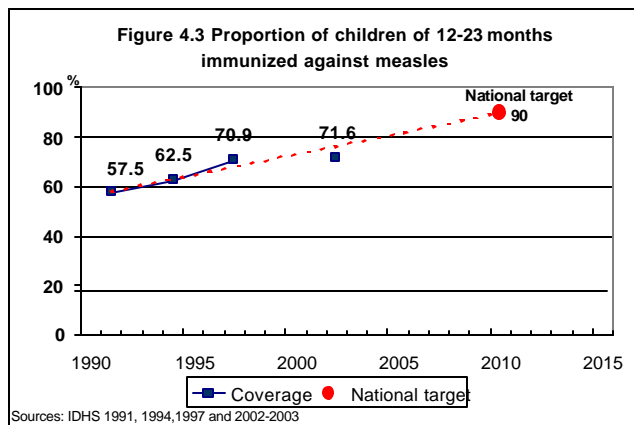
**Under-five mortality trends:** Efforts to address the national under-five mortality rate (U5MR) were successful between 1960 and 1990, with the rate decreasing sharply. In 1960, the U5MR was still very high, at 216 per 1,000 live births, but by 1986-91, this had declined to 97 per 1,000 live births. The series of Indonesia Demographic and Health Surveys (IDHS) have shown a further reduction over the past decade, down to 46 per 1,000 live births during 1998-2002 (Figure 4.1). On an average, the U5MR declined by seven percentage points annually during the 1990s, an improvement which was higher than the previous decade's, with four percent decline per year. By 2000, Indonesia had reached the target set at the 1990 World Summit for Children.



**Infant mortality trends:** Indonesia has also made significant progress in reducing the IMR over the last few decades. In 1960, the IMR in Indonesia was 128 per 1,000 live births. This decreased to 68 between 1986 and 1991 and to 32 per 1,000 live births in 2005 (Figure 4.2). During the 1990s, the rate of decline averaged five percent a year, slightly higher than the four percent annual decline during the 1980s. Despite these achievements, the IMR in Indonesia still exceeds that in other Southeast Asian countries. It is 4.6 times higher than in Malaysia, 1.3 times higher than in the Philippines and 1.8 times higher than in Thailand.



**Disparities among provinces:** The variation in the U5MR among provinces is wide. According to IDHS 2002-03, West Nusa Tenggara (NTB) had the highest U5MR of 103 per 1,000 live births during 1998-2002. This was nearly five times higher than the U5MR in Yogyakarta at 23 per 1,000 live births. Over the same period, similar variations can be seen with the IMR, which was 74 per 1,000 live births for NTB and 20 per 1,000 live births for Yogyakarta.



**Measles immunisation coverage:** The proportion of children aged 12- 23 months who received measles vaccination, either any time before the survey or before the age of 12 months, increased from 57.5 percent in 1991 to 71.6 percent in 2002 (Figure 4.3). The measles immunisation coverage in urban areas tends to be higher. For example, 77.6 percent of the children aged 12-23 months were covered with measles immunisation in 2002 in urban areas compared to 66.2 percent of them in rural areas.

**Disparities in rates:** There is wide variation in measles immunisation rates, ranging from 91 percent in Yogyakarta to 44 percent in Banten.

## Challenges

**Causes of Child mortality:** The three main causes of infant mortality in 1995 were acute respiratory infections (ARIs), perinatal complications and diarrhoea. The combination of these three causes accounted for 75 percent of infant deaths. By 2001, this pattern had not changed much. The main causes of death in children younger than one year of age were: perinatal deaths followed by ARIs, diarrhoea, neonatal tetanus, and digestive tract and neural diseases. The main causes of death among children under five are similar (ARI, diarrhoea, neural diseases – including meningitis and encephalitis -- and typhoid), Malaria and malnutrition are underlying causes of child mortality.

**Maternal and neonatal health:** One-third of infant deaths occur within the first month after birth, and approximately 80 percent of these deaths during the first week of life. Clearly, these are the result of poor maternal and neonatal health status; sub-standard access to and quality of maternal and child health services, especially during and immediately after delivery; and the care-seeking (both preventive and curative) behaviour of pregnant women, families and

communities, which are not conducive to healthy pregnancy, safe delivery and early childhood survival and development.

***Behavioural challenges:*** The direct and most important causes of infant and under-five mortality are comparatively easier to address, compared to the more difficult challenges of improving family and community health-seeking behaviour, and making these conducive to healthy pregnancy, safe delivery and appropriate care immediately after birth. Measures to address these challenges include improving access to healthcare; strengthening the quality of delivery care and the integrated management of childhood diseases; improving environmental health, including the provision of clean water and sanitation; controlling communicable diseases; and improving maternal nutrition.

***Disparity challenges:*** Another challenge is to reduce urban-rural gaps and regional disparities between provinces and districts in health indicators. A key strategy is to target poor, vulnerable groups and population living in remote areas. However, pockets of high mortality in urban areas cannot be neglected. These are high population-density areas, with large number of children.

***Synchronization and coordination of programmes:*** Given the complexity of factors influencing infant and under-five mortality, support from different sectors is necessary for achieving the targets. Institutions, the government, the private sector, communities, and non-governmental organizations (NGOs) are very much needed to synchronize and coordinate programmes. These contributions should fit within an overall child health policy, with specific strategies depending on the beneficiaries and service providers at different levels.

***Poor families:*** Health protection and services for poor families are crucial, given their already-poor health and nutrition status. In 1995, the IMR of the poorest families in 1995 was almost twice that of the IMR in the richest families. While this disparity has decreased, in 2001, the IMR in 2001 in the poor population was still 1.5 times that of the rich. Considering the fact that a significant proportion of Indonesians are poor (37.34 million, or 17.4 percent, in 2003), ensuring health protection and services for this group remains a daunting challenge. Cost-effective interventions, sustainable health protection including health insurance, inter-sectoral cooperation, and efforts to eradicate poverty, all play important roles in improving maternal and child health.

***Decentralization:*** Since 2001, the decentralization of health has created a significant challenge to efforts to reduce the IMR and U5MR. The management and flow of information, especially facility-based data collection, is not functioning properly. The delineation of roles and authorities among the central, provincial and district governments is still unclear. District health planning still needs to be improved.

## **Policies and programmes**

***The National Development Programme 2001-04:*** Reducing the IMR and U5MR is one of the priorities in national health development. In the National Development Programme 2001-04 (Propenas), the aim is reflected in the national health programmes, namely, the Healthy Environment Programme; Healthy Behaviour and Community Empowerment Programme; the Health Promotion Programme; and the Nutrition Improvement Programme.

**Supporting activities and strategies:** Plans for reducing the IMR and U5MR include: improving hygiene and sanitation at individual, family and community levels - through the provision of clean water; improving health awareness and behaviour, and awareness relating to early childhood illness and child development; controlling communicable diseases; increasing immunisation coverage; improving reproductive health services, including contraceptive and maternal services; controlling malnutrition, chronic energy deficiency and anaemia; and promoting exclusive breastfeeding and growth monitoring.

**The National Social Safety Net Programme:** The economic crisis and population growth since 1998 has limited the access of the poor to health services. In response, the government launched a National Social Safety Net Programme, which supports routine maternal and child health services. There are other programmes that provide free basic and referral health services for poor families, pregnant mothers, deliveries, post-partum mothers and infants, as well as assist in the development of health facilities.

**Legislation.** Law No. 23 on Child Protection (in 2002) aims to ensure better and more opportunities for children to live healthy lives and grow and develop to their optimal level. It states that every child has the right to obtain health services and social security, according to his or her physical, mental, spiritual and social needs.

**The National Programme for Indonesian Children.** Reducing infant and child mortality is an important part of the National Programme for Indonesian Children (PNBAI). The programme is part of the 2015 Vision for Indonesian Children and emphasizes promoting healthy lives for children. National strategies to reduce the IMR and U5MR include empowering families and communities, improving inter-sectoral cooperation and coordination, and improving the coverage of comprehensive, and quality health services for children.

## **GOAL 5: IMPROVING MATERNAL HEALTH**

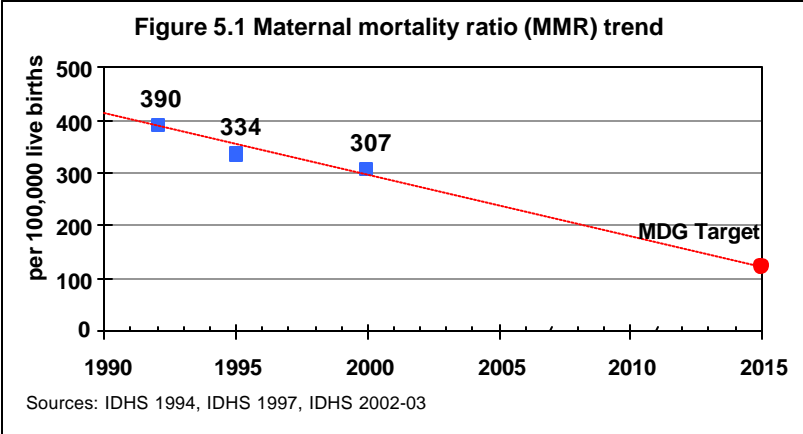
**Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio**  
Indicators:

- Maternal mortality ratio
- Percentage of births attended by skilled health personnel
- Contraceptive prevalence rate

### **Status and trends**

**Maternal mortality ratio:** Indonesia does not have the vital statistical systems to directly collect information on this indicator. Direct age-specific estimates of maternal mortality from the reported survivorship of sisters were obtained from the series of Indonesia Demographic and Health Surveys (IDHS). While the data indicates some reduction in maternal mortality – down to 307 per 100,000 live births for the period 1998-2002, the IDHS cautions that, given the technique, it may be premature to judge a substantial decline in the maternal mortality ratio (MMR). Among the five million deliveries occurring in Indonesia annually, an estimated 20,000

women die due to complications related to pregnancy and delivery. With the current trends, the MDG target is unlikely to be achieved unless extra efforts are made to reduce the MMR.



**Disparities:** Like other health indicators, there are variations in the MMR between regions. Using estimates of the proportion of maternal deaths in females of reproductive age (PMDF) in 1995 for five provinces, calculations showed that the MMR of Central Java (248) was much lower than that of Maluku (796), Papua (1,025), West Java (686) and East Nusa Tenggara (NTT, 554).

**Other countries:** Indonesia has a relatively high maternal mortality ratio when compared to some other Southeast Asian countries. The risk of a mother dying in childbirth in Indonesia is estimated to be 1 in 65, compared to 1 in 1,100, in Thailand.

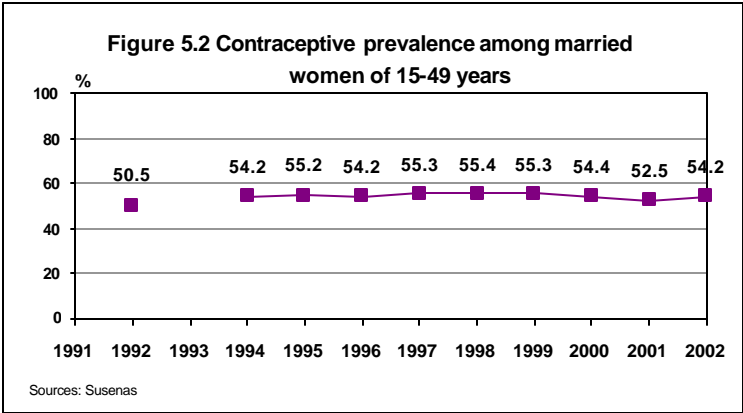
**The major medical causes:** Haemorrhage, Eclampsia or convulsions resulting from hypertensive disorders of pregnancy, abortion complications, obstructed labour, and infections are the main medical causes of maternal death. Haemorrhage, responsible for 28 percent of all maternal deaths, is usually unpredictable and its onset is sudden. Most haemorrhages happen in the post-partum period, due to retained placenta and atonia uteri. This indicates inadequate management of the third stage of labour and the failure to provide timely emergency obstetric and neonatal care in the health system. Eclampsia is the second major cause of maternal mortality in Indonesia (13 percent of all deaths, compared to 12% globally). Deaths from Eclampsia can be prevented by careful monitoring during pregnancy and ensuring access to simple and low-cost treatment.

**Unsafe abortions:** Eleven percent of maternal deaths in Indonesia are due to unsafe abortions, compared to 13 percent globally. These deaths can be prevented if women have access to contraception information and services, and care for abortion complication. The 2002-03 IDHS results show that 7.2 percent of births were unwanted.

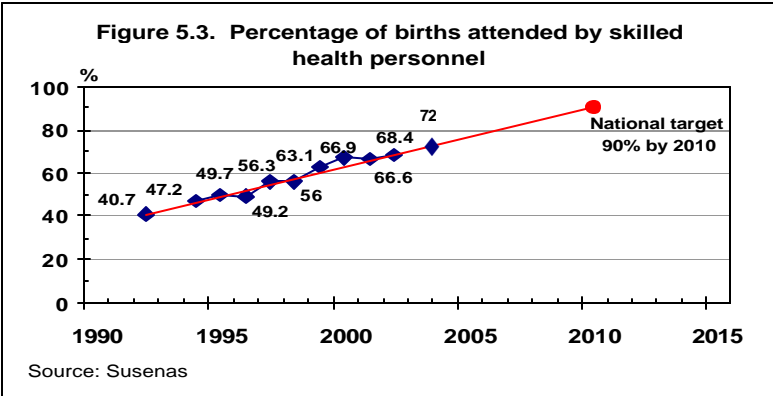
**Sepsis:** Sepsis, another important factor of maternal mortality, often occurs due to poor hygiene during delivery or untreated sexually transmitted infections. It accounts for 10 percent of maternal deaths, compared to 15 percent globally. The early detection of infection during pregnancy, clean delivery and proper post-partum care are crucial to address the problem of

sepsis. Prolonged labour accounts for nine percent of maternal deaths in Indonesia, compared to eight percent globally.

**Contraceptive prevalence rate:** Modern contraceptives play an important role in reducing unwanted pregnancies and, therefore, deaths from unsafe abortions. The IDHS 2002-03 showed that the estimated unmet need for contraceptives was nine percent and has not changed much since 1997. There has been a slight increase in the contraceptive prevalence rate in Indonesia – from 50.5 percent in 1992 to 54.2 percent in 2002 (Figure 5.2); the Selected Indicators of Social-Economic of Indonesia shows the rates to be 74 percent in 2005 .



**Proportion of births attended by skilled health personnel:** The patterns of maternal mortality show the importance of obstetric and neonatal emergency care, and attendance at the birth by skilled health personnel. Although most women deliver at home, the presence of skilled staff during delivery can help recognize a medical emergency and support the family’s decision to seek emergency care. The proportion of births attended by skilled health personnel has increased steadily – from 40.7 percent in 1992 to 68.4 percent in 2002 (figure 5.3). This figure, however, varies between provinces. In 2002, Southeast Sulawesi had the lowest rate at 35 percent and Jakarta the highest at 96 percent. But in 2004, deliveries attended by skilled health personnel had reached 72.



**Underlying**

The risk of maternal mortality can be aggravated by the existence of anaemia and infectious

**causes of death:**

diseases such as malaria, tuberculosis, hepatitis and HIV/AIDS. In 1995, the prevalence of anaemia was alarmingly high – at 51 percent among pregnant mothers and 45 percent among post-partum mothers.

## **Challenges**

***Increasing needs:*** Meeting the MDG for maternal mortality poses a major challenge in terms of demographic transition, health decentralization, service delivery and public funding. The Indonesian population of 206 million, according to 2000 Census, is estimated to increase to 242 million by 2015. The need for health services will increase. The structure of the population will have a higher proportion of women of reproductive age, and the need for health services will increase.

***Health decentralization:*** This will also remain a key challenge in coming years. The roles and responsibilities between central and local governments are not clearly defined and understood. All institutions will need to adjust to their new roles, and networks will need to be built and strengthened at all levels. With decentralized budgets, low-income regions will have difficulties in allocating sufficient budgets for health, with other competing development priorities. The central level will play an important role in supporting districts in managing their resources. Advocacy efforts will also be essential to ensure that commitments to improve maternal health are implemented at all levels.

***Service delivery and utilization:*** These are the other key challenges. The issues are the quality of private and public services, and disparities in accessing health services, especially for the poor and vulnerable groups. Recent data shows that the number of village midwives providing services to the poor and vulnerable groups has decreased. Tackling this new and largely unexpected situation is one of the challenges faced by the central and regional governments. As limited household resources prevent access to essential services, innovative mechanisms to address financial constraints at the household level are urgently needed.

***Coordination and donors:*** Coordination between related institutions and with donors is crucial to avoid overlapping and piecemeal projects, so that improvements in maternal health can be more effectively and efficiently achieved. The sustainability of programmes will also be a challenge in coming years.

## **Policies and programmes**

***A national priority:*** Reducing maternal morbidity and mortality has become a central priority in health sector development, as stated in the National Development Programme (Propenas). Its components include improving reproductive health services; improving communicable disease control; improving basic and referral health services; reducing chronic energy deficiency; and reducing anaemia among women of reproductive age, during pregnancy, delivery and the post-partum period.

***Making Pregnancy Safer:*** Within the framework of the Healthy Indonesia 2010 vision, a national strategy called Making Pregnancy Safer (MPS) has been set up as a continuation of the

Government's Safe Motherhood Programme to accelerate the reduction of maternal and neonatal morbidity and mortality. MPS promotes a systematic and integrated planning approach to clinical interventions and health systems, relying on partnerships among government institutions, donors, lenders, the private sector, communities and families. It emphasizes providing appropriate and continuous skilled care, with a focus on the availability of skilled birth attendants, and pays special attention to community-based actions to ensure women and newborns have appropriate access to care.

**Strategies:** There are four main strategies for reducing maternal morbidity and mortality. The first is to improve access to and coverage of cost-effective and quality maternal and neonatal healthcare. The second is to build more effective partnerships through cooperation of programmes, institutions and partners. The third is to empower women and families by improving their knowledge of and attitudes towards health behaviour. The fourth is to involve communities in the provision and utilization of available maternal and neonatal health services.

**Messages:** The three key messages of MPS are that every delivery should be assisted by a trained health provider; every obstetric and neonatal complication should be managed adequately; and every woman of reproductive age should have access to services for preventing unwanted pregnancy and managing the complications of unsafe abortions.

**Special groups:** Special attention is needed for low-income and vulnerable groups in peri-urban and rural areas, as well as people in remote areas, particularly young women who do not have adequate access to health services. The Social Safety Net Programme, launched in 1998, ensured funding for basic service provision and will need to be maintained.

**Factors in maternal deaths:** The wider context in which maternal death occurs also needs to be addressed. Maternal death is often the result of complex and multiple factors in more than one sector. The correlation of safe deliveries with a woman's educational level and her use of contraceptives is well known. Adequate reproductive health services for adolescents are also needed. Gender issues and reproductive rights for both men and women still need to be emphasized and promoted at all levels.

## **GOAL 6: COMBATING HIV/AIDS, MALARIA, AND OTHER DISEASES**

### **Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS**

Indicators used:

- HIV prevalence among 15 to 24 years old pregnant women
- Condom use at last high-risk sex
- Condom use rate of the contraceptive prevalence rate.
- Percentage of population aged 15 to 24 with comprehensive correct knowledge of HIV/AIDS

### **Status and trends**

**Status:** The first AIDS case reported in Indonesia was a foreign citizen in Bali in 1987. In the following years, reports came from more provinces. The number of reported AIDS cases has

continued to rise since 1987, affecting all age groups, particularly adolescents and adults of productive age. By the end of September 2003, 1,239 AIDS and 2,685 HIV cases had been officially reported. Experts estimate that there are 90,000 to 130,000 Indonesians living with HIV. With 2.5 percent birth rate, it is thought that 2,250 to 3,250 infants at risk of HIV infection will be born each year. The most common mode of transmission is through sexual intercourse, followed by needle abuse in injecting drugs.

***Injecting drug user:*** Surveillance data in hospitals for drug addiction in Jakarta showed an increase in HIV infection among injecting drug users from 15 percent in 1999 to 48.8 percent in 2000 and 47.9 percent in 2002. Data from these hospitals also recorded that 15 percent of young people seeking medical services are HIV-infected.

***Commercial sex workers and other high risk groups:*** The sex industry comprises approximately 150,000 female sex workers. Among these women, HIV rates are high: in Merauke, Papua, 26.5 percent of female sex workers are already infected by HIV. Infection rates are also high in prisons and correctional institutions; for example, at one institution in Jakarta, 22 percent of the inmates are HIV-infected.

***Condom use at last high-risk sex:*** Among commercial sex workers, the rate of condom use when they last had high-risk sexual intercourse was reported to be 41 percent, but this is by no means consistent. There are approximately seven to 10 million male clients of sex workers in Indonesia, but fewer than 10 percent of commercial sex workers consistently use condoms to protect themselves from infection. A survey on commercial sex workers in 13 provinces showed that condom use during last sexual intercourse varied between regions, ranging from 18.9 percent in Karawang, West Java, to 88.4 percent in Merauke, Papua.

***Condom use rate of the contraceptive prevalence rate:*** Among the general population, National Socio-Economic Surveys (Susenas) data show that the proportion of contraceptive-using married women of reproductive age (from 15 to 49 years) who use condoms is very low, at 0.4 percent in 2002, and has remained under 1 percent since 1994.

***Knowledge of HIV/AIDS:*** The percentage of young people (aged 15 to 24) with comprehensive correct knowledge of HIV/AIDS can be estimated through proxy indicators from surveys. In 2002-03, 65.8 percent of women and 79.4 percent of men in the 15 to 24 age group had heard of HIV/AIDS. Among women of reproductive age, the majority had heard of HIV/AIDS (62.4%), but only 20.7 percent knew that using a condom every time would prevent them from HIV/AIDS and 28.5 percent knew that a healthy person could be infected with HIV/AIDS. One study showed that only 38.4 percent of Jakarta high school students, aged from 15 to 19, in 2002 correctly identified ways of preventing sexual transmission of HIV/AIDS and rejected major misconceptions. Another study in West Java, South Kalimantan and East Nusa Tenggara (NTT) found that 93.3 percent of young people knew that HIV could be transmitted by sexual intercourse, but only 35 percent knew that sharing needles could also transmit the disease, and 15.2 percent still believed that normal social contact could transmit HIV.

***Pregnant women and infants:*** The prevalence of HIV among pregnant women was 0.35 percent in Riau and 0.25 percent in Papua. Voluntary counselling and testing (VCT) programmes in

North Jakarta showed that 1.5 percent of pregnant women in 2000, and 2.7 percent in 2001, were HIV-positive. Those using VCT services probably knew that they were at risk, and the data are not representative of HIV infection among pregnant women in general. Nonetheless, these high rates indicate that transmission into communities is taking place through the bridging population. Passive reports from 1996 to 2000 showed 26 pregnant women and 13 infants were infected by HIV from East Java, Jakarta, Papua, Riau and West Java.

**Young people and children:** To date, the prevalence of HIV/AIDS among people aged 15 to 29 is estimated to be still below 0.1 percent. The number of HIV-infected children is still low compared to that of some other countries. Twelve HIV/AIDS cases were reported among children under four years of age, four in the 5-14 age group, and 67 in the 15-19 age group. Reported cases are probably much less than the real numbers, and therefore, strengthening surveillance systems at every level of administration is crucial.

## **Challenges**

**Large-scale epidemic:** The biggest challenge will be preventing a large-scale generalized HIV epidemic. The HIV epidemic in Indonesia is concentrated, with still-low HIV infection rates in the general population, but with high incidence among certain populations. Trends indicate that Indonesia is at risk of an epidemic on a much larger scale in the near future. The alarming rise of HIV infection in high-risk groups in several parts of the country is one indication of the sharp increases to come. It is estimated that, by 2010, there will be approximately 110,000 people suffering from AIDS or who have died because of AIDS, and one million more who are HIV-infected.

**Risk factors:** In Indonesia, risk factors fuelling the spread of HIV/AIDS transmission include high HIV prevalence rates among high-risk groups; the increasing use of injecting drugs; risky practices such as needle sharing; high rates of sexually transmitted diseases among children working and living on the street; a general unwillingness among male clients of sex workers to use condoms; high migration rates, population displacement and movement; and the lack of adequate knowledge of and information on how to prevent HIV/AIDS, especially among young people. Effective programmes to address these risk factors include harm reduction among injecting drug users. Other challenges include the limited supplies and high prices of anti-retroviral drugs.

## **Policies and programmes**

**National and international commitments:** The rapid spread of HIV/AIDS, especially among high-risk groups, is a major concern for the Government of Indonesia. National responses in HIV/AIDS control are a reflection of the Government's international commitments to the United Nations (UN) Declaration of Commitment of the UN General Assembly Special Session (UNGASS) on HIV/AIDS (2001), the Association of Southeast Asian Nations (ASEAN) Declaration on HIV/AIDS (2001) and the UN Declaration, "A World Fit for Children (2002). HIV/AIDS control in Indonesia comprises prevention; care, support and treatment for people living with HIV/AIDS; and surveillance.

**Prevention:** Particularly relevant to the situation and of high priority, is the strategy of HIV/AIDS prevention implemented through information, education and communication (IEC) campaigns conducted in ways appropriate to cultural and religious values. Pregnant women are encouraged to visit antenatal care clinics to obtain HIV information, counselling and services, including information on preventing mother-to-child transmission. Other interventions for disease control are aimed at high-risk groups, such as commercial sex workers and their clients, infected people and their partners, injecting drug users, and health workers exposed to HIV/AIDS.

**Care, support and treatment for people living with HIV/AIDS:** VCT clinics at existing health facilities provide care, support and treatment for people with HIV/AIDS. VCT is conducted not only by the government but also by private health facilities and non-governmental organizations (NGOs). Such efforts emphasize the importance of caring for people living with HIV/AIDS while protecting their human rights by reducing or eliminating stigma and discrimination. To improve the quality of services, more training and education are needed, especially for service personnel, enhanced supplies of the required drugs and more guidance on care, support, treatment and counselling.

**Surveillance:** The surveillance of HIV/AIDS and other sexually transmitted diseases includes systematically collecting, processing and analyzing data, and providing information on the numbers, prevalence and trends among population groups with different risk levels.

**Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases**

Indicators used:

- Malaria prevalence and death rates
- Percentage of population using effective prevention against malaria
- Percentage of population with malaria effectively treated
- Tuberculosis prevalence and death rates
- Directly observed treatment – short course (DOTS) tuberculosis detection rate
- Directly observed treatment – short course (DOTS) tuberculosis success rate

**i. Malaria**

**Status and trends**

**Malaria prevalence and death rates:** Nearly half the Indonesian population – more than 90 million people – lives in malaria endemic areas. About 30 million cases of malaria are expected to occur annually, only 10 percent of which will be treated in health facilities. The highest disease burden is in the eastern provinces where malaria is endemic. Most rural areas outside Java-Bali also have a risk of malaria, which has re-emerged in Central Java and West Java. Data from public facilities in 2001 estimate malaria prevalence as 850.2 per 100,000 people, with rates as high as 20 percent in Gorontalo province, 13 percent in NTT and 10 percent in Papua. The National Household Health Survey (2001) estimated the malaria-specific death rate at 11 per 100,000 for men and 8 per 100,000 for women.

**Percentage of population using effective prevention against malaria:** Prevention efforts focus on minimizing the contact between humans and mosquitoes via bed nets and residual house spraying. Environmental management and larviciding can be used in selective ecological settings dependent on the vector species. Insecticide-treated mosquito bed nets are an effective way to prevent malaria, particularly for the most vulnerable groups, i.e., pregnant women and children under five years. Nationally, about one in three children under the age of five years sleeps under a bed net (32%), although this proportion is higher (40.1%) among children younger than one year-old. In 2000, about 0.2 percent of children slept under an insecticide-treated bed net. One obstacle to the widespread use is the cost of bed nets, which can be relatively high for poor families.

**Percentage of people with malaria effectively treated:** Among children under five years who experienced clinical symptoms of malaria, an estimated 4.4 percent received anti-malarial drugs, while the vast majority was given other drugs to reduce fever (67.6%). Self-medication is an important but neglected area of care-seeking behaviour that needs strengthening in Indonesia through better health education.

## **Challenges**

**Links with poverty:** Malaria is a preventable condition. Its high prevalence, therefore, reflects financial and cultural obstacles to prompt and effective treatment and prevention. Malaria is linked to poverty, both as cause and effect. The disease disproportionately afflicts the poor living in remote areas, out of the reach of health services. The natural environment provides ample breeding sites for malaria-spreading *Anopheles* mosquitoes, such as stagnant rivers and streams during the dry season, or rain puddles in the forest during rainy season. But unhealthy environments are also created, such as burrow pits left by sand-excavation or mining, unattended shrimp and fish hatcheries, and denuded mangrove swamps, leading to increased vector-borne illnesses.

**Political unrest, natural disaster or population movements:** These factors may contribute to outbreaks and also to re-emerging endemic areas. Man-made disasters often exacerbate malaria incidence within internally displaced communities. High population mobility has resulted in outbreaks within areas that were previously declared free of malaria. Increased population density has encouraged people to move into forest and forest-fringe areas, where malaria is endemic. The likelihood of continuing economic pressures and social turmoil will continue to challenge malaria-control efforts.

**Limited human resources:** Since the economic crisis, health workers were retired without replacement. In Java-Bali, the number of village malaria workers (Juru Malaria Desa, or JMD) is decreasing. This is particularly alarming given that malaria workers are key to early detection and treatment. In areas that are central to Indonesia's economic development, but have a high incidence of malaria, extra village malaria workers need to be recruited to intensify detection and treatment of malaria, while refresher training remains a continuing need.

**Funding:** The funds for malaria-control activities are inadequate. The changes in roles and responsibilities associated with decentralization may threaten funding for malaria control

activities. This may be especially true for public-health activities such as disease surveillance and vector control – given that bed nets and insecticides for house spraying are relatively expensive.

**Resistance:** In all provinces, resistance has been reported – both for existing drug regimes and also for insecticides. Chloroquine-resistant strains of malaria were first identified in Indonesia in 1974 and are now prevalent across the archipelago. Inadequate treatment, inappropriate medication, high population mobility along with intense transmission dynamics led to this situation. Drug resistance implies that the existing treatment will become less and less effective and that more expensive drugs will be required in the future.

## **Policies and programmes**

**International commitment:** Malaria control and prevention will be intensified through the Roll Back Malaria (RBM) approach, an international commitment, with the following strategies: detecting early patients who need to be treated with appropriate medication; actively involving community components in malaria prevention; and improving the quality of malaria control through strengthening health staff capacity. Also important is the approach of integrating malaria eradication activities into other health initiatives, such as Integrated Management of Childhood Illnesses (IMCI), and health promotion.

**Strategies:** These include early warning systems and containment of epidemics, control through surveillance intensification, early diagnosis and prompt treatment, and selective vector control. Policies focus on emphasizing decentralization, community involvement and building partnership among sectors, NGOs and donor agencies. The Gebrak Malaria movement, which started in 2000, is the operational form of RBM and prioritizes partnerships among government institutions, the private sector and communities in preventing the spread of malaria.

**Activities:** The Malaria Control Programme in Indonesia includes eight main groups of activities: early diagnosis and prompt treatment; insecticide-treated net programmes; indoor spraying; surveillance of active and passive case detection; mass fever survey and migrant surveillance; epidemic detection and control; other control measures such as larviciding and source reduction; and capacity building. To overcome the problem of Chloroquine-resistant strains of malaria, central and local governments will begin to use new combination drugs to improve treatment success. Because these drugs are more expensive, their distribution is targeted at areas with a high prevalence of proven drug resistance.

**Disease surveillance:** Ensuring the timely flow of data from health facilities, including hospitals, closer monitoring of incidences of malaria to detect and contain outbreaks, and organizing prevalence surveys as needed, are essential disease surveillance activities. To accurately target interventions, including rational insecticide spraying, research to determine the types of mosquito populations and their habits is needed. Ideally, each province will regularly survey drug efficacy to monitor areas of parasite resistance to anti-malaria drugs.

## ii. Tuberculosis (TB)

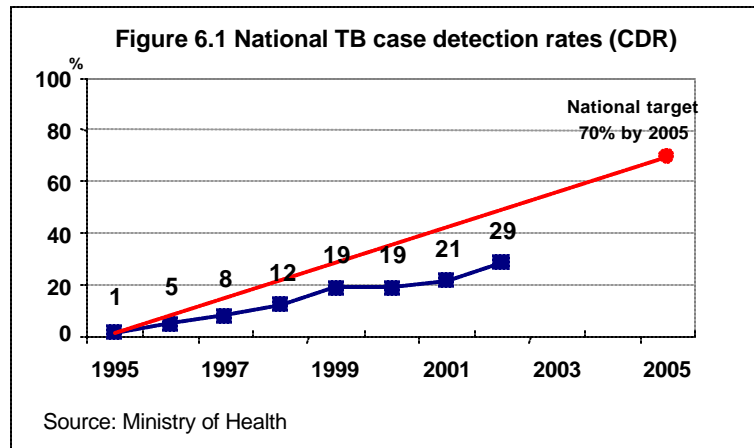
### Status and trends

**Prevalence:** Special prevalence surveys between 1964 and 1986 in Indonesia employed tuberculin skin tests in nine locations. The earliest results in rural East Java (1964-65) showed a prevalence rate of 11.7 percent and an annual risk of infection of 1.64 percent. Later surveys (1984-86) indicated a median annual risk of infection of 2.3 percent, with results ranging from 0.7 to 3.9 percent. Results indicated substantial heterogeneity by location with the median annual risk of infection at 2.5 percent between 1965 and 1986. Using these prevalence surveys, the World Health Organization (WHO) estimated in 1998 a national prevalence of 786 new and existing cases per 100,000 people, of which approximately 44 percent were sputum smear positive (SS+) infectious cases (350 per 100,000).

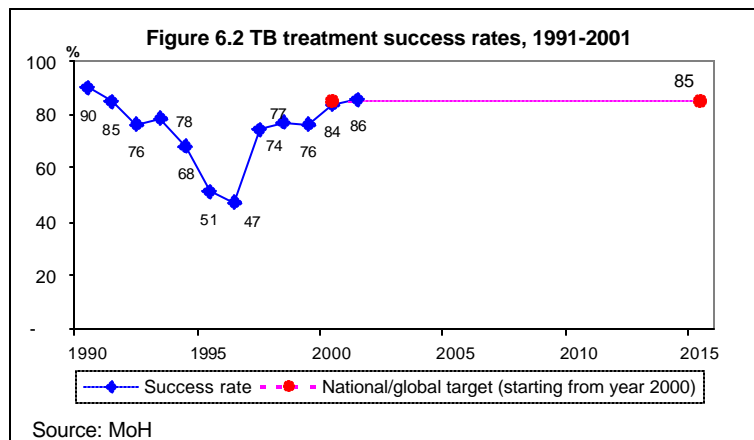
**Incidence:** Indonesia ranks third in contributing the highest number of tuberculosis cases to the world's burden, with an estimated 582,000 new cases each year, among which 259,970 are SS+ pulmonary cases. This amounts to 271 new cases per 100,000 people and 122 SS+ infectious cases per 100,000.

**Death rates and case fatality rate:** Using mathematical models, the WHO estimated the death rate from tuberculosis nationally in 1998 as 68 per 100,000 people and the case-fatality rate (all forms of TB) at nearly one in four (24%). According to the national health information system, which captures less than one in three cases, the case fatality rate associated with SS+ tuberculosis cases notified was 2 percent, in a 2001 cohort analysis. The highest case fatality rates were in South Sulawesi (3.9%), Bangka Belitung (3.6%), Aceh (3.3%), NTT (3.2%) and East Kalimantan (3.1%). The reported figures imply a death rate among SS+ cases detected nationally of approximately 0.52 per 100,000 people.

**Directly observed treatment – short course tuberculosis detection rate:** In 2002, the total notified tuberculosis cases (all forms) was 155,188, an increase from 92,792 in 2001. Among these, the number of new SS+ infectious cases reported was 76,230, or 37.5 per 100,000 people in 2002. Judging by the estimated number of new SS+ cases, it can be inferred that approximately 29.3 percent of cases are detected. Using rough extrapolations of the national estimates of incidence for each province, case detection rates were highest in Gorontalo at 88.5 percent of estimated cases detected compared with 8.4 percent in North Maluku. Based on case notifications, the number of new SS+ cases per 100,000 people range from 11.5 in North Maluku to 109 in Gorontalo. In its international commitments, Indonesia has set the target for case detection rates of new TB cases at 70 percent by 2005 (figure 6.1). Looking at the current trend, however, this target will probably be achieved only in 2013. More efforts are needed to accelerate the progress of case detection.



**Directly observed treatment success rate:** Cohort analysis shows that in 85.7 percent of cases treatment were successfully completed in 2001 (figure 6.2). In Bali, Gorontalo and Riau, treatment success rates exceeded 95 percent. This contrasts with only 15.7 percent of SS+ patients who successfully completed treatment in Papua.



## Challenges

**Strategy:** The DOTS strategy of halting the spread of tuberculosis has five components: political commitment, accurate diagnosis through sputum microscopy, treatment compliance, uninterrupted TB drug supply, and reporting and recording systems.

**Political commitment:** The government has a key role in establishing political commitment, encouraging people to seek care and complete treatment, and ensuring high-quality care. The cost of initial tuberculosis treatment is far less than treating additional new cases and buying new drugs to counter drug-resistant strains. The loss to the economy from tuberculosis is enormous. On average, a tuberculosis patient loses three to four months of time from work. Internationally, tuberculosis is a major cause of death for women of reproductive age, with most cases among family breadwinners.

**Uninterrupted drug supply:** Treatment compliance is also affected by the drug supply, which must be of good quality, regular and uninterrupted during each patient's treatment. TB drugs are categorized as Very Essential Drugs so that their supply and availability is secured by the central government. Data comparing times when basic drugs were out of stock in 2000 between public and private facilities in 13 provinces indicated that, even before decentralization, several basic drugs, including INH, were out of stock in 1.8 percent to 8.4 percent of public facilities. During the six months preceding the survey, the average number of weeks when drugs were out of stock ranged from 3.6 to 7.8 weeks in public facilities. Fewer private facilities evaluated, carried the basic drugs but the average length of time when drugs were out of stock was shorter compared with public facilities. The major organizational changes under the fiscal decentralization policies implemented in 2001, and the concomitant changes in roles and responsibilities at all levels in the system, may interrupt drug procurement and system delivery. Efforts have been made to maintain an uninterrupted drug supply to health centres. A pilot project of fixed dose combination (FDC) was planned for implementation in Central Java, East Java, South Sulawesi and Yogyakarta in 2004. In these pilot provinces, buffer stock at the provincial level was intended to maintain at 100 percent to ensure an uninterrupted supply.

**Reporting and recording systems:** Accurate information is central in determining the magnitude and extent of the tuberculosis epidemic, the quality and effectiveness of existing treatment regimes, and the extent of drug resistance. After the fiscal decentralization policies were put into place, there were problems with incomplete health information system reporting from the districts. Centrally conducted exercises began in 2002 to validate the recording and reporting system from the peripheral health service units. These validation exercises confirmed higher treatment success rates, compared to those previously recorded. Existing health information systems do not yet include cases detected in hospitals and private sector services. It will be crucial to strengthen the existing surveillance systems and prevalence surveys that employ physiologic testing, which can establish the prevalence of tuberculosis in Indonesia.

### **Policies and programmes**

**Gerdunas:** The Government of Indonesia considers tuberculosis control a national health priority. In 1999, the Minister of Health established the National Integrated Movement to Control TB, or Gerdunas. Gerdunas is a cross-sectoral movement, promoting the acceleration of tuberculosis control measures and seeking an integrated approach to tuberculosis control, involving the hospital, private sector, and all other stakeholders, including patient and community representatives. In 2001, all provinces and districts had established Gerdunas chapters, although not all are fully operational. Also, the Five-Year Tuberculosis Control Strategic Plan (2002-06), which provides the foundation for tuberculosis control activities nationwide, has been developed.

## GOAL 7: ENSURING ENVIRONMENTAL SUSTAINABILITY

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

Indicators used:

- Proportion of land area covered by forest
- Ratio of area protected to maintain biological diversity to surface area
- Energy use (barrel oil equivalent) per million Rupiah GDP
- Emissions of carbon dioxide and carbon dioxide equivalents per capita
- Consumption of ozone-depleting CFCs (metric tons)
- Proportion of population by type of cooking fuel used
- Proportion of population using biomass as cooking fuel

#### Status and trends

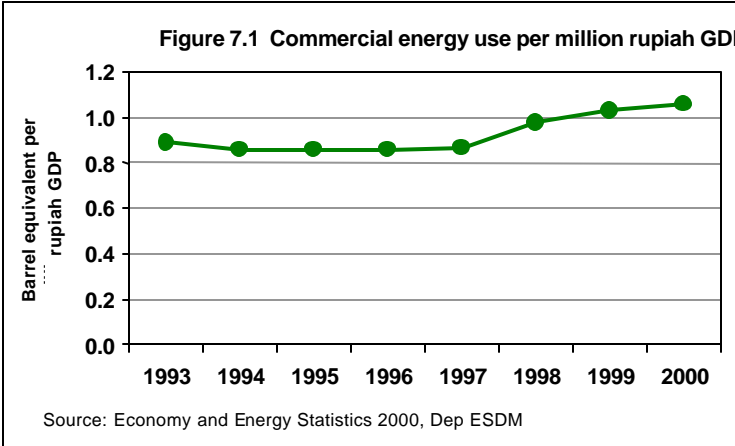
**Declining proportion of forested areas:** In 2002, the Ministry of Forestry demarcated 91.22 million hectares as forested area, which does not include three provinces still in the process of demarcation (Central Kalimantan, North Sumatra and Riau). Satellite data from 1999-2000 show that Indonesia has 72 million hectares of forested area, the rest being non-forested or areas without data. Ministry of Forestry data indicate a decrease in forested area from 130.1 to 123.4 million hectares over the period from 1993 to 2001, with the proportion of forest to total land area dropping from 67.7 to 64.2 percent. Reasons for the decrease include plundering, conversion of forested land to other uses and fire. Between 1985 and 1997, the rate of deforestation in Kalimantan, Maluku, Papua, Sulawesi and Sumatra was 1.8 million hectares a year. The economic crisis and decentralization probably accelerated this rate, raising serious concerns about ecology and watershed management.

**Categories of protected areas:** Protected areas are defined as areas dedicated to the protection and maintenance of biodiversity and ecology. Parks and conservation areas in Indonesia are classified as either totally protected areas (national parks, nature reserves and wildlife reserves) or partially protected areas (forest parks, hunting parks and natural recreation parks).

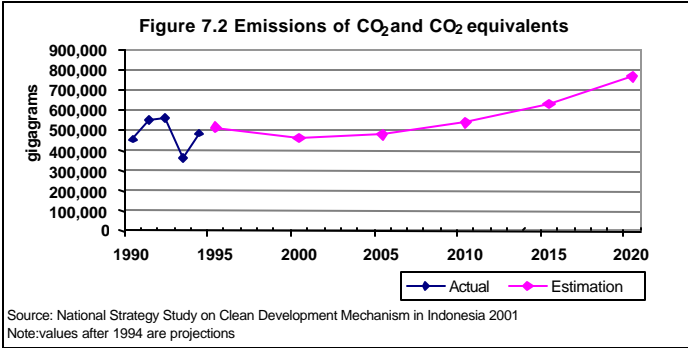
**Ratio of protected areas:** In 2000, the total protected land area in Indonesia was 50.68 million hectares (comprising 32.34 million hectares of protected forest and 18.34 million hectares of conservation land areas), or 26.4 percent of the total land area of Indonesia. The bio-region of Papua has the highest proportion of protected areas (41.3%), followed by Sulawesi (32.8%), Maluku (26.6%), Nusa Tenggara (24.4%), Sumatra (23.5%) and Kalimantan (19.5%). The lowest proportion is in Java-Bali (9.5%). Being an archipelago, Indonesia also has a significant proportion of protected maritime areas (4.7 million hectares), which include nature reserves, wildlife reserves, recreation parks and national parks.

**Decreasing energy efficiency:** Commercial energy use (excluding biomass) increased over the period 1993 to 2000 from 292.8 to 421.3 million barrels equivalent, at an average growth rate of 5.4 percent, while the total energy use (including biomass) increased at an average growth rate of 3.8 percent. From 1993 to 2000, the commercial energy use per million Rupiah Gross Domestic

Product (GDP) – at constant 1993 prices – increased, indicating decreased energy efficiency (Figure 7.1).

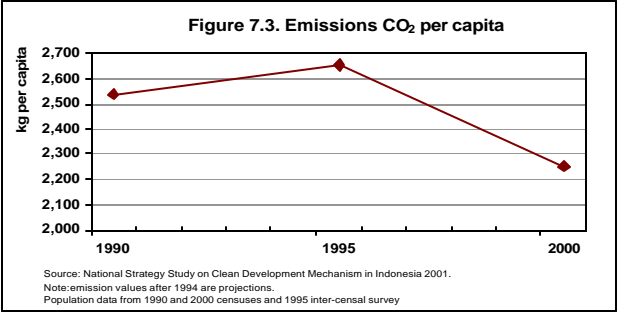


**National Emission Inventory:** Indonesia inventoried all major greenhouse and related gases – including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) – in its First Indonesia National Communication in 1994. The precision of these estimates depends on the availability and reliability of data on activities and emission factors. Among the three key sectors – energy, agriculture and forestry – estimates from the forestry sector have the highest degree of uncertainty, while those from the energy demand sectors are less uncertain.

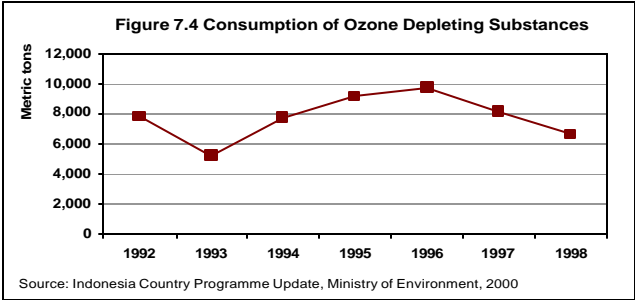


**Greenhouse gas emissions:** From 1990 to 1994, the emission of greenhouse gases increased overall by 6.5 percent with carbon dioxide comprising 70 percent of the total. During this period, 35 to 60 percent of total emissions came from energy requirements in the economic sectors (industry, transportation, housing and commercial), 20 to 50 percent from the forestry sector and around 15 to 25 percent from the agricultural sector. The large fluctuations were mainly due to changes in the forestry sector. Estimates indicate an increase in 1995 and decrease in 2000 (Figure 7.2). Per capita emission trends are shown in Figure 7.3. Over the next two decades, emissions are expected to grow by about 3 percent a year. The energy demand sectors are the

biggest contributors to the total emission, while the forestry sector is expected to contribute 11 to 33 percent and the agricultural sector about 12 percent.



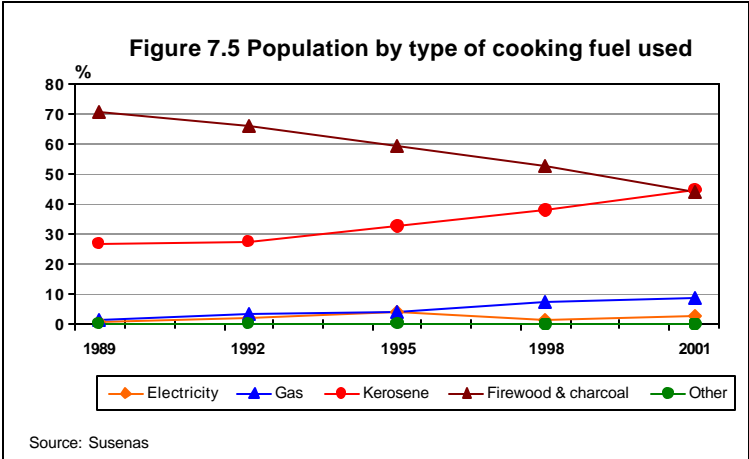
**The consumption of ozone-depleting chlorofluorocarbons:** From 1992 to 1998, the use of ozone-depleting chlorofluorocarbons (CFCs) fluctuated (Figure 7.4). In 1992, consumption was 7,815 metric tons, equivalent to 6,567.3 ODP (Ozone Depleting Potential) tons. These substances are defined by the Montreal Protocol on Substances that deplete the Ozone Layer, and they are used in foam, refrigeration, air conditioning, aerosols and solvents.



**Weak control of ozone depleting substances:** Since 1992, Indonesia has been a participating country in the Programme for the Phase-Out of Ozone Depleting Substances under the Montreal Protocol. In 1998, the Minister of Industry and Trade issued decrees banning the import of CFCs and goods containing CFCs, and the production of goods using CFCs. However, since the economic crisis, the demand for ozone-depleting substances has probably increased and is being met by illegal imports and trade. Enforcing the ban is difficult in a large archipelago like Indonesia. To strengthen control and supervision, the Ministry of Industry and Trade issued a decree in 2002, which aims to help small and medium enterprises in upgrading their technology to become CFC-free and compatible with international standards. The government has also put in place reporting and monitoring mechanisms to reduce illegal imports and distribution.

**Use of biomass as cooking fuel:** The proportion of people who use biomass energy is one of the indicators used by the World Health Organization (WHO) to monitor indoor pollution. The WHO defines this indicator as the percentage of population burning as a source of fuel any material derived from plants and animals. For Indonesia, the Ministry of Energy and Mineral Resources defines biomass as firewood and agricultural waste, which includes grain husk, rice stalks, oil palm stems and coconut shell. Biomass is a major cooking fuel in Indonesian

households; others include kerosene, gas and electricity. The biomass cooking fuels most used in Indonesia are firewood and charcoal but the percentage of households using them decreased from 1989 to 2001. This is due to the corresponding rise in the use of electricity, gas and kerosene for cooking (Figure 7.5).



**Challenges**

Economic crisis and reform, decentralization, globalization and governance are key determinants for sustainable development and the restoration of depleted natural resources in Indonesia. The economic crisis affected about one third of communities living in forested areas and led to a surge in illegal logging. Decentralization offers opportunities for improving natural resources management, conservation, and efficiency, but also poses risks for biodiversity, which may be regarded by regional governments merely as a source of revenue.

**Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation**

Indicators used:

- Proportion of population with sustainable access to an improved water source
- Proportion of population with access to improved sanitation

**Status and trends**

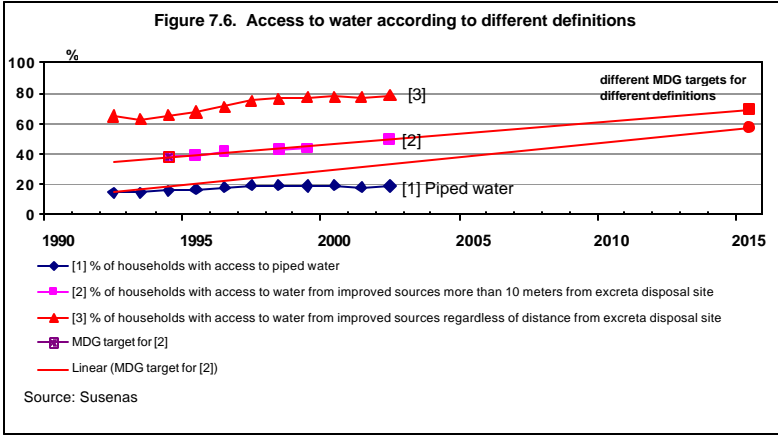
**Water**

*Definitions:* While there are no criteria for defining sustainable access, there are several definitions for “improved water source.” The status of coverage in Indonesia varies according to the definitions used:

- (1) Percentage of households using piped water, a definition regarded as the most reliable and closest to health standards.

- (2) Percentage of population using water from “improved sources” *more than 10 meters away from an excreta disposal site*. The “improved sources” include piped water, pumped water, packaged water, and water from a protected well or protected spring or rain water.
- (3) Percentage of households using water from the “improved sources” defined as above but *regardless of distance from excreta disposal sites*. This definition is most likely to include contaminated water.

Indonesia still has very low coverage in piped water (definition 1) and progress has been negligible over the past decade. If definition 2 is used, currently only 50 percent of the population have access to water from improved sources (Figure 7.6).



**Lack of reliable routine data:** Major constraints in achieving the MDG target for drinking water are the lack of reliable routine data, the inability to identify areas lacking safe drinking water, and data that relate more to quantity than quality. Routine data for urban areas are generally of better quality, since these areas are supplied by PDAMs, which have databases on customers and are better managed than rural providers are. Local organizations that supply water to rural areas have no clear mechanisms for data collection and compilation.

**High levels of unaccounted for water:** “Unaccounted-for water”, also known as water leakage, is water that does not generate income for PDAMs. In 2000, the leakage rate for PDAMs varied between 22 and 43 percent, with an average of 36 percent. The leakage may be due to poor governance and management, such as water theft and weaknesses in recording, or to technical reasons, such as physical leakages within the network. Efforts to reduce the leakage include technical training, salary restructuring, monitoring and pipeline replacement. Cutting back the leakage linked to poor management is less costly and can be tackled through measures such as improving managerial skills.

**Limited involvement of the private sector:** Involvement of the private sector has so far been limited: only six private water supply companies are operating. This is partly because of the uncertainty of laws regulating privatization and public-private partnerships in building and developing water services. Clear-cut laws and a guarantee of law enforcement will be critical,

since the construction and development of water-supply systems are long-term investments requiring substantial funds.

***Deteriorating quality and quantity of primary water resources:*** Environmental degradation greatly affects the quality and quantity of primary water resources. The availability of water from primary sources in Java and Bali has reached a critical point. Decentralization has exacerbated the situation: the authority of the regional water-supply companies extends only to the boundaries of each region, making it difficult for regions that do not have a primary water source. Factors affecting water quality include rapid industrialization, particularly in urban areas; population density; and pollution from household and industrial waste, mining and pesticides.

## **Sanitation**

***Access to basic sanitation:*** Available data show that access to basic sanitation facilities is around 78 percent (90 percent in urban and 69 percent in rural areas) in 2004. The data do not reflect ownership and only shows utilization of private or public facilities. The data also do not indicate the real condition of facilities: whether they are functioning properly; and if these facilities meet health and technical standards. Real coverage is therefore probably lower.

## **Challenges**

### **Water**

- Agreement is needed on the quality of water supplied to communities and on compliance with safe drinking water standards. This is still being debated, as it involves huge costs. The priority is to ensure access to water of a quality that communities themselves can treat at reasonable cost, by boiling or filtering to make it suitable for drinking.
- PDAMs need to increase the independence of management to operate efficiently and improve accountability.
- Key challenges include: ensuring that planning is linked to demand; mobilizing funds through investment, government budget allocations or through setting rates according to production costs and consumer capacity; improving service quality to communities; and promoting health and hygiene among communities to create a demand for and increase ownership of safe water facilities.
- A budget of Rupiah 42.8 trillion up to 2015, or Rupiah 3.3 trillion a year, is needed to increase the supply capacity for drinking-water services. The challenge for the government will be to use the available funds strategically. Given the limited government budget, it will be crucial to increase the participation of businesses, the private sector and communities in water-supply investment and to mobilize funds from communities.
- More community involvement is needed in planning, developing and operating water-supply services.
- A valid and accurate database for both urban and rural areas still does not exist and will be needed for measuring progress towards MDG achievement.

## **Sanitation**

- One of the challenges is to improve the quality of sanitation facilities to meet technical and health standards, while ensuring that communities can maintain them easily.
- Another is to raise awareness among communities on health and hygiene issues and the importance of using proper latrines. The central and regional governments, legislators and the private sector also need to be mobilized to provide greater support to sanitation.