

# **CAMBODIA**

## **“Enhancing Social and Gender Statistics in Cambodia: Examination of Different Data Sources”**

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## **Examination of Different Data Sources**

### **1. Introduction**

Cambodia has suffered from protracted civil wars for more than two decades, which caused deterioration and destruction for the social and economic atmospheres. After the 1993 national election, Cambodia has started gradual progress in all fields of economy for national rehabilitation and construction. With the technical and financial support, Cambodian Government has authorized Ministry of Planning (MOP)/ National Institute of Statistics (NIS) to collect and conduct, compile, analyze and disseminate the information and data from the results and findings of major surveys including Cambodia Demographic Surveys (CDS), General Population Census of Cambodia (GPCC), Socio-Economic Surveys of Cambodia (SESC), Cambodia Demographic and Health Surveys (CDHS), Establishment Surveys of Cambodia (ESC), Labour Force Surveys (LFS) and Child Labour Surveys (CLS). Besides the Surveys, NIS has also directly and regularly gathered data sources from line ministries of government to supplement the needs of complete data sources for analyzing and compiling Statistical Year Book. Although the information and data sources are significantly available, it is still somehow inadequate or limited for multi-purposes as needed by all relevant data users as well as government's agencies, national and international institutions towards addressing social issues and formulating potential development policies in Cambodia for Millennium Development Goals (MDG). Moreover, with the exception of NIS's data sources and of the regular administrative records, other data sources gleaned by different agencies (both public and private) are often not available to the demand of data users. With various data sources and the unavoidable data discrepancies ensuing, improvement, updating and integration of this materiel is needed for reliable and join use, as require for working out MDG in Cambodia. Hence, we propose here to examine the various data sources, their quality and coverage, with the purpose to enhance their relevance with the Cambodia's real situation. The data sources should be possibly and periodically verified and validated nation-wide by joint efforts and cooperation among NIS, line ministries and other institutions.

### **2. Objective**

The MDG is a set of goals to be achieved by 2015. They include a range of targets and indicators that are to be employed to monitor progress on a range of poverty issues. The MDGs have been adopted by 147 head of states and 189 countries, and also by some international agencies, including the IMF, the World Bank, as well of the Development Assistance Community of the Organization of Economic Development Countries (OECD). The Royal Government of Cambodia (RGC) has accepted the global MDG, as adopted by the Millennium Summit in New York during the 1990s. The Millennium Declaration identifies 8 major goals (with a total of 18 targets and 48 indicators).

At the same time, a localization of Millennium Development Goals in order to adapt them to Cambodia and set up appropriate Cambodian Millennium Development Goal (CMDG) is being undertaken in order to make people to get better understanding, to quantify information, to establish baseline data for the country, in order to translate those global goals into national level.

Refer to the above MDG goals, Cambodia has to identify its own set of priorities among 48 indicators, suitable to situation of Cambodia, particularly with regard to methodology and data sources side. Several sources of data indeed are provided by different institutions and international agencies to measure poverty, health, education, gender, and sustainable environment.

The aim of this report is to identify statistics and indicators needed to measure the achievement of national goals relating to social and gender issues. While doing this, reference will also be made to the Millennium Development Goals (MDG) and the indicators identified in the United Nations

Common Country Assessment (CCA). As MDG's indicators have been released at a global level, only part of them will be appropriate and/or manageable for each individual country. Therefore, each country has to refine definitions and methodology systems, in particular for gender and social issues. For example, in Cambodia, amongst these MDG's indicators, we have to identify most reliable ones, both from methodology and sources of data point of view. All indicators have to be clearly elaborated and expressed, with regards to definition, methodology and data sources as follows:

### **2.1. Poverty**

- SESC 1993/94 focusing mainly on consumption expenditure and nutrition status
- SESC 1996 were to provide current information needed for development planning and monitoring as well as multi-sectoral analysis, as this process was initiated with the first Socio Economic Development Plan (SEDP-I). The data were to serve as bases for national accounts estimation as well
- CSES 1997: the objective of this survey was to collect data needed for the measurement of living standards and information required for poverty monitoring and analysis as well as for establishing and updating socio-economic indicators.
- CESC 1999 were to obtain information on household consumption, income, and earnings, as well as variables that provide related information on living standards of the Cambodian population, required to analyze and monitor poverty.

### **2.2. Education**

- SESC 1993/94, 1996, 1997, 1999 and Cambodia Child Labour Survey (CCLS) 2001 focused on literacy, education attainment and current school attendance
- General Population Census 1998
- Administrative records indicators form Education Management Information System (EMIS) Center, Ministry of Education Youth and Sports (MoEYS)

### **2.3. Health**

- CDHS 2000 provides information on infant and child mortality, fertility references, family planning behavior, maternal mortality, utilization of maternal and child health services, health expenditures, women's status, domestic violence, knowledge and behavior regarding HIV/AIDS and other sexually transmitted infections (STIs), Ministry of Planning and Ministry of Health
- Report on HIV Sentinel Surveillance in Cambodia 1999, Ministry of Health
- Report on HIV Sentinel Surveillance in Cambodia 2000, Ministry of Health
- Administrative records (National Health Statistics (NHS))

## **3. Scopes and Coverage of the Surveys**

SESC 1993/94 included 498 sample villages and 5,578 sample households. The survey was administered over four rounds to capture seasonal patterns in consumption. The scope and coverage of the survey had to be restricted because of the disturbed situation and threats to social peace and the infeasibility of conducting fieldwork in several parts of the country.

SESC 1996 included 780 sample villages and 9,000 sample households.

The CSES 1997 included 474 sample villages and 6,010 sample households.

CSES 1999 sample size was 6,000 households, drawn from 600 sample villages from all provinces in the country.

LFS 2000 involved collection of data on the demographic and economic characteristics of the labor force. It was a nation-wide survey and the sample was of 5,000 households drawn from 500 sample villages.

CDHS was a larger sample (15,300 households) would be able to provide estimates at the provincial level for 17 major provinces.

CCLS 2001 was nationwide representative sample of 12,000 households within 600 sample villages and targeted to children aged between 5 and 17 years old.

General Population Census was conducted 1998 by *De facto* method.

## 4. Methodology and Definition

### 4.1. Poverty

#### *Proportion of population below \$1 per day (global goal)*

The SESC data through households consumption, will be used to assess the poverty. For Cambodia, poverty will be measured as the proportion of population with consumption per capita less than US\$ 0.50 per day (World Bank), expressed as percentage of the total population.

Source: CSES, Ministry of Planning.

#### *Poverty gap index*

Poverty gap ratio is the product of "Incidence of poverty" and "Depth of poverty".

Incidence of poverty is defined as the proportion of population below the Cambodian poverty line (see "Poverty Profiles" built from CSES 93-94, CSES 97, CSES 99<sup>1</sup>).

Depth of poverty is defined as the difference between the poverty line and the average consumption of the population living under poverty line, expressed as fraction of the poverty line.

Source: CSES, Ministry of Planning.

#### *Share of poorest quintile in national income (global goal)*

Inequality is defined as the income/expenditure of the poorest 20% of the population divided by total income/expenditure of the whole population. (It makes use of average monthly per capita income/expenditure by quintile group of household).

Source: CSES, Ministry of Planning.

### 4.2. Education

#### *Net enrolment ratio in primary education*

It is defined as enrolment in primary education of the official primary school age group expressed as a percentage of the corresponding population.

Source: EMIS, Ministry of Education, Youth and Sport.

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<sup>1</sup> Prescott, N. and M. Pradham (1997), *A Poverty of Cambodia*, World Bank, Washington DC  
 Knowles, J. (1998), *A Poverty Profile of Cambodia-1997*, Ministry of Planning, Phnom Penh  
 Gibson, J. (1999), *A Poverty Profile of Cambodia-1999*, draft report, World Bank

*Proportion of pupils once enrolled in grade 1 who enroll in grade 5*

The proportion of school children enrolled in grade 1 of primary education, who have enrolled in grade 5 and as a percentage of the initial number of school children in grade 1.

Source: EMIS, Ministry of Education, Youth and Sport.

*Adult literacy rate (literacy rate of 15-24 years old)*

It is defined as the literate (15-24 years) expressed as a percentage of population (15-24 years).

Source: CSES and GPCC, Ministry of Planning.

*Ratio of girls to boys in primary, secondary and tertiary education*

Ratio of girls to the boys in primary education (grade 1-6) is expressed as number of girls enrolled in primary education to the number of boys enrolled in primary education.

Ratio of girls to the boys in secondary education (grade 7-12) is expressed as number of girls enrolled in secondary education to the number of boys enrolled in secondary education.

Ratio of girls to the boys in tertiary education is expressed as number of girls enrolled in tertiary education to the number of boys enrolled in tertiary education.

Source: EMIS, Ministry of Education, Youth and Sport.

*Ratio of literate females to males of 15 to 24 years old*

It is defined as the ratio of females adults literacy rate (15-24 years) expressed as a percentage of males adults literacy rate (15-24 years).

Source: CSES and GPCC, Ministry of Planning.

**4.3. Health***Prevalence of underweighted children (under five years of age)*

It is the ratio of number of underweighted children (under 5 years of age) to total number of children (under 5 years of age). A child is considered to be under weight, if his or her weight-for-age-ratio is more than two standard deviations below the median weight for the healthy reference population.

Source: CDHS, Ministry of Planning and Ministry of Health.

*Under five mortality rate*

It is defined as the number of deaths under five years of age expressed as per thousand total live births.

Source: NHS and CDHS, Ministry of Planning and Ministry of Health.

*Infant mortality rate*

It is defined as the deaths under one year of age expressed as per thousand live births.

Source: NHS and CDHS, Ministry of Planning and Ministry of Health.

*Proportion of one year old children immunized against measles*

It is defined as the children immunized against measles (one year old) expressed as percentage to total children (one year old).

Source: NHS and CDHS, Ministry of Planning and Ministry of Health.

*Maternal mortality ratio*

It is defined as the number of maternal deaths expressed as per hundred thousand live births.

Source: NHS and CDHS, Ministry of Planning and Ministry of Health.

*Proportion of births attended by skilled health personnel*

It is defined as the number of births attended by skilled health personnel expressed as a percentage of total number of births (live and still birth).

Source: NHS and CDHS, Ministry of Planning and Ministry of Health.

*HIV prevalence among 15-24 year old pregnant women*

It is defined as HIV among (15-24 year) pregnant women expressed as a percentage of total pregnant women.

Source: HIV Sentinel Surveillance, 2002, NCHADS, Ministry of Health.

*Contraceptive prevalence rate*

It is defined as the number of currently married women using any kind of contraception as a percentage of total currently married women.

Source: CDHS, Ministry of Planning and Ministry of Health.

*Number of children orphaned by HIV/ AIDS*

An AIDS orphan is defined as a child under 15 whose mother (or both parents) died from AIDS.

Source: NCHADS and NAA, Ministry of Health.

*Prevalence and death rates associated with malaria*

It is defined as the number of deaths by malaria. .

Source: NHS, Ministry of Health.

*Proportion of population in malaria risk areas using effective malaria prevention and treatment measures*

It is defined as the population in malaria risk areas using effective malaria prevention and treatment measures expressed as a percentage of total population in malaria risk areas.

Source: NHS, Ministry of Health.

*Prevalence and death rates associated with tuberculosis*

It is defined as the number of deaths by tuberculosis.

Source: NHS, Ministry of Health.

*Proportion of tuberculosis cases detected and cured under directly observed treatment short course*

It is defined as the number of cases detected and cured under directly observed short course treatment expressed as a percentage of total population.

Source: NHS, Ministry of Health.

*Proportion of population with sustainable access to an improved water source*

It is defined as the number of household with access to safe water expressed as a percentage of total number of household.

Source: CDHS, CSES and GPCC, Ministry of Planning and Ministry of Health.

*Proportion of people with access to improved sanitation*

It is defined as the number of household with access to improved sanitation expressed as a percentage of total number of household.

Source: CDHS, CSES and GPCC, Ministry of Planning and Ministry of Health.

**4.4. Other Indicators**

A fourth category of indicators, as mentioned early, is also examined to measure Gender and Social statistics and other purposes in particular for Millennium Development Goal. Methodology

and data collection of below indicators are mostly based on sources different from the NIS and line ministries, but we can also rely on socio-economic surveys, labour force surveys, administrative records system, projection and/or estimation:

*Proportion of land area covered by forest*

It is defined as the total forest area expressed as a percentage of total land area.

Source: Ministry of Agriculture, Forestry and Fishery.

*Land area protected to maintain biological diversity*

It is defined as the surface of totally protected areas (Km<sup>2</sup>) expressed as a percentage of total surface of the country (Km<sup>2</sup>).

Source: Ministry of Environment

*Carbon dioxide emissions (metric tons per capita)*

It is ratio of Carbon dioxide emissions from all sources (metric tons) to the population.

Source: Ministry of Environment

*Un-employment rate of 15-to-24 years old*

It is defined as the un-employed persons (15-to-24 years) expressed as a percentage of total economically active population (15-to-24 years).

Source: LBS, Ministry of Planning.

*Share of women in wage employment in the non-agricultural sector*

It is defined as the wages of employed women in non-agricultural sector expressed as a percentage of total wages of males and females in non-agricultural sector.

Source: CSES and GPCC, Ministry of Planning.

*Proportion of seats held by women in national parliament*

It is defined as the number of women seats in national parliament expressed as a percentage of total seats in national parliament.

Source: General Assembly Secretariat, National Assembly of Cambodia.

*Telephone lines per 1,000 people*

It is defined as the number of telephone lines (include mobiles) expressed as per thousand populations.

Source: Ministry of Post and Telecommunication.

## **5. Analysis and Findings**

### **5.1. Poverty**

Poverty cuts across so many areas, therefore, it is obviously important that poverty monitoring and analysis is an inter-ministerial activity. Hence, effective mechanisms for coordination of formulation, implementation and monitoring of the poverty and its impact are crucial. There is also a need to strengthen institutional linkage and promote participation in poverty-related data collection, production and analysis. In order to make effective and common uses of the poverty-related database and to derive same results of poverty related assessment, evaluation and measurement the information of food consumption is mostly needed to collect from household socioeconomic surveys. Regarding to the poverty statistics, we consider a headcount index, which gives the proportion of population with a standard of living below the poverty line, does not indicate how poor the poor are. It is why we consider also the poverty gap index, which is the gap between poor

people's standard of living and poverty line, expressed as a percentage of poverty line. This index is very sensitive to the distribution of living standards among the poor.

Therefore, all indicators such as proportion of population below \$1per day, headcount index, poverty gap ratio (incidence \* depth of poverty), and share of poorest quintile in national income, are estimated based on components of consumption and expenditure, from socio-economic surveys. The indicators basically depend on specific factors as below.

### 5.1.1. Sample Size

Table 1: Sample Villages and households of CSES

SAMPLE	SESC 1993/94	SESC 1996	CSES 1997	CSES 1999
Cambodia:				
Villages	498	780	474	600
Households	5,578	9,000	6,010	6,000
Phnom Penh:				
Villages	160	120	120	120
Households	1,708	1,200	1,200	1,200
Other Urban:				
Villages	99	100	100	172
Households	1,151	1,000	1,000	1,720
Rural:				
Villages	239	200	254	308
Households	2,719	2,000	3,810	3,080
UNTAC <sup>2</sup> frame:				
Villages	12,798			
Households	1,754,260			
Whole Cambodia				
Villages	13,406			
Households	2,188,663			

Source: National Institute of Statistics, Ministry of Planning

<sup>2</sup> United Nations Transitional Authority in Cambodia

### 5.1.2. Seasonality and Geographical Feature

There is substantial seasonality that affects the components of consumption and expenditure of household within the data collection. For instance, the people consume more food and non-food after harvesting period and consume less during and prior to growing period. In addition, natural disasters (floods and drought) different in geographic feature, etc. also impact to condition of people's consumption and expenditure.

### 5.1.3. Technical Operations

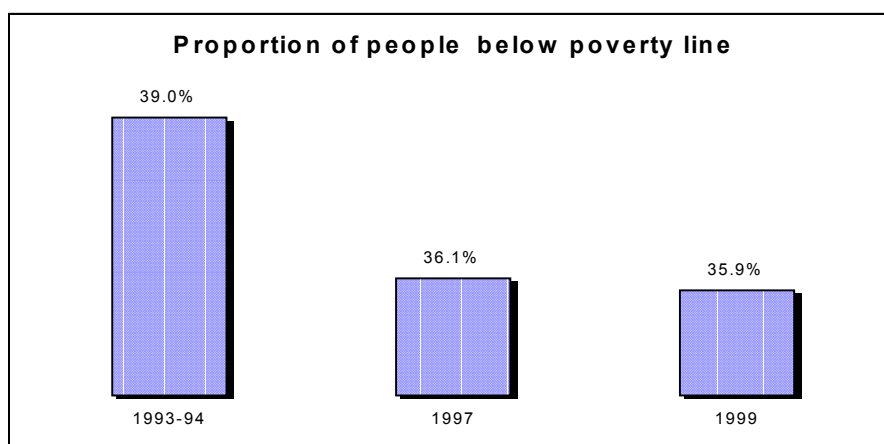
Training of enumerators and supervisors were undertaken in detailed information on household income, consumption and employment were to be canvassed in addition to collecting data on a wide range of socio-economic issue and problem in the surveys.

Field operation was carried out through asking legible member of household in the sample village. Office work included manual editing, data entry and data analysis and validation was operated at respective centers.

### 5.1.4. Output of Poverty Indicators

Graph 1 indicates the proportion of people below poverty lines<sup>3</sup> in different years from 1993 to 1999. Referring to the Socio-Economic Surveys of Cambodia, the proportional trend in population below poverty line showed remarkable drop down from 39 percent to 36 percent in 1993/94 and 1997 respectively. Beside this, the proportion was hardly changed between 1997 and 1999 due to political issues and natural disasters in the country and impact of economic crisis in the region. Assuming the headcount index is unchanged in 2001, this percentage is translated into 4.6 millions people living in below poverty (SEDP-II).

Graph 1. Proportion of people below poverty line

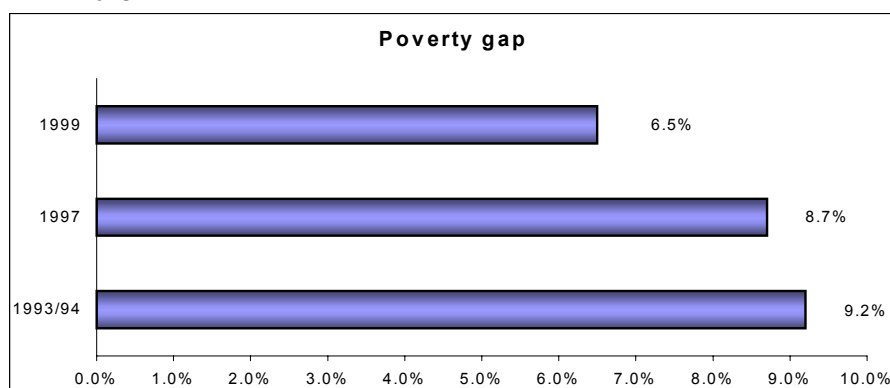


Source: National Institute of Statistics, Ministry of Planning

The reality of poverty is complex, but generally defined to be multidimensional deprivation. The dimensions include low income and consumption, poor lack of food security, lack physical necessity and assets, lack of access to basic services, land, natural resources, social infrastructure, isolation, vulnerability to shocks and lack of means to cope with shock-induced losses and powerlessness.

<sup>3</sup> These poverty lines are based on a benchmark per capita calorie requirement of 2,100 calories per day

Graph 2. Poverty gap indices

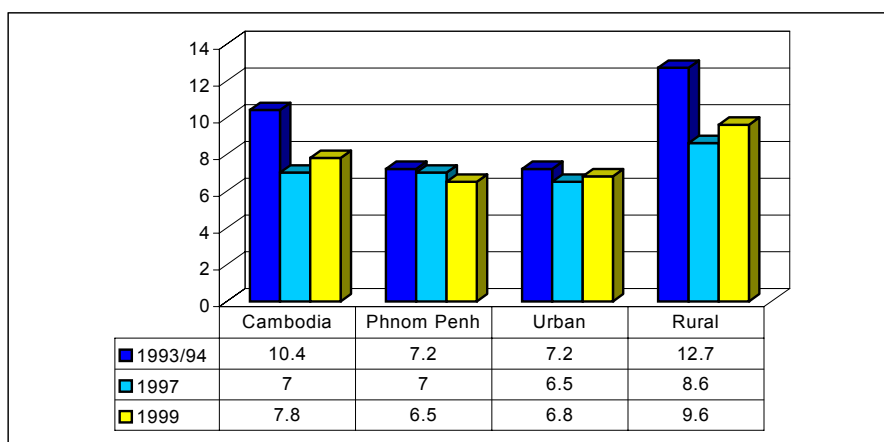


Source: National Institute of Statistics, Ministry of Planning

Graph 2 indicates the poverty gap in Cambodia in different years from 1993 to 1999. According to the first Socio-Economic Survey of Cambodia 1993/94, the poverty gap was 9.2 percent which shown highest deviation from poverty line. The result of CSES 1997 the poverty gap ratio was 8.7 percent as shown slightly decreased in comparison with CSES 1993/94. Similarly the latest result of CSES 1999 was 6.5 percent as indicated a less sharply. These results reflected that a tendency in poverty reduction was in gradual progress.

With variations, the poverty gap indices show a depth of poverty rounded to 10 percent. This means that, although poverty is dramatically widespread, values of consumption by poor people are concentrated around 10 percent below the poverty line. To summaries, there is widespread poverty in the countryside (where 84 percent of the Cambodian population resides), high levels of inequality in consumption patterns and no clear trend of overall poverty alleviation. These severe poverty related indicators do not mean that Cambodian society is unchanging. nor that the Cambodian government is inactive on these issues<sup>4</sup>.

Graph 3. Share of poorest quintile in national income



Source: National Institute of Statistics, Ministry of Planning

Graph 3 shows the share of the poorest quintile in Cambodia was 10.4 percent in 1993/94, 7 percent in 1997 and 7.8 percent in 1999. The proportion of poorest quintile was dropped around 3

<sup>4</sup> Societal Aspects of the HIV/AIDS Epidemic in Cambodia Progress report, 2001, Cambodia Human Development Report

percent from 1993/94 to 1997 but this proportion was slightly increased about 1 percent from 1997 to 1999. For desegregated data between urban and rural area, the pattern is the same as Cambodia, while Phnom Penh steadily declines. By area, the share of poorest quintile is higher in rural area than in Phnom Penh and other urban area.

In order to address the poverty issues, the government has the first and second five-year socio-economic development plans, 1996-2001 and 2001-2005 respectively, attest to early and persistent efforts to design and implement poverty alleviation policies. The priority poverty reduction action has been undertaken through:

- Maintaining macroeconomic stability is to promote broad-based sustainable economic growth with equity, with the private sector playing the leading role.
- Expanding job opportunity through facilitating private sector development, expanding exports and tourism.
- Improving capacity that is a priority to particularly affect poor Cambodian people in education, health and nutrition.
- Strengthening institutions and improving governance that insure the rolling strategic framework in providing a consistent and transparency approach to coordinate effort in judicial, administrative, armed forces and public finance reform, decentralization, deconcentration and local governance, anti-corruption, gender equity and reform of natural resources management (land, forestry and fishery).
- Strengthening social inclusion and reducing vulnerability (disabled, orphans, street abandon children and homeless).
- Promoting gender equity is to reduce gender base disparities and improve gender equity in health, education, control over agricultural resources, socioeconomic and political and empowerment and legal protection. However, this action ensure that women and girls receive full legal protection, legal education concerning their rights, access and benefits.

## **5.2. Education**

Poverty is multi-dimensional issues. It not only includes income or consumption, health, empowerment, but also education as well mainly contributes. Education is a critical component for MDG target to be achieved towards poverty reduction in Cambodia. There are many indicators reflecting the educational progress, hence, to reach the MDG's target, Cambodia has adopted some specific indicators, such as net enrolment ratio in primary education, proportion of pupils having attended grade 1 who enroll in grade 5, ratio of girls to boys in primary, secondary and tertiary education, ratio of literate females to males of 15 to 24 years olds, adult literacy rate (literacy rate of 15-24 years olds), in conformity with the New York Millennium Summit.

Socio-economic Surveys, General Population Census and Administrative records provides the main data sources to develop educational indicators. The information are particular related to literacy, educational attainment, current school attendance, enrollment by level of education, enrollment and repeater by grade and the reasons for drop out.

General Population Census was conducted in March 1998. Such census was absent since 1962 due to war and political disturbance. Census was canvassed with respect of household characteristics, building structure, and living standards of people. The field enumeration was done in whole country, involving 25,000 enumerators and 8,350 supervisors. The system was conducted on de facto basis and it also includes special arrangements to enumerate homeless people, transient people and people living in boat and on the street...etc.

### 5.2.1. Technical Operation

The main activity of data processing was manual coding and editing of census document, data entry from the questionnaire, computer editing and tabulation and generation of various dissemination products.

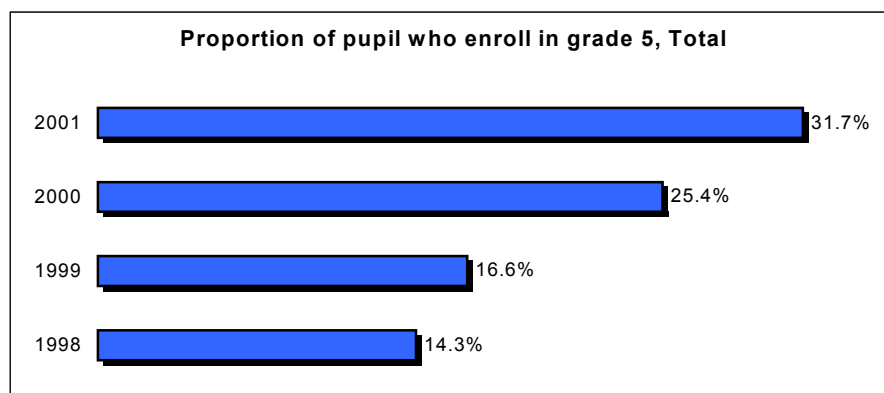
Census has covered characteristics of population, rudiments of literacy and school attendance. Various measures are being taken in the country to raise the literacy rate. The expansion of primary education is the major contributing factor in raising the future literacy rate, so special care is devoted to ratio of girls to boys in primary, secondary and tertiary education. Are considered also ratio of literate females to males of 15 to 24 years olds, adult literacy rate (literacy rate of 15-24 years old). Besides, various Government and non-governmental agencies are carrying out adult education activities.

Socio-economic Surveys have collected data from non-institutional household on literacy and educational attainment of population mainly with the object of computing related education indicators. The items were literacy status, school attendance, highest grade completed, current grade, type of school attended, non-formal classes attended, total educational expenses. CSES applied procedures similar to the other surveys (training, field operation, data processing etc...).

Administrative records regularly provided by levels of education through the provincial and district services including primary, lower secondary, upper secondary and higher education. The records are compiled annually on the basis of public schools. Since 1997, Ministry of Education, Youths and Sports, has compiled information on higher education in private sectors, while in 2001, primary, secondary education only were included. The information used for computing educational indicators related to number of pupil enrollment by level of education, by grade, sex, age group, by provincial and regional level.

### 5.2.2 Output of Education indicators

Graph 4. Proportion of pupil who enroll in grade 5<sup>5</sup>



Source: Ministry of Education, Youth and Sport

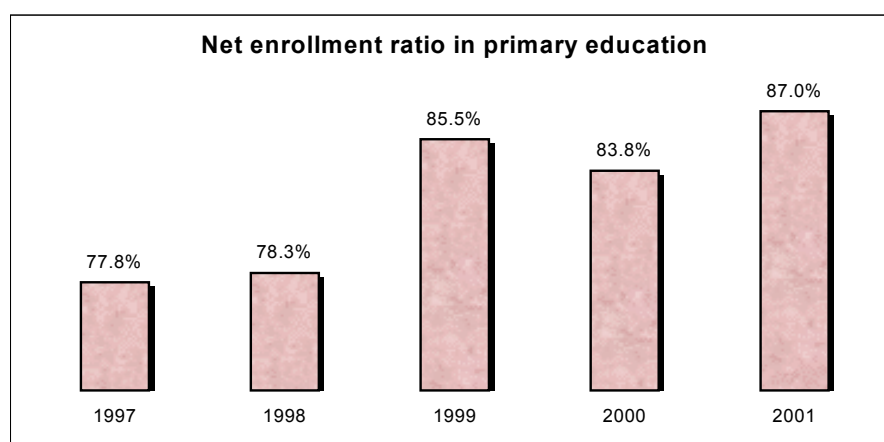
Cambodia has the second lowest educational system among nearby countries, only Lao People Democratic Republic is the lowest in the region. Graph 4 showed that the proportion of pupil who enrolls in grade 5 as a percentage of the initial number of school children in grade 1 is very low, even if the proportion increased gradually from 14.3 percent to 31.7 percent in 1998 and 2001

<sup>5</sup> Calculation based on the flow rates by grades of education, EMIS, Ministry of Education, Youth and Sport

respectively. These resulted from poverty condition prevailing in the country, with a majority of the people neglecting sending their children to school. Even they are attending school, they often play truant, or eventually drop out school due to seeking job or making earnings to supplement their family's income.

After the first national election in 1993, the education system for Cambodia has been reformed at all levels. The primary school ranged from grade 1 to grade 6 for pupil aged 6-11 years old. In general, the system subsumes six years of schooling. Graph 5 showed the net enrollment ratio in primary school hardly changed within the first 2 years (1997-1998) and then sharply increased from 78.3 percent in 1998 to 85.5 percent in 1999, and then the ratio dropped down to 83.8 percent in 2000, but remarkably increase to 87.0 percent in 2001. The better results in primary school reflected and gradually developed after a new governmental policy on free enrollment was adopted.

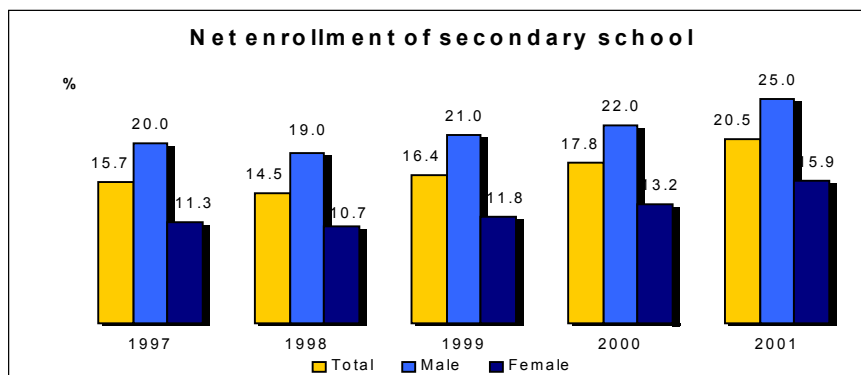
Graph 5. Net enrollment ratio in primary education



Source: Ministry of Education, Youth and Sport

Observed on secondary school, the net enrollment ratio indicated the acute differences as compared with primary school. In graph 6 give the results hardly increased for five years period. In generally, the data demonstrated the big gap between male and female enrolled in schooling. The relatively low enrolment and high dropout rates among girls can be attributed to a combination of factors. The involvement of young girls in domestic chores and sibling care prevents them from attending school regularly, leading to the ultimate withdrawal from school. It is girls from poor households and lower occupational hierarchy who are more likely to out or withdrawn from school.

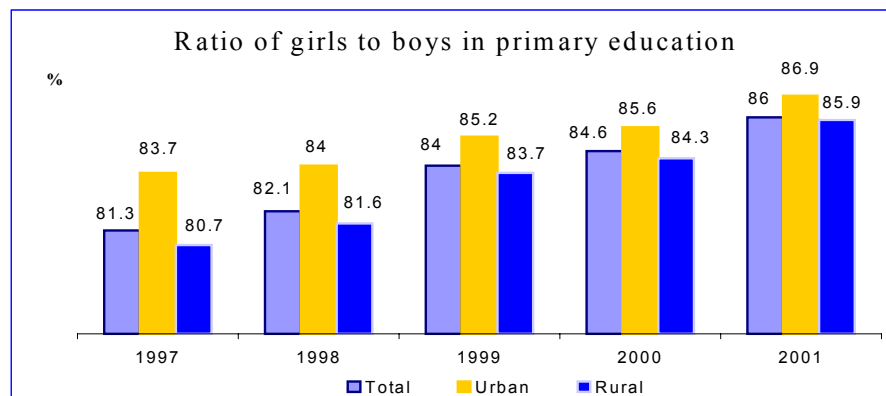
Graph 6. Net enrollment of secondary school



Source: Ministry of Education, Youth and Sport

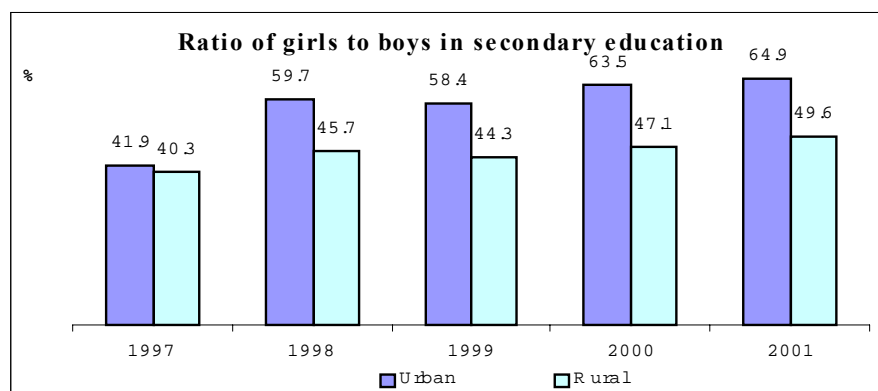
The ratio of girls to boys in primary education in urban and rural areas appears quite similar from 1997 to 2001. It is noted that, the schoolgirls and schoolboys likely enjoy equal access in primary educational level (graph 7). By contrast, the schoolgirls apparently have less access than schoolboys in attending secondary educational level in urban and rural areas (graph 8). As resulted, it could be observed that, the access to school by both sexes is more limited in rural than urban areas due to the inaccessibility of education and constraints on overall expenses for those who live in rural area.

Graph 7. Ratio of girls to boys in primary education



Source: Ministry of Education, Youth and Sport

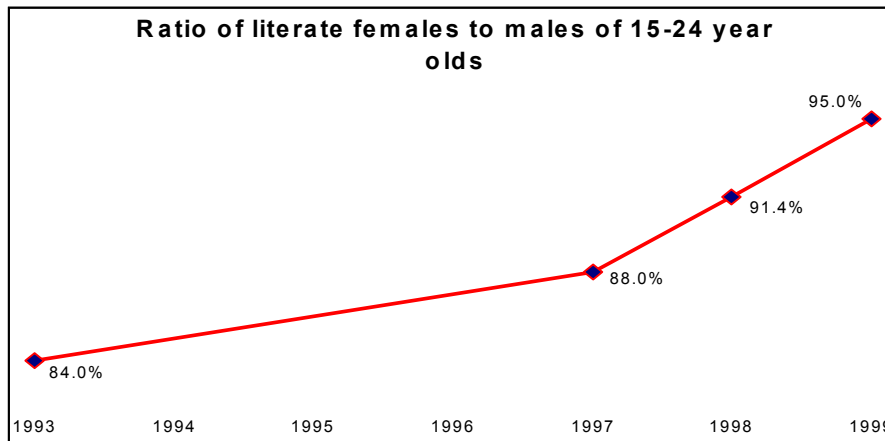
Graph 8. Ratio of girls to boys in secondary education



Source: Ministry of Education, Youth and Sport

Graph 9 shows the progress of literacy rate females to males aged 15-24 year olds in Cambodia from 1993 to 1999. The figure indicates that, despite the lower adult literacy rate in the region, Cambodia has continued to record the improvement of youth literacy rate as it better performed. This expressed Cambodia's pride and optimism in achievement support to MDG assessment of goal. For the youth, the percentage of literate females to males population aged 15-24 year olds has significantly progressed, showing an increase from 84 percent in 1993, 88 percent in 1997, and 91.4 percent in 1998 to 95 percent in 1999 respectively.

Graph 9. Ratio of Literate Females to Males of 15 –24 Year Olds



Source: National Institute of Statistics, Ministry of Planning

In order to address the educational issues in Cambodia, the government has undertaken three main policy instruments as follows:

1. Policy instruments for decentralization, increased stakeholder participation and reduced disparities in learning opportunities
  - Increased availability and effective utilization of resources
  - Strengthened systems for program monitoring
  - Enhanced dissemination & utilization of educational information
2. Capacity building for Priority Action Programme implementation
  - Improved teacher working status and conditions
  - Increased capacity at all levels to formulate and implement pro-poor strategies
  - Increased progression of children through the basic education cycle
  - Decentralized planning and management in Provincial Teacher Training Colleges
  - Increased capacity to enhance children's learning through improved availability of high quality core instructional materials.
  - Increased capacity for targeting, planning and managing Non-Formal Education programs
3. Strengthening innovative partnerships for quality education for all
  - Participation of NGOs, civil society and donors in the MOEYS led education reform, and Education For All (EFA) follow-up is enhanced
  - A number of policy related studies and pilot activities to test alternative strategies for education reform are conducted and replicated through partnership between the MOEYS and the NGOs/civil society organizations.
  - The partnership between MOEY's, national and international NGOs, other relevant ministries and commune councils and village development committees to implement the Early Childhood Care and Development/Pre-school policy and strategies so as to achieve the EFA targets is strengthened.

### 5.3. Health

To measure indicators of health, there are many sources to provide data and information such as the annual reports from administrative health systems, demographic and health survey, sentinel surveillances, micro nutrition, and other relevant health surveys.

Health is considered as critical component to measure poverty in society aspect of Cambodia. To be precise on health measurement and monitoring, there would be concentrated on different sources along with indicators as indicated by following categories:

CDHS was mainly concerned on demography, family planning, domestic violence and health-related information such as breastfeeding, antenatal care, children's immunization, childhood diseases. Some indicators have been specifically retained for assessing MDG goals and targets. The indicators included prevalence of under weight children (under five years of age), under five mortality rate, infant mortality rate, maternal mortality ratio, HIV prevalence among 15-24 years old pregnant women, contraceptive prevalence rate, proportion of births attended by skilled health personnel, number of children orphaned by HIV/ AIDS, proportion of one year old children immunized against measles, proportion of population with sustainable access to an improved water source, proportion of people with access to improved sanitation.

The data was collected based women aged 15-49 years old in the households. In addition, a sub-sample of 50 percent of households was selected for data collection pertaining to anthropometrics, anemia testing and other women's status.

#### 5.3.1. Technical Operation

Training and fieldwork was carried out on interviewing techniques, fieldwork procedure and how to do anemia testing, weighing and measuring children. However, the interviewing practice during the fieldwork was conducted under control of team supervisors, field editors and local authorities to ensure the data accuracy and quality.

Office work included manual editing, data entry and data analysis and validation was operated by using the software package Integrated System for Survey Analysis (ISSA) developed specially for CDHS program. In addition of the CDHS, there are also several health surveys done by National Center for HIV/AIDS, Dermatology and STDs (NCHADS) and National AIDS Authority (NAA), Ministry of Health including HIV Sentinel Surveillance in Cambodia and Cambodia Behavioral Surveillance Survey.

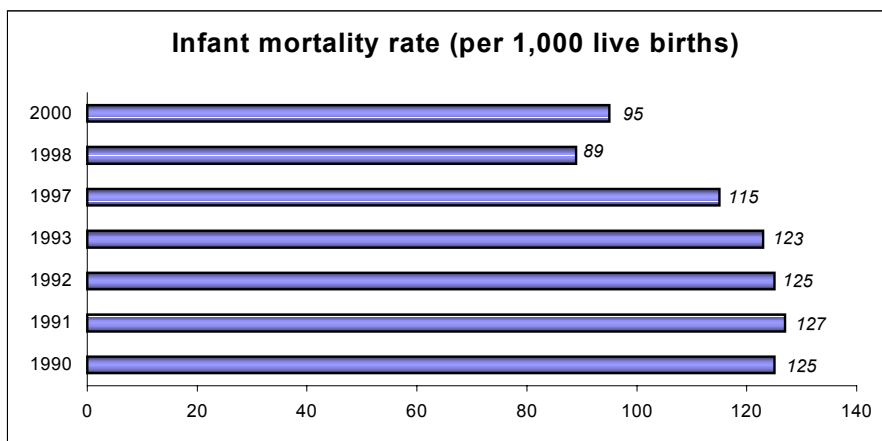
Although the data collected through the surveys are available, it is not sufficient and adequate for data users, that's why the administrative records still play a key role of providing basic information needed to measure other indicators namely prevalence and death rates associated with malaria, proportion of population in malaria risk areas using effective malaria prevention and treatment measures, prevalence and death rates associated with tuberculosis, proportion of tuberculosis cases detected and cured under directly observed treatment short course.

Administrative system for data collection regularly provided from local levels (Health Center, Referral Hospital) to provincial and national level. The records were compiled monthly, quarterly, bi-quarterly and annually. The administrative data sources were, in most cases, available for whole year, which is still provisional and subject to revision. It is extremely important to maintain and support surveys/data collection activities, which are particularly meant for measuring national health.

### 5.3.2. Output of Health Indicators

The infant mortality rates have changed slightly over the past seven year from 125 per 1 000 live births to 123 per 1 000 live births and 115 per 1 000 live births in 1990, 1993 and 1997 respectively (graph 10). A trend sharply dropped down in 1998 and 2000 with the rate of 89 and 95 per 1 000 live births resulting in the actively-functioned local health centers as well as the knowledge and awareness of people involved health promotion.

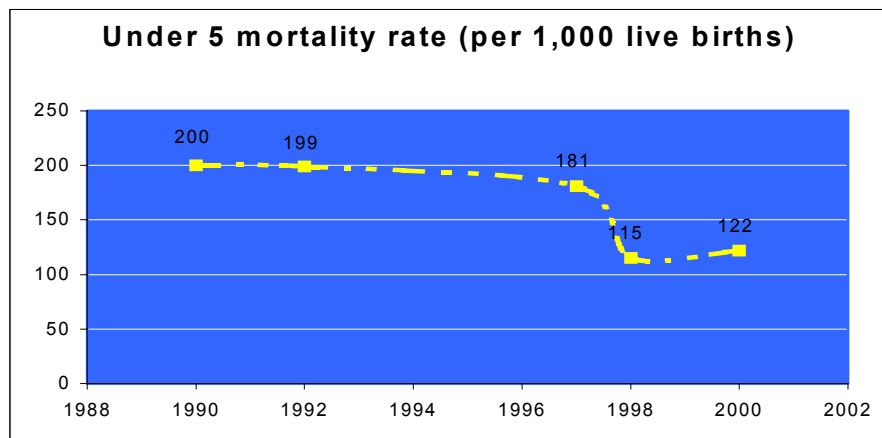
Graph 10. Infant Mortality



Source: National Health Statistics, Ministry of Health  
Demographic and Health Survey, Ministry of Planning and Ministry of Health

Under 5 mortality rate slightly decreased from 200 per 1 000 live births in 1990 to 181 per 1 000 live births in 1997. From 1997 to 1998 the under 5 mortality rate has sharply declined to 115 per 1 000 live births and then slowly increased to 122 per 1 000 live births in 2000. These results may be attributed to the promotion and education on health services and activities of government at all levels (graph 11).

Graph 11. Under 5 Mortality Rate

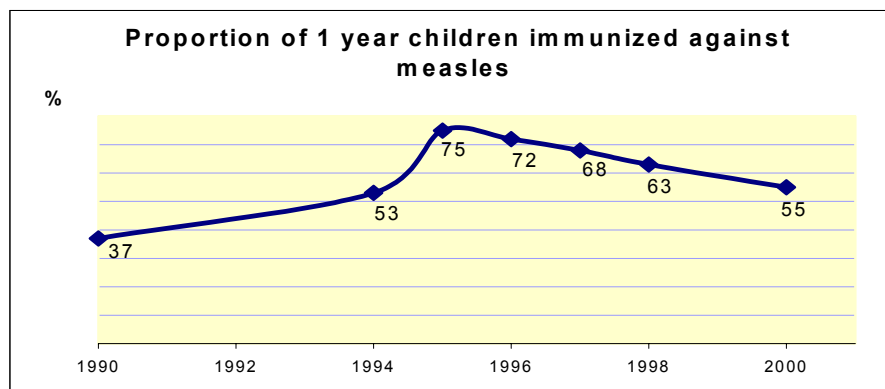


Source: National Health Statistics, Ministry of Health  
Demographic and Health Survey, Ministry of Planning and Ministry of Health

The immunization against measles in Cambodia showed the worst condition in 1990 with 37 percent compared with year 1994 and 1995 with the higher rate of 53 percent and 75 percent

respectively. After 1995, the immunization against measles of the children has gradually decline to 55 percent in 2000. The immunization against measles should be achieved the targets referring to the progress, which occurred in the country for reduction child mortality rate. Therefore, the attention on special programme of vaccination should be paid and extended through out the country, so that the MDG can be achieved in the region (graph 12).

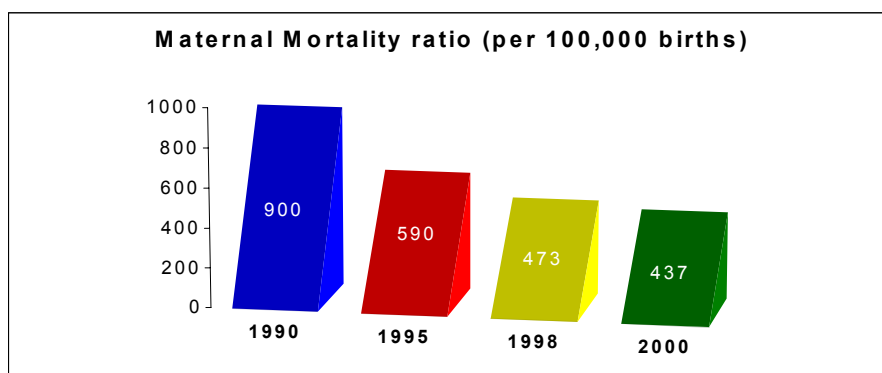
Graph 12. Proportion of 1-year children immunized against measles



Source: National Health Statistics, Ministry of Health  
Demographic and Health Survey, Ministry of Planning and Ministry of Health

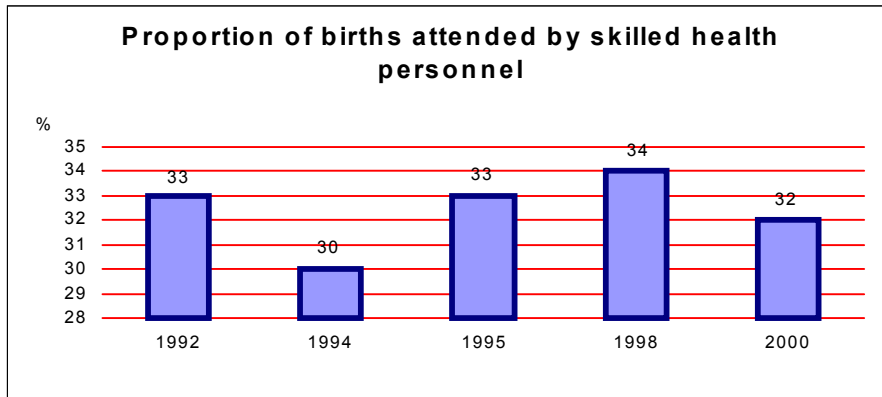
Comparing with other countries in Asia, the maternal mortality rate in Cambodia is one of the highest (900 per 100 000 births) in this region during 1990s. During this period the maternal mortality rate in Cambodia is higher comparing to neighboring country. One of the explanations of this high mortality rate is the skilled birth attended in Cambodia. Other factor is the very low proportion of number of health centers deliveries, which is stated only 10 percent of total delivery in the country. Only 30 percent of births attended by skilled health personnel in 1994, while the trend was up to 34 percent in 1998 and less dropped by 32 percent in 2000. Under such circumstance the government has been determined to reduce maternal mortality rate to 305 per 100,000 live births by 2007 referring to the millennium related targets versus the MDG's plan to reduce maternal mortality rate to 118 per 100,000 live births by 2015 (graph 13 and 14).

Graph 13. Maternal Mortality (per 100 000 live births)



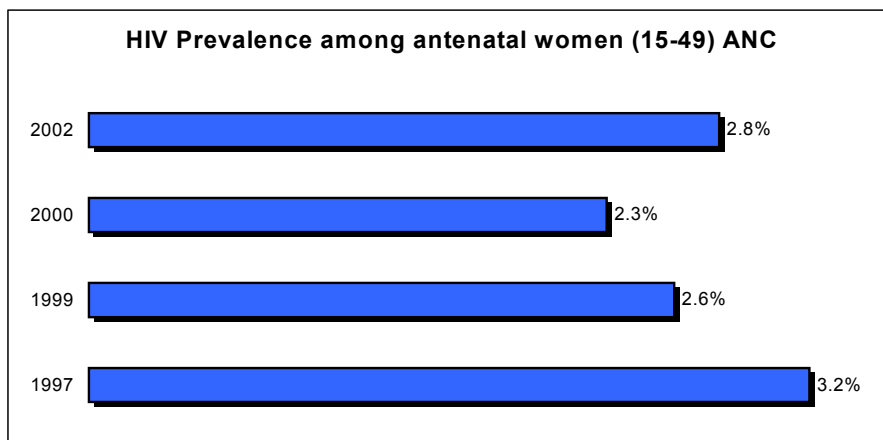
Source: National Health Statistics, Ministry of Health  
Demographic and Health Survey, Ministry of Planning and Ministry of Health

Graph 14. Proportion of Births Attended by Skilled Health Personnel



Source: Demographic and Health Survey, Ministry of Planning and Ministry of Health

Graph 15. HIV Prevalence Among Antenatal Women (15-49) ANC

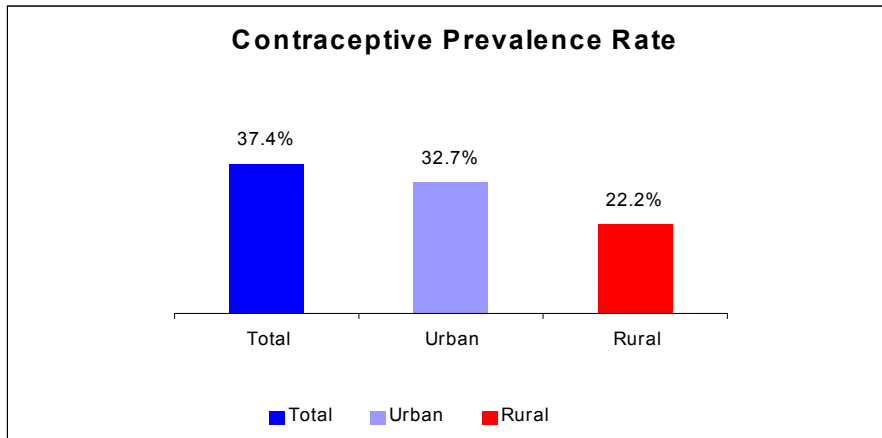


Source: HIV Sentinel Surveillance and NCHADS, Ministry of Health 1997-2002

Cambodia is the worst infected country in the region by this pandemic that could reverse the development gains made since the peace returned to the country. Graph 15 shows the HIV prevalence among pregnant women (15-49 years old) attending antenatal clinics in Cambodia, and how this changes over time. Prevalence was 3.2 percent in 1997 and one observes that the HIV prevalence remarkably reduced to 2.6 percent and 2.3 percent after three years. Nevertheless, HIV prevalence among antenatal women changed as high as 2.8 percent in 2002, among which young pregnant women (age group of 15-24) show serious level of infection, with a prevalence at 2.7 percent. The trend serves as proxy for HIV incidence, since they represent relatively new infections.

There are marked differences in current use of contraception by background characteristics among currently married women. The graph 16 showed that the married women in urban areas are 32.7 percent more likely to use a modern method and twice as likely to use a traditional method as their rural counterparts (22.2 percent). In general, for Cambodia, according to the Demographic and Health Survey 2000, the modern contraceptive use increased with an increase in the number of living children from 1 percent among women with no children to 23 percent among women with three children.

Graph 16. Contraceptive Prevalence Rate



Source: Demographic and Health Survey, Ministry of Planning and Ministry of Health

Based on the national health policy to deal with the health issues in Cambodia, the Royal Government of Cambodia has adopted 13 elements that comprise the policy statement provide the basis for the strategic plans as follows:

- Implement sector wide management through a common vision and effective partnerships among all stakeholders
- Provision of basic health services to the people of Cambodia with the full involvement of the community
- Provision of affordable, essential specialized hospital services
- Decentralization and de-concentration of financial, planning and administrative functions within the health sectors
- Priority emphasis on prevention and control of communicable and selected chronic and non-communicable diseases on injury, the elderly, adolescents and vulnerable groups such as the poor, and on managing public health crises
- Priority emphasis on provision of good quality care to mother and child especially essential obstetric and paediatric care
- Active promotion of healthy lifestyles and health-seeking behaviour among the population
- Emphasis on quality, effective and efficient provision of health services by all health providers
- Optimisation of human resources through appropriate planning, management including deployment and capacity development within the health system
- Increase promotion of effective public and private partnerships for effective and efficient basic and specialist care
- Effective use of the health information for evidence-based planning, implementation, monitoring and evaluation in the health sector
- Implement health financing systems to promote equitable access to priority services especially by the poor
- Further development of appropriate health legislation to protect the health of providers and consumers

#### 5.4. Other indicators

The indicators related to environmental sustainability comprise of a proportion of land area covered by forest, land area protected to maintain biological diversity, carbon dioxide emissions (metric tons per capita), GDP per unit of energy use, proportion of population with sustainable access to an improved water source, proportion of population with access to an improved sanitation and

proportion of population access to secure tenure. Among these indicators, only proportion of population with sustainable access to an improved water source and proportion of population with access to an improved sanitation are precisely available in figures.

The indicators related to gender equality and empowerment of women consist of employment rate of 15- to- 24- years –old, share of women in wage employment in the non-agricultural sector, proportion of seats held by women in national parliament as well as developing a global partnership for development including telephone lines per 1,000 people, personnel computer per 1 000 people, proportion of population with access to affordable essential drugs on a sustainable basic, etc. Some of these indicators are not available in figures.

Methodology and data collection of above indicators are based on different sources from socio-economic surveys, labour force surveys and administrative records system. The sources are available at NIS, Ministry of Agriculture, Forestry and Fisheries, Ministry of Environment, National Parliament, Ministry of environment, Ministry of Women’s Affaire and Veteran, Ministry of Economic and Finance, Ministry of Social Affaires, Labor, Vocational Training and Youth Rehabilitation, Ministry of Post and Telecommunication and other concern agencies.

Table 2. Comparative Employment, Underemployment and Unemployment Rates<sup>6</sup>, Cambodia: November 2000 and November 2001 (in percent)

Area	Employment			Underemployment			Unemployment		
	2001	2000	% (increase, decrease)	2001	2000	% (increase, decrease)	2001	2000	% (increase, decrease)
<b>Cambodia</b>	<b>98.2</b>	<b>97.5</b>	<b>0.7</b>	<b>38.1</b>	<b>27.9</b>	<b>10.2</b>	<b>1.8</b>	<b>2.5</b>	<b>0.7</b>
Males	98.5	97.9	0.6	39.0	29.9	9.1	1.5	2.1	0.6
Females	97.8	97.2	0.6	37.2	26.1	11.1	2.2	2.8	0.6
<b>Phnom Penh</b>	<b>98.2</b>	<b>97.9</b>	<b>0.3</b>	<b>24.1</b>	<b>27.9</b>	<b>3.8</b>	<b>1.8</b>	<b>2.1</b>	<b>0.3</b>
Males	98.6	97.5	1.1	24.1	31.7	7.6	1.4	2.5	1.1
Females	97.8	98.3	0.5	24.0	23.9	0.1	2.2	1.7	0.5
<b>Other Urban</b>	<b>98.0</b>	<b>97.0</b>	<b>1.0</b>	<b>35.3</b>	<b>24.9</b>	<b>10.4</b>	<b>2.0</b>	<b>3.0</b>	<b>1.0</b>
Males	98.1	97.6	0.5	33.3	21.7	11.6	1.9	2.4	0.5
Females	97.9	96.4	1.5	37.2	28.2	9.0	2.1	3.6	1.5

<sup>6</sup> The employment rate, define as the percentage of persons employed to total persons (10 years old and over) in the labour force.

The unemployment rate, define as the percentage of persons unemployed to total persons (10 years old and over) in the labour force.

The underemployment rate, define as the percentage of persons underemployed to total persons (10 years old and over) in the labour force.

<b>Other Rural</b>	<b>98.2</b>	<b>97.5</b>	<b>0.7</b>	<b>39.3</b>	<b>28.4</b>	<b>10.9</b>	<b>1.8</b>	<b>2.5</b>	<b>0.7</b>
Males	98.6	97.9	0.7	40.6	30.7	9.9	1.4	2.1	0.7
Females	97.8	97.2	0.6	38.1	26.3	11.8	2.2	2.8	0.6

Source: National Institute of Statistics, Ministry of Planning

According to the labour force surveys 2000/2001, the unemployment rate for Cambodia has a slight decline of 0.7 percent the underemployment rate increased by 10.2 percent from 27.9 percent from 38.1 percent. By sex male employed persons registered as unemployment rate of 39 percent while female unemployment rate was 37.2 percent. However, the results stated in labour force survey showing that the unemployment rate of 15-24 years old in 2001 by both sexes was 3 percent in which in rural area the rate is 2.7 percent while the urban showed higher of 4.6 percent.

## 6. Conclusion

By examining the different data sources for enhancing social and gender statistics in Cambodia, for the three main categories including poverty, health, education and other indicators. Regarding to the alternative sources may be used for each indicator at national and provincial level, the Royal Government of Cambodia has undertaken a huge task in conducting large scale surveys as mentioned above, which represents country-specific data sources. In small areas, the data sources have been authorized to design, implement and monitor the small surveys or specific projects by local institutions (non-governmental organizations, private sectors and other research agencies). The results derived from different sources would supplement adequacy and exigency of information in order to enhance government's comprehensive policies and achievements.

In terms of strength and weakness of data sources we should conclude:

- Poverty field: Socio-economic surveys play a key role in providing timely, accurate and reliable data on household consumption and expenditure periodically (last week, last month, last six months and last year). More specifically, the information was captured seasonally with regards to economic activities and a living condition. In addition, the sample was broke down by regions and geological zones. Although the surveys ensured advantages for measuring the poverty, they could not be conducted frequently. Moreover, the surveys had also provided and unsatisfactory results because of the vague calendar reference period, non-representative coverage, ineffective coverage of seasonality, underestimate of consumption and respondent fatigue etc.
- Health field: CDHS was the first survey in Cambodia mainly intended to nationally representative sample. 15,300 women between the ages of 15 and 49 where sampled. The survey covered on a total of 12,810 households from 471 sample villages of 12 individual provinces and 5 groups of provinces. The sampling frame for CDHS was developed based on the 1998 Cambodia General Population Census and consists of 6000 villages selected with probability proportional to the number of households within the village. In view of this specific procedure of the survey, it should be concluded that those mentioned above indicators would be utilizable for Cambodia's Millennium Development Goals monitoring. Beside the CDHS, there are also sentinel surveillance and behavioral surveillance survey in Cambodia, intended to on HIV/AIDS surveillance, which targeted ANC women, police, military, direct and indirect sex workers, TB patient, hospital in-patient and others. Its results crucially contributed to health information for MDGs.
- Education field: the same procedure was followed as poverty and health which benefited and useable for MDGs, especially for young literacy 15-24 years old. However, some

indicators derived from both surveys and administrative records such as net enrollment ratios in primary education and proportion of pupils starting grade 1 who reach grade 5. In short, the information from survey proved infrequently reference period but administrative records proved frequently with regards to time series.

In general, most MDGs indicators as explained by above-displayed graphs by sectors have been derived from the surveys, except for some indicators which required to be extracted from administrative records as well. The MDGs indicators play an essential role for measuring and monitoring social aspects, especially for strategic plan on poverty reduction programs. However, the indicators used still be inadequate and limited due to lack of information sources irregularity of data dissemination system, and a lack of human resources for some implementing institutions.

To be more effective and efficient in strengthening and capturing socio-economic information and statistical data, the Royal Government of Cambodia has decided to change some methodologies of the surveys, in particular, the socio-economic surveys which were previously conducted by "*Recall Method*" to "*Diary Method*" in the future. The new method would ensure more frequent, available, timely and accurate information as needed by policy makers, data users, government agencies, private sector and other organizations to formulate and implement significant policies for attaining their fruitful pertaining to poverty reduction strategy human resource development, social and economic planning and other relevant matters, etc. as being assessed and developed in the Millennium Development Goal in Cambodia.

In short, it is not possible to completely abandon the recall method in data capture for social and economic statistics. However, recall error can be sharply reduced by applying the diary method for the central components of household consumption, production and income. The basic principle for the diary method is that households are asked to daily record their economic transactions as to consumption, production and income for a period of up to four weeks, thus minimizing the risk for memory error. The recall method can be seen as a cheap shortcut to data at the price of low data quality. The diary method is a rather expensive way for the benefit of getting potentially much better quality data. In addition, the diary method allow interviewer become intimately familiar with households and the life in the village to the point where they are able to reasonably evaluate the data that the households give to them. And this method is successfully applied by statistical agencies in Laos, Tanzania, Namibia, Palestine and other developing countries.

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