Integrate Household Living Conditions Assessment Project

Analysis of data sources and gaps for monitoring living conditions in the Union of Myanmar

MINISTRY OF NATIONAL PLANNING AND ECONOMIC DEVELOPMENT

Sida

unicef

UNDP

September, 2010

Analysis of data sources and gaps for monitoring living conditions in the Union of Myanmar

Report prepared by:

IDEA International Institute
962 Mainguy Street, Sainte-Foy
Quebec G1V 3S4, Canada

IHLCA Project Technical Unit
United Nations Development Program
Yangon, Myanmar

With support from:

United Nations Development Program
United Nations Children's Fund
Swedish International Development Cooperation Agency

Ministry of National Planning and Economic Development
Government of the Union of Myanmar
Nay Pyi Taw, Myanmar.

September 2010

Contents

Acknowledgement

This report was prepared to provide support and offer recommendations for the design of the quantitative survey phase of the Integrated Household Living Conditions Assessment (IHLCA) in the Union of Myanmar, a multi-component project being implemented by the Planning Department of the Ministry of National Planning and Economic Development (MNPED) with financial assistance of the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF) and Sida. It was produced as part of collaboration between the IDEA International Institute, international technical agency to the project, and the IHLCA Technical Unit (ITU), the operations team at MNPED. It is built on the earlier efforts by Dr Neeru Gupta of the IDEA International Institute in initiating the data gap analysis before the IHLCA-I is launched.

Executive Summary

Several household surveys on various aspects of living conditions have been conducted in Myanmar in recent years. While each of these surveys offered valuable information on a specific area, none have enabled holistic perspective on the situation of households and individuals.

In order to provide the country's first reliable integrated assessment of all major domains of living conditions, the United Nations Development Programme and Government of Myanmar have agreed on implementation of an Integrated Household Living Conditions Assessment (IHLCA) in 2003-05. One of the main components is a two-round quantitative household survey to be conducted in two different seasons, approximately six months apart, for compiling economic and social indicators representative at the national and state/division levels and for different population sub-groups.

At the onset of IHLCA project, IDEA International had identified data gaps and recommended survey design after reviewing the data collected and published via different existing sources. Based on these recommendations, appropriate survey design that enabled to fill up some of the data gaps was systematically developed in this IHLCA survey. The first IHLCA survey was able to provide a national poverty line for the first time in Myanmar and its related indicators as well as a number of MDG indicators. However, there remain additional indicators to be filled.

As a continuation of the first IHLCA survey, the second survey was agreed to be launched in 2009-2010 along the line of the first IHLCA survey with the objective of tracking changes in living conditions and poverty during the four years since 2005. Thus, it is imperative to identify indicators that need to be kept tracking on and those that required to be measured additionally.

This report is thus conducted to give recommendations for the second IHLCA survey based on a systematic review of the data collected and published via the different existing sources, data gaps existed and filled by the first IHLCA survey.

A large range of indicators that can readily be compiled through household-based data exist for monitoring national and international goals for improving living conditions and reducing poverty. However, in Myanmar, wide discrepancies have often been observed for the same indicator over successive surveys, likely related to varying collection and analysis strategies. Even wider divergence has been observed across types of data sources, notably surveys versus routine administrative data.

Thus, the technical recommendations offered for the first IHLCA survey (IHLCA-I) quantitative survey includes:

- The need to ensure that the questionnaire for each round of the quantitative household survey is designed to enable the collection of variables that conform to internationally recognized indicators for monitoring human development goals;
- The need for a sound sampling plan, one that ensures complete geographic coverage, an independent re-listing of all selected enumeration areas in order to reliably update the sampling frame, and a frame that covers all types of households including those with no formal agreement;
- The need for comprehensive analysis plan, one that goes beyond simple cross-tabulations of selected variables to include, among others, a detailed poverty profile and gender equity assessment.

With regard to the series of internationally recognized indicators for monitoring human development goals, a preliminary list of some recommended demographic, economic and social indicators was chronicled. In particular, those indicators outlined in the framework of the Millennium Development Goals, an ambitious agenda to reduce poverty as well as its principle causes and consequences that world leaders agreed on at the Millennium Summit in September 2000, which were recommended for inclusion in the IHLCA-I are presented in Appendix (B).

For inclusion in IHLCA-II, updated version (2008) of MDGs shown in the following table is to be used in identifying the indicators to be estimated in IHLCA-II.

IHLCA quantitative survey conducted for the first time in 2004-05 was designed to fulfill these recommendations. The second IHLCA survey agreed to conduct in 2009-2010 along the line of the first survey is to focus on the assessment of the change in the level of living conditions. For the second survey, the following technical recommendations are to be met in addition to the above mentioned recommenddations:

- The need to address the operational issues that arise in using the same sample design and sampling units interviewed in the first survey. For example; the missing households due to migration and other reasons, dropping and substituting sample units in the areas affected by cyclone Nargis that struck Myanmar in 2008 and the inclusion of townships that were excluded in the first survey due to extreme inaccessibility.
- The need for expansion of MDG indicators according to the updated list of MDGs (2008).
- The need for a panel survey, one that tracks the changes in living conditions of individual household already covered in the IHLCA-I while following the identical sampling design and questionnaire formats.

Summary of indicators for monitoring progress towards the Millennium Development Goals recommended for inclusion in the IHLCA-II quantitative household survey

Millennium Development Goals (MDGs)	
Goals and Targets (from the Millennium Declaration)	**Indicators for monitoring progress**
Goal 1: Eradicate extreme poverty and hunger	
Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1.1 Proportion of population below $1 (PPP) per day[1] 1.2 Poverty gap ratio 1.3 Share of poorest quintile in national consumption
Target 1.B: Achieve full and productive employment and decent work for all, including women and young people	1.5 Employment-to-population ratio 1.6 Proportion of employed people living below $1 (PPP) per day 1.7 Proportion of own-account and contributing family workers in total employment
Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	1.8 Prevalence of underweight children under-five years of age
Goal 2: Achieve universal primary education	
Target 2.A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	2.1 Net enrolment ratio in primary education 2.2 Proportion of pupils starting grade 1 who reach last grade of primary education 2.3 Literacy rate of 15-24 year-olds, women and men
Goal 3: Promote gender equality and empower women	
Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	3.1 Ratios of girls to boys in primary, secondary and tertiary education 3.2 Share of women in wage employment in the non-agricultural sector
Goal 4: Reduce child mortality	
Target 4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	4.3 Proportion of 1 year-old children immunised against measles
Goal 5: Improve maternal health	
Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	5.2 Proportion of births attended by skilled health personnel
Target 5.B: Achieve, by 2015, universal access to reproductive health	5.3 Contraceptive prevalence rate 5.4 Adolescent birth rate 5.5 Antenatal care coverage (at least one visit and at least four visits) 5.6 Unmet need for family planning
Goal 6: Combat HIV/AIDS, malaria and other diseases	
Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS 6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	6.7 Proportion of children under 5 sleeping under insecticide-treated bednets
Goal 7: Ensure environmental sustainability	
Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	7.8 Proportion of population using an improved drinking water source 7.9 Proportion of population using an improved sanitation facility
Target 7.D: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	7.10 Proportion of urban population living in slums[2]
Target 8.F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	8.14 Telephone lines per 100 population

The Millennium Development Goals and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of State and Government, in September 2000 http://www.un.org/millennium/declaration/ares552e.htm) and from further agreement by member states at the 2005 World Summit (Resolution adopted by the General Assembly - A/RES/60/1, http://www.un.org/Docs/journal/asp/ws.asp?m=A/RES/60/1). The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries "to create an environment – at the national and global levels alike – which is conducive to development and the elimination of poverty".

[1] For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

[2] The actual proportion of people living in slums is measured by a proxy, represented by the urban population living in households with at least one of the four characteristics: (a) lack of access to improved water supply; (b) lack of access to improved sanitation; (c) overcrowding (3 or more persons per room); and (d) dwellings made of non-durable material.

New indicators of MDGs, namely, 1.5 - 1.7, 5.3-5.6, 6.3-6.7 and 7.10 are to be estimated in the IHLC-II. Besides, some indicators mentioned in the list of MDGs (2000) were dropped in the list of MDGs (2008). These indicators were computed in IHLCA-I quantitative survey and as these were useful indicators, these should also be covered in IHLCA-II so that comparisons can be made with respect to these indicators. Indicators 10, 29, 32 and 45 of MDGs shown in Appendix (B) that have been estimated in IHLCA-I and are excluded in the updated list of MDG indicators (2008) are to be estimated again in order to assess the changes in these indicators.

Therefore, questions that will yield information for their estimation have to be revised or added in the questionnaire set of IHLCA-II. Technical support from the World Bank is to be used in modifying the structure and contents of this questionnaire set.

Numerous data have been collected and some indicators related to MDGs, poverty and vulnerability were computed and reported in MDGs, poverty and vulnerability reports of IHLCA-I. Still, some more indicators could be computed and reported from IHLCA-II quantitative survey.

List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
CCA	Common Country Assessment
COICOP	Classification of Individual Consumption according to Purpose
CMR	Child Mortality Rate
CPR	Contraceptive Prevalence Rate
CSO	Central Statistical Organization
DOTS	Directly Observed Treatment Short Course
DPT	Diptheria-pertussis-tetanus vaccine
EFA	Education For All
EPI	Expanded Programme on Immunization
FRHS	Fertility and Reproductive Health Survey
GDP	Gross Domestic Product
GS	Gender Stats
HDI	Human Development Initiatives
HIES	Household Income and Expenditure Survey
HIV	Human Immunodeficiency Virus
HRD	Human Resources Development
ICSE	International Classification of Status in Employment
IHLCA	Integrated Household Living Conditions Assessment
IMR	Infant Mortality Rate
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupation
ISIC	International Standard Industrial Classification of all Economic Activities
ITBN	Insecticide-treated Bed Net
LFS	Labour Force Survey
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MIS	Management Information System
MMR	Maternal Mortality Rate
MMS	Maternal Mortality Survey
MNPED	Ministry of National Planning and Economic Development
NMS	National Mortality Survey
OPV	Oral Polio Vaccine
PCFS	Population Changes and Fertility Survey

PPP	Purchasing Power Parity
PPS	Probability Proportional to Size
PR	Preliminary Report
PSU	Primary Sampling Unit
RH	Reproductive Health
RHBCS	Reproductive Health Baseline Community Survey
SD	Standard Deviation
SIDA	Swedish International Development Cooperation Agency
SPWC	Statistical Profile of Women and Children
STI	Sexually Transmitted Infection
SWC	Survey on Women and Children
TB	Tuberculosis
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
U5MR	Under 5 Mortality
UNDP	United Nations Development Programme
UNICEF	United Nations children's Fund
WDI	World Development Indicators
WHO	World Health Organization
WSC	World Summit of Children

LIST OF TABLES AND FIGURES

List of Tables: Summary of indicators for monitoring progress towards the Millennium Development Goals recommended for inclusion in the IHLCA-II quantitative household survey

Appendix D:

Appendix E:

List of Figures:

Appendix F:

INTRODUCTION

A large number of household surveys on various aspects of living conditions have been conducted in Myanmar in recent years. Each of these surveys offered valuable in depth information focused on specific area, such as household income and expenditure, labour force participation, women's and children's health, agriculture and others. However, none have enabled a holistic perspective on situation of households and individuals. Thus, in order to provide country's reliable integrated assessment of all major domains of household living conditions, the United Nations Development Programme (UNDP) and Government of Myanmar have agreed on the implementation of an Integrated Household Living Conditions Assessment (IHLCA) in 2003-05.

IHLCA-I was being sponsored and managed by UNDP, and was being implemented by the Planning Department of the Ministry of Planning and Economic Development in collaboration with the Central Statistical Office and the Foreign Economic Relations Department, and with technical assistance from IDEA International Institute. Following the recommendations proposed by IDEA International Institute, the survey data have provided comprehensive perspective of living conditions in Myanmar including poverty indicators for the first time. At the completion of IHLCA-I, UNDP collaborating with UNICEF has reached an agreement with the government to undertake the IHLCA-II with the same implementing partner, Ministry of Planning and Economic Development. But, in this phase, the World Bank has offered to provide technical assistance. The objective of IHLCA-II is to provide an updated data set for living conditions in Myanmar since 2005. As in IHLCA-I, a two-round quantitative survey is to be conducted at two different seasons, approximately six months apart, for compiling economic and social indicators representative at the national and state/division levels and for different population sub-groups (see Appendix A for a summary of the project inception report).

The information generated by the IHLCA-I was expected to allow for better planning of policies and programmes for improving household living conditions. It enabled analyses of intra-household economic, health and social relationships, shedding light for instance on gender-specific issues or the situation of children. In particular, it collected quantitative data for a certain number of indicators allowing for monitoring progress towards the attainment of the Millennium Development Goals (MDGs), an ambitious agenda to reduce poverty as well as its principle causes and consequences that world leaders agreed on at the Millennium Summit in 2000, and which set clear targets for reducing poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women (see Appendix B for the complete list of goals, targets and indicators).

The IHLCA-II will be a logical continuation of previous IHLCA-I's assessments of living conditions in Myanmar. The IHLCA quantitative surveys are especially built on the methodologies and lessons learned from previous household surveys. These surveys and other types of data collection activities have each been characterized with specific goals and methodologies (see Appendix C for details).[3]

[3] In addition to the review of data sources stated in Appendix C of this report, an inventory of available studies and reports on human development in Myanmar was compiled in 1998 under the auspices of the UN Interagency Monitoring and Evaluation Theme Group. The inventory includes 1,535 references on the themes of social development, economic development, environmental resource management and development planning.

The tables presented in Appendix (C) gives a comprehensive analysis of the data collected from major household surveys and other data sources in Myanmar since 1990.[4] This report will cover all key domains of living conditions, including poverty, health, education, gender equity, and environmental concerns. This document's main focus is first, to present the data gap, as identified before the IHLCA-I was launched. Then, it will focus on what extent the gap has been filled by the IHLCA-I project. Finally, keeping in view of recommendations for IHLCA-I and experience gained, additional data needs and indicators required to follow up will be identified for developing survey design for IHLCA-II. The technical design of the IHLCA instruments will be the same as that of IHLCA-I survey instruments focusing on the household and individual level data.

The specific objectives of this report are to:

- Review the main frameworks and key indicators for monitoring national and international goals for improving household living conditions and well-being;
- Review the official data sources that have been used to measure these key indicators in Myanmar in recent years, with a focus on household-based surveys;
- Identify any gaps in the availability of data for measuring key indicators, both nationally and at the sub-national level;
- Assess the quality and consistency of the data across existing sources; and
- Offer options on questionnaire design for the IHLCA-**II** quantitative survey in order to both fill the information gaps and, to the extent possible, maintain comparability with previous sources to allow for monitoring trends over time.

It is expected that, in the eventual analysis of the survey results, to the extent possible and statistically reliable, all key indicators will be disaggregated according to region (state/division, urban and rural areas, and agro-ecological zone), as well as by gender and age group.

[4] It should be noted that sources for which no documentation was available in English, studies implemented by academic institutions or non-governmental organizations, or some surveys for which the final report was not publicly released at the time this document was prepared are excluded from this analysis.

1. FRAMEWORK AND INDICATORS FOR MONITORING NATIONAL AND INTERNATIONAL GOALS FOR IMPORVING LIVING CONDITIONS

Household living conditions are a multi-faceted phenomenon, shaped by not only monetary poverty, but also vulnerability towards various pressures that may prohibit an individual from enjoying life. This vulnerability may be gauged from economic and social conditions of households, such as food security, employment, health, education and gender equality. Improving understanding of the different dimensions of household living conditions and vulnerability, as well as their causes and consequences, can help towards the design of more effective and efficient strategies aimed at improving living conditions and reducing poverty.

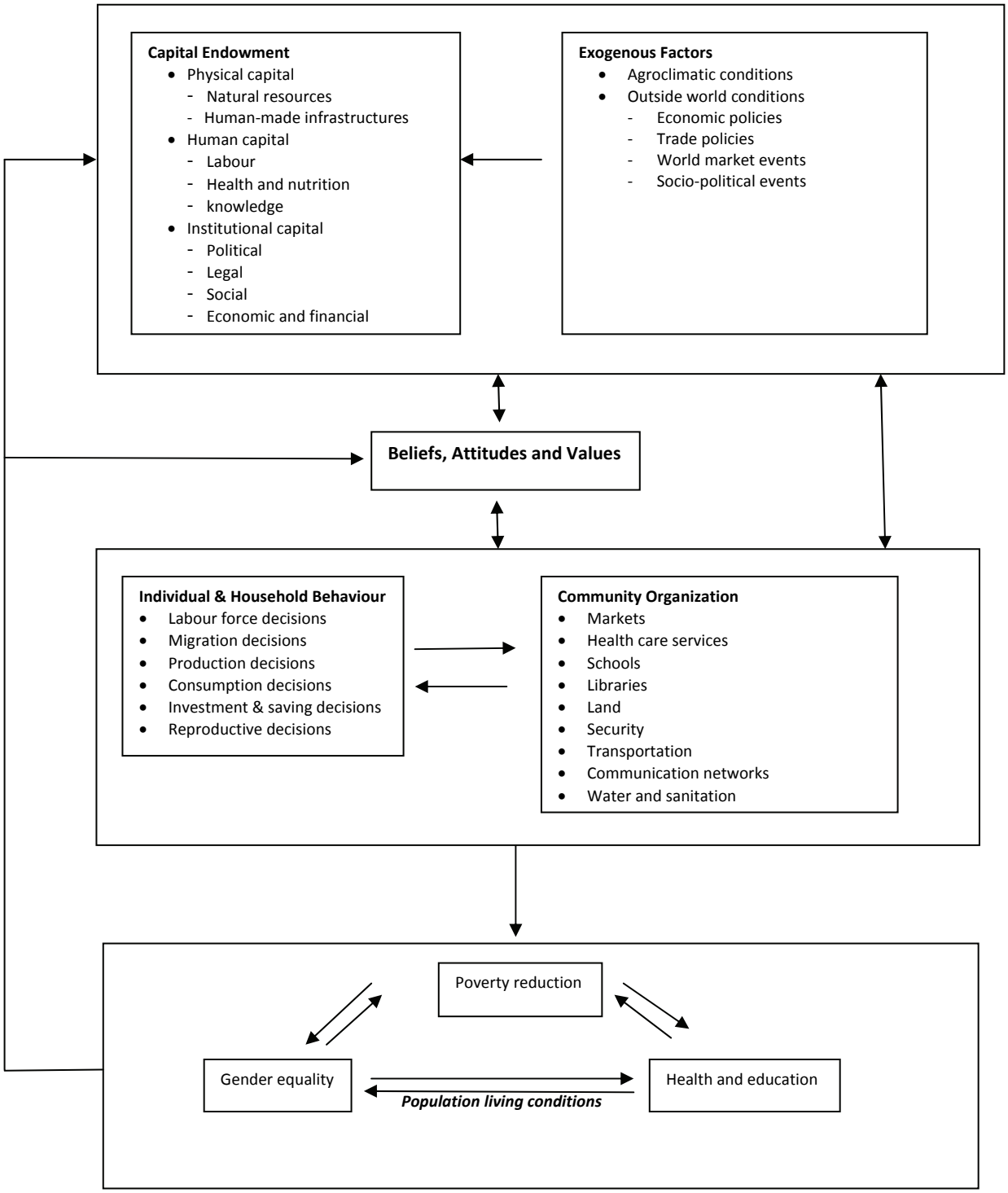
At the country level, strategies to improve household living conditions require holistic planning, including consideration of (a) the living conditions of the whole population as well as of specific sub-groups; (b) the current well-being and changes in the well-being of the population; (c) both positive and negative consequences of human activity, in a way that reflects the full costs and benefits for the population, in monetary and non-monetary terms; and (d) the development of all segments of society at the local, regional, national and global levels, including social and economic activities as well as environmental conditions (see Figure 1 for a conceptual framework).

There is no universal definition of poverty or consensus on who is considered "poor" or not. At the same time, studies have suggested that, both in Myanmar and elsewhere, people generally tend to be able to identify who is perceived as less well-off or poor in their community. According to a qualitative study conducted under the auspices of the first IHLCA project, among the main dimensions of poverty and well-being in Myanmar would be housing, income, business activities, access to land, access to investment capital, food quality, food quantity, clothing, health and education.[5] These may be considered as the set of basic needs to be satisfied in order to be non-poor.

However, what is necessary to satisfy basic needs varies across time and societies. It may not be possible to use local poverty identification towards development of a national poverty reduction strategy. Moreover, reliance on a single indicator of poverty, such as lack of income or of consumption, risks missing other important features of well-being. To capture the different aspects of living conditions, and allow comparisons across population sub-groups and regions of the country, various indicators of poverty and well-being have been developed and used by national and international statistical agencies, development partners, policy makers and programme planners.

[5] *Qualitative Study on Household Living Conditions in Myanmar: Main report;* Ministry of National Planning and Economic Development, United Nations Development Programme and IDEA International Institute, Yangon, 2004.

Figure 1: Conceptual framework of the capital constraints and conditioning environment for improving household living conditions



A large range of indicators exist for monitoring national and international goals for improving living conditions and reducing poverty. They include, among others:

- The indicators of the MDG framework;
- The compendium of indicators for Human Resources Development (HRD);[6]
- The World Bank's list of World Development Indicators (WDI);[7]
- The UN Common Country Assessment (CCA) indicator framework;[8]
- The Gender Stats (GS) database of gender-sensitive indicators;[9]
- The World Summit for Children (WSC) indicators as monitored through the Multiple Cluster Indicator Surveys (MICS);[10] and
- The Reproductive Health (RH) indicators for monitoring goals of the International Conference on Population and Development.[11]

Some of these indicators can be easily and reliably collected through household surveys; others must draw on information compiled through censuses, facility-based surveys, routine administrative records or other sources.

At the initial stage of IHLCA-I, the IDEA International Institute has proposed sets of core indicators that should be accorded priority status for inclusion in the IHLCA quantitative survey. Appendix D, Table 1 presents a compendium of core indicators according to domain, with characterization according to framework correspondence. It offers preliminary recommendations as to which of these indicators should be accorded priority status for inclusion in the IHLCA quantitative surveys. In IHLCA-I, most of these indicators are taken into account. However, there are indicators that required keeping track on and those that need to be added in the follow up surveys. Keeping the previous recommended indicators (Appendix D of Table 1) in view, this report intends to identify new information that should be accorded priority status for inclusion in the IHLCA-II quantitative household survey.

[6]Handbook on Human Resources Development Indicators, 2002, Department of Labour, Ministry of Labour and UNFPA, Yangon,2003.

[7] World Development Indicators Database, World Bank, Washington, 2003

[8] Common Country Assessment Indicator Framework, United Nations Development Group, New York,1999.

[7] Gender Stats: Database of Gender Statistics, World Bank, Washington, 2002.

[8] Monitoring National Programme of Action Goals through Multiple Indicator Cluster Survey 2000, Department of Health Planning, Ministry of Health and UNICEF, Yangon.

[9] Reproductive Health Indicators for Global Monitoring, World Health Organization, Geneva, 2001.

2. POPULATION AND HOUSEHOLD CHARACTERISTICS

The Starting point of most sample household surveys is the household roster, or a complete listing of all members in each household selected for inclusion in the survey, along with their age, sex, marital status and relationship to the household head. This approach offers the means for profiling the population, and is the one recommended for the IHLCA quantitative survey. In addition, by asking the household head (or other responsible adult) about the number of births and deaths in the household during a given reference period (usually the last 12 months), as well as the mobility patterns of all members, it is possible to rapidly collect information on a number of indicators relevant for monitoring the components of population growth and change, that is, fertility, mortality and migration.

2.1 Population structure

Before the IHLCA-I was initiated; a number of surveys in Myanmar had gathered data on various aspects of population and household dynamics, including distribution of households by size and headship as well as the dependency ratio[12] (Appendix D: Tables 2.1, 2.2 and 2.3). The surveys have had their own particular objectives, target populations and sampling designs (Appendix C). Therefore, the results may not always be directly comparable. For example, as seen in Table 2.1, between 1990 and 1999, the fraction of households in rural areas composed of one member ranged between 0.8% and 3.7%, depending on the source. The spread was even wider in urban areas: between 0.7% and 4.5%. It would seem unlikely that such observed divergence would be the result of sharp fluctuations in actual household sizes alone.

All of the data presented are unadjusted and have been drawn from published reports (and sometimes from accessible preliminary draft reports). In most instances, these reports only published statistical tables, usually disaggregated by geographical units (state/division, urban/rural). Rarely was information available, either in the publications themselves or in terms of accompanying raw data sets, allowing for in-depth assessment of the quality of the data produced and potential sampling and non-sampling errors.

The sampling selection scheme is of critical importance for ensuring representations of survey results. This is based on the sampling frame, or complete listing of enumeration areas (commonly referred to as "clusters" or "communities")[13] and households from which a sample can be drawn. Ideally, the sampling frame is derived from the most recent population census. The last census conducted in Myanmar was in 1983. While a number of national surveys have since captured indicators of population growth and change, the information may only be functional for larger geographic units. Little information has been made available on the exact origin of the frame used in surveys conducted long past the ability to rely on the census as a timely and accurate portrait of the Myanmar population, or on whether any independent relisting was organized in order to reliably update that frame.

[12] The dependency ratio is a measure of the portion of a population which is composed of dependents (people who are too young or too old to work).

[13] In Myanmar, the enumeration areas are wards for urban areas and village tracts for rural areas. While the ward is the lowest administrative level for urban areas, a village tract may contain more than one village.

Another vital sampling issue is geographic coverage. Any survey that claims to be nationally representative should cover in its sampling frame 100% of the country's population. However, many previous surveys in Myanmar have excluded certain geographic areas (presumably due to extreme inaccessibility from either natural or political problems). It is uncertain how these exclusions have affected representation of the final results. With regard to potential non-sampling errors, these may include errors due to recall bias such as memory lapses and event omission or displacement. Other aspects of survey implementation that could affect comparability include interviewer training and data processing operations.

Keeping above in view, the IHLCA-I survey addressed sampling issues such as reliability, representation and non-sampling errors by carefully designing the sampling plan. The survey systematically included listing of all households within the selected enumeration area, based on maps. This ensures the survey results to be representative. Moreover, in order to allow for more precise estimates and enable greater degrees of disaggregation at sub-national level[14], IHLCA-I survey was designed to cover a large number of sample households. Potential non-sampling errors were attempted to avoid by taking same measures of control. For example, field staffs (enumerators and supervisors) were carefully selected based on the strong literacy skills and qualifications in calculations and statistics. Apart from that, the survey carefully conducted validity checks from the onset of manual questionnaire editing to data processing, which was combined with proper training to all the persons concerned to realize sound and consistent results and outcomes.

It is recommended that same procedure used in IHLCA-I should be followed in IHLCA-II in addressing sampling issues. A panel survey is recommended that enables to cover some of the same households surveyed in IHLCA-I and some new households. The same sample size is to be kept in order to attain the level of precision gained in IHLCA-I.

It is expected that some sample townships and households might be affected by the cyclone Nargis that affected in Myanmar in 2008. But, it is important to include the affected areas in the IHLCA-II survey as the results can measure the changes in level of living conditions compared with the results of IHLCA-I survey[15]. The list of population and household indicators that have been monitored in IHLCA-I and are to keep monitoring in IHLCA-II is presented in Table 2.1. New sample townships and households may need to be selected but sample townships and households of IHLCA-I that are not totally destroyed need to be retained in IHLCA-II.

Table 2.1: Population and household indicators recommended for inclusion in the household modules of the IHLCA-I and IHLCA-II quantitative surveys, by survey round

	Indicator	R-1 only	R-2 only	Both rounds
1	Population distribution by age and sex			Yes
2	Household headship			Yes
3	Household size			Yes
4	Dependency ratio			
5	Average household members per livingroom	Yes		Yes
Total number of indicators				5

[14] The survey ensures collection of representative data for the National level, State/Division level and urban/rural areas.
[15] Dr. Than Toe (2009): Suggestions for the implementation of IHLCA-II Survey.

2.2 Components of population growth and change

Population growth, at both national and sub-national levels, represents a fundamental indicator for national decision-makers. Rapid population growth has been identified as a crucial element attesting long-term developmental sustainability, notably when occurring in conjunction with poverty and lack of access to resources or in ecologically vulnerable zones. It is generally analyzed in terms of its components during a period, namely, numbers of births, deaths and migrants. In particular, the difference between the numbers of births and deaths, expressed in terms of the crude birth rate and the crude death rate, gives the population's natural growth rate.

- ***Fertility***

One of the most commonly used indicators for monitoring population growth and change is the total fertility rate (TFR), or the average number of children that would be born to a woman in her lifetime, if she were to pass through her childbearing years experiencing the age-specific fertility rates for a given period. Where data on births by age of mother are of good quality, or adjustments for age misreporting and incompleteness can be made,[16] the total fertility rate is calculated as the sum of the ratios of annual births to women at each specific age to the population of women of the same age. Analyses of the TFR in a population usually emphasize the interrelationships between fertility and mortality levels, as well as with the empowerment of women and education, particularly of women and girls.

In Myanmar, previous assessments have pointed to wide differentials in the TFR across urban and rural areas and by State/Division (Appendix D: Table 2.4). The TFR is notably low in urban areas, likely related to relatively late average age at first marriage. At the same time, certain disparities in the reported TFR can be noted across different data sources within a short period of time: for example, from 2.7 lifetime children per woman according to the 1997 FRHS to 2.4 a mere four years later. While some of this may be related to rapid changes in the fertility patterns of Myanmar couples, it remains uncertain to what extent data collection and processing techniques may have also affected the final results.

- ***Mortality***

One of the most favoured indicators of population growth and social development, and one of the components of UNDP's Human Development Index, is life expectancy at birth. Life expectancy is an indicator of mortality conditions and, by proxy, of health conditions. It measures how many years on average a newborn baby is expected to live, given current age-specific mortality risks. Where data on deaths by age are of good quality, or adjustments for age misreporting and incompleteness can be made,[17] life expectancy can be calculated directly from reported deaths and population counts. It is usually calculated separately for males and females (see Appendix D: Table 2.5).

- ***Migration***

[16] A variety of methods exist for evaluating the completeness of birth and death recording in a survey or census. Most of these rely on mathematical relationships between the age distribution of the event and the age distribution of the population, and make certain simplifying assumptions about error patterns. See, for example: United Nations Department of International Economic and Social Affairs, *Manual X: Indirect Techniques for Demographic Estimation.* Population studies no. 81. New York: United Nations Publication,1983.

[17] A number of approaches are possible for evaluating the completeness of death recording and producing robust estimates of age-specific mortality risks. One common method is the calibration of observed data against smoothed cohort survivorship probabilities from model life tables. See, for example: Coale A.J. and Demeny P.,*Regional Model Life Tables and stable Population,* Princeton NJ: Princeton University Press, 1966.

The third component of population change is migration, or the geographical mobility of the population. This is usually monitored via the net migration rate, which is calculated as the ratio of the difference between the number of in-migrants and out-migrants from a particular area during a specified period to the average population of that area during the period considered. Migration streams, either across countries or between different parts of a country, are of interest in connection with regional economic, social and environmental analysis. The significance of migration to national policy makers rests not only in its size, but also in its composition. Such migrant characteristics as age, sex, occupation and educational background can have profound implications for development in both the sending and the receiving areas. Increases of net migration linked to a loss of livelihood can be a symptom of unsustainability, for example.

Internal migration can be monitored through household surveys in terms of lifetime migration (that is, Change of state/division or urban/rural residence at least once between birth and the time of interview) or recent migration (change of residence within the 5 or 10 years preceding the time of interview). In Myanmar, it has been estimated that about 1 person in 3 has migrated between urban/rural areas within their lifetime (Appendix D: Table 2.6).

In light of observations made above, the following indicators (Table 2.2) were apparently missed and recommended to be considered for the IHLCA-I. The inclusion of questions in the household module regarding the life time/ recent migration streams and birth/ death in the households will yield the important indicators that were suggested to be included. These were expected to allow for the measurement of the basic demographics relevant to the analysis of living conditions.

Table 2.2: Population and household indicators recommended for inclusion in the household module of the IHLCA-I quantitative survey, by survey round

	Indicator	R-1 only	R-2 only	Both rounds
1	Crude birth rate	Yes		
2	Crude death rate	Yes		
3	Age-specific fertility rates and the total fertility rate	Yes		
4	Age-specific mortality rates* and life expectancy at birth	Yes		
5	Lifetime migration of all household members	Yes		
6	Migration of all household members in the last 5 years	Yes		Yes
Total number of indicators				6

* See section 7.2 for infant mortality rate and child mortality rate

Taking into account of information gap, IHLCA-I has attempted to include combined questions on birth and deaths in the households in the 12 months period preceding the interview in order to measure Total Fertility Rate and Mortality Rate. However, given the sample size of the IHLCA quantitative survey at approximately 18,660 households, Total Fertility and Mortality indicators would be of greater degree of uncertainty than other indicators.

In respect of migration, change of residence within 5 years preceding the time of interview (in lieu of lifetime migration) was considered in the IHLCA-I. Five types of internal migration pattern in Myanmar were captured in the questionnaire from which migration between rural-urban, urban-rural, urban-urban and rural-rural including inter-state/division migration could be derived. Seasonal variation in migration was also made available to explain the seasonal changes in migration pattern between periods.

As per recommendations of IDEA International Institute, IHLCA-I has integrated migration information in the questionnaire design. However, to better understand the changes in migration pattern, it remains to include questions in IHLCA-II regarding the place of birth and place of residence five years ago for all household members that would allow for measuring lifetime and recent changes in migration streams. Moreover, combined questions on births and deaths in the household in the 12-month period preceding the interview is expected to be included again in IHLCA-II to allow measurement of changes in the basic demographic indicators relevant to the analysis of household living conditions.

3. POVERTY AND MALNUTRITION

Analyses of poverty in a population should ideally include both monetary and non-monetary dimensions. Poverty can be defined as a level of well-being deemed inadequate in a given society at a given time to satisfy basic needs and live a reasonably fulfilling life. It is measured via survey data by purchasing power or per capita expenditures made by the household, in the form of poverty rates or expenditure quintiles. Other approaches include the identification of a certain number of basic needs to be satisfied in order to ensure a person's physical survival and to be considered non-poor: food, clothing, housing, etc.

3.1 Household income and consumption expenditure

Household income and consumption expenditure have a strong correlation to most other living condition indices and are therefore used as main indicators of poverty and vulnerability. A person is considered poor if his or her income or consumption level (it is generally preferred to use consumption data) falls below some minimum level necessary to meet basic needs, with a particular focus on having enough to eat. This minimum level is usually called the *poverty line.* Different and complementary approaches can be used for setting the poverty line, such as a single monetary line at the national level or several lines for different administrative/geographical sub-regions.

There is a long tradition of setting "scientific" poverty lines by calculating the cost of a minimal standard of living. For example, when estimating poverty world-wide, the World Bank uses the same reference poverty lines, set at $1 and $2 per day in 1993 Purchasing Power Parity (PPP) terms (where PPPs measure the relative purchasing power of currencies across countries). However, poverty lines vary in time and place, and values. As such, for analysis of poverty in a particular country, the World Bank always uses poverty lines based on norms for that society.

It is recommended that these indicators should also be included in the IHLCA-II survey in order to obtain poverty profile of Myanmar four years after IHLCA-I and assess the trend in poverty situation.

In Myanmar, the 1997 and 2001 Household Income and Expenditure Surveys (HIES)[18] collected information on the income of members in the sampled households, allowing for calculation of mean monthly household income and classification of households by income category (Appendix D: Table 3.1). Detailed information was collected on household expenditures, broadly divided into food and non-food items (Appendix D: Table 3.2). Data gathered through surveys like the HIES can potentially be used for distinguishing poor versus non-poor households according to an established poverty line.

Lack of published official poverty lines and thorough study of poverty profile of Myanmar indicated the need to measure poverty lines and study poverty profile in IHLCA-I survey. Therefore, the following indicators were recommended as essential for inclusion in the IHLCA-I survey.

[18] The 2001 HIES final report had not yet been published at the time this document was prepared. However, some results from the survey were available in the 2002 Statistical Yearbook.

Table 3.1 : Household Income and Expenditure indicators recommended for inclusion in the IHLCA-I quantitative survey

Indicator	R-1 only	R-2 only	Both rounds
Household income and expenditure			
1. Percent of population below the national poverty line			Yes
2. Percent of population below the food poverty line			Yes
3. Household expenditure on food as percentage of total consumption expenditure			Yes
4. Percent of population below $ 1 PPP per day			Yes
5. Poverty gap ratio			Yes
6. Share of the poorest quintile in national consumption			Yes
7. Gini coefficient			Yes
Total number of indicators			7

3.2 Food security and nutrition

In addition to monitoring household food consumption, anthropometric measurement (body dimension and composition) is often used as a survey tool for assessing the extent and severity of malnutrition in a population. In particular, a priority indicator for monitoring population nutritional status and eventual food security is the growth status of young children.

In a well-nourished population, there is a standard distribution of height and weight for children under 5, as recognized by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO). Undernourishment in a population can be gauged by comparing children to this distribution. Children whose scores in terms of weight for age, height for age and weight for height below the international reference point are classified as underweight, stunted or wasted respectively. More precisely, scores more than 2 standard deviations (SD) below the median of the reference population are considered *moderately* underweight, stunted or wasted; scores more than 3 SD below are considered *severely* underweight, stunted or wasted. This is usually a reflection of acute, chronic and/or recent malnutrition respectively.

Weight for age: The most commonly used indicator is weight for age, which has been measured in three successive rounds of the MICS (Appendix D: Table 3.3). This information can be used for identifying subgroups of children who are disadvantaged and in need of special attention. Previous analysis of cross-national household survey data has reported little apparent correlation between levels of stunting and levels of wasting in a population, so information on all three indicators of nutritional status can be especially useful for both longer-term and short-term food security assessment.

Iodine deficiency: Measuring the percent of households using adequately iodized salt is a core WSC indicator. Deficiency of iodine in the diet is the world's single greatest cause of preventable mental retardation. Salt iodization is an effective, low-cost way of preventing iodine deficiency disorders. Previous surveys in Myanmar, notably the MICS, have tested the iodine content of salt being used in households by means of portable testing kits (Appendix D: Table 3.4). However, the actual measure of adequacy of iodine content in the edible salt varied across surveys. In 1995 and 1997, only the positivity of iodine was tested and recorded. In 2000, more precise measures were taken and recorded with regard to the iodine level. Adequately iodized salt was considered to contain 15 parts per million (ppm) of iodine or more.

To measure and monitor poverty and malnutrition related indicators consistently, the following anthropometric measures among children under 5 and salt testing for iodization were identified to be considered in the IHLCA-I.

Table 3.2: Food security and nutrition indicators recommended for inclusion in the IHLCA-I quantitative survey

Indicator	R-1 only	R-2 only	Both rounds
Food security and nutrition			
1. Percent of children under 5 moderately or severely underweight			Yes
2. Percent of households using adequately iodized salt (15+ ppm)			Yes
Total number of indicators			2

Only indicators shown in Table 3.2; such as under 5 children moderately underweight and iodization of salt, were supplied by IHLCA-I quantitative survey. As the recordings need efficient medical staff like nurses and midwives especially for iodized salt (and at the same time, continuing MICS can supply necessary data more in detail), it is recommended only to measure indicator 1 of Table 3.2 in IHLCA-II.

3.3 Household wealth and assets

In order to enable a more in-depth look into poverty and living conditions, a number of other social and economic characteristics of households are also usually compiled via sample surveys, including housing ownership, dwelling type and household assets. Particularly when income or expenditure data are considered deficient (or are lacking from the survey database), the use of a household wealth index allows analysts to evaluate the distribution of poverty in a population.

The wealth index is constructed using household assets data, or household ownership of a number of consumer items which can range, depending on the country, from a television to a bicycle or car, as well as dwelling characteristics such as type of drinking water available, sanitation facilities, roofing and flooring. Households are assigned a score for each asset, and the scores are summed and weighted by the number of members in each household. Each household is then designated into a population quintile and ranked, from one (poorest) to five (wealthiest). The wealth index may be best interpreted as an indicator of a household's permanent income status.

Data relevant to the construction of a household wealth index have been compiled in previous surveys in Myanmar. For example, information on building structure was collected in the 1997 HIES (Appendix D: Table 3.5). Information on number of household assets was also compiled in this and other surveys (Appendix D: Table 3.6). However, none of the official survey publications provided an analysis in terms of wealth index, permanent income status or other poverty measures.

Therefore, for assessing poverty arising out of the lack of access to development services and technologies, the following indicators were reflected as essential for regular monitoring in IHLCA quantitative surveys besides collecting usual information on building structure:

Table 3.3: Household assets and amenities indicators recommended for inclusion in the IHLCA-I quantitative survey

Indicator	R-1 only	R-2 only	Both rounds
Household assets and amenities			
1. Percent of households with access to a radio or television	Yes		
2. Percent of households with access to a telephone	Yes		
3. Percent of households with access to a motor vehicle	Yes		
4. Percent of households with access to a personal computer	Yes		
5. Percent of households with access to a safe and convenient drinking water	Yes		
6. Percent of households with access to improved sanitation	Yes		
Total number of indicators	6		

Most of the indicators shown in Table 3.3 were able to be captured in IHLCA-I quantitative survey. Since these indicators help assess the poverty situation arising out of the lack of information and technologies, they are recommended to be included in IHLCA-II quantitative survey. This will enable to analyze the poverty situation of Myanmar 4 years after IHLCA-I in terms of these indicators.

In sum, IHLCA-I was able to establish national poverty lines and monetary poverty measures. All indicators shown in Table 3.1 except indicator 4 were obtained in IHLCA-I quantitative survey. Thus, IHLCA-I was able to supply the two MDG indicators, namely, poverty gap ratio and share of poorest quintile in national consumption, which are indicators for monitoring progress (Appendix B). It was able to yield another widely used indicator, Gini coefficient, an index of relative inequality in the distribution of poverty based on the cumulative frequency curve.

While IHLCA-I has made some required information available, there remains some indicators that needs to be added and follow up. It is proposed that the IHLCA**-II** household survey be:

- Designed to measure the national monetary and non-monetary poverty, in order to better capture the multi-dimensional nature of living conditions in continuous term.
- For international comparison, monetary poverty measures in PPP will be needed and is recommended to be derived using the available information on household consumption expenditure in IHLCA surveys.

4. LABOUR AND EMPLOYMENT

The last labour force survey in Myanmar was conducted in 1990, with detailed questions on labour force participation and work activities asked in reference to all household members ages 10 years and over (Appendix D: Table 4.1 and 4.2 a and b). Some additional information on labour market activities has been compiled under other data collection activities as well. However, each of these different sources had their own objectives, sampling designs and reference populations (for example, household members ages 15 years and over), so results may not be directly comparable.

With respect to workplace industry, survey response categories have been published in harmonization with the International Standard Industrial Classification of All Economic Activities (ISIC)[19], which has also been adopted in Myanmar. Classification systems are designed to serve as an instrument suitable for assembling, compiling and presenting economic and social indicators and statistics that are comparable both within a country and internationally. In particular, 17 tabulation categories are identified via the ISIC system and are shown in Appendix F (1):

However, 17 categories have sometimes been collapsed into a smaller number of broader groupings. They can also be grouped by industrial sectors:

1: Primary — Agriculture, hunting, forestry, and fishing;

2: Secondary — Mining and quarrying, manufacturing, and construction;

3: Tertiary — Electricity, gas, water, sanitary services, wholesale and retail trade, hotels and restaurants, transport, storages, communications, social services, and other activities not adequately defined.[20]

To produce an updated and representative profile of the labour force while allowing for comparison with the other data sources, the following indicators were identified as required for IHLCA-I.

Table 4.1: Labour force indicators recommended to be included in the IHLCA-I quantitative survey, by survey round

	Indicators	R-1 only	R-2 only	Both rounds
1	Labour force participation rates by age and sex			Yes
2	Child/youth labour force participation rates (10-14 and 15-19 years)			Yes
3	Employment and unemployment rates by age and sex			Yes
4	Unemployment rate of 15-24 years olds			Yes
5	Distribution of labour force by education level			Yes
6	Employed population by industry group			Yes
7	Employed population by occupation			Yes
8	Employed population by employment status			Yes
9	Share of women in wage employment in non-agricultural sector			Yes
10	Underemployment rate			Yes
Total number of indicators				**10**

[19] International Standard Industrial Classification of All Economic Activities (ISIC): Rev. 3.1, United Nations Statistical Division, New York, 2002.

[20] Handbook on Human Resources Development Indicators, 2002, Department of Labour, Ministry of Labour and UNFPA, Yangon, May 2003.

Furthermore, IHLCA-I was recommended to consider categorization of employment according to internationally standardized classifications as appropriate, notably the ISIC, the International Standard Classification of Occupations (ISCO),[21] and the International Classification of Status in Employment (ICSE)[22] for optimizing comparability. In particular, under ISCO, occupations are organized according to skill level and skill specialization. Ten major groupings are identified as shown in Appendix F (2):

As recommended, the IHLCA-I was able to produce an updated profile of labour force, with all data published by age and sex that allow for comparisons with other data sources. Labour force participation rate, employment and unemployment rate were also made available by different disaggregated levels. Information on women employment in non-agriculture sector was included in the questionnaires and share of women employment in non-agriculture sector was computed accordingly in order to facilitate MDG monitoring of gender equality.

All indicators shown in Table 4.1 were made available in IHLCA-I quantitative survey. Including indicator 8 (in Table 4.1) helped compute the proportion of own-account workers and contributing family workers in total employment, one of the MDG indicators shown in Appendix B for monitoring progress of target.

Moreover, to shed light on utilization of full employment capacity, IHLCA-I questionnaire included information on number of hours work for individual household members. Thus, proportion of under-utilized labour was able to be estimated. Besides; information was also made available on youth employment to help track economic and social integration of youth in employment.

As indicators related to employment are used to measure the situation of economic development and welfare improvement as well, it is important to monitor these overtime. For example, lower percent of underemployment reflects that the larger portion of labour force is utilized at full capacity while movement of employment between sectors helps interpret the structural shift, which is an important indication of economic development. Therefore, to keep track on changes in employment pattern and structural change overtime, these indicators are recommended to be included in the IHLCA-II survey.

[21] International Standard Classification of Occupations: ISCO-88, International Labour Organization, Geneva,1990.
[22] International Classification of Status in Employment (ICSE-93), International Labour Organization, Geneva,1993.

5. EDUCATION AND LITERACY

The achievement of universal primary education among children of eligible school age is one of the priority targets of the MDG and Education for All (EFA) action programmes. Adult literacy is widely recognized as a priority indicator for broadly monitoring educational, social and economic conditions. Higher illiteracy rates may be interpreted as the result of lower school enrolment and early drop-outs, as well as less access to information, training and literacy programmes. Moreover, women's education and literacy are priority indicators for monitoring gender equality.

A number of previous household surveys in Myanmar have collected sex-specific information on both adult literacy and children's schooling (Appendix D: Tables 5.1 and 5.2). These sources provide a valuable point of comparison against administrative data on school enrolment as compiled through routine information systems.

Public and private investments in the education and other social sectors can provide useful information for monitoring whether national macroeconomic policies are ensuring that these sectors are not being deprived of resources as well as evaluating the efficiency of such spending. While public expenditures can only be accessed via administrative data (Appendix E: Figure 5.1), private expenditures can readily be compiled through household-based surveys.

To provide comparable and reliable data overtime, IHLCA was recommended to include information on children's schooling as well as adult literacy. In terms of schooling, IHLCA was recommended to compile according to the International Standard Classification of Education (ISCED).[23] In particular, levels of education were suggested to categorize (as per Appendix F-4) to optimize comparability of data on schooling (all age groups combined).

Moreover, to easily extract information pertinent for monitoring private expenditures on education, the twelve main COICOP categories of goods and services were suggested to be considered in IHLCA-I (Appendix F-5):

Table 5.1: Education and literacy indicators recommended to be included in the IHLCA-I quantitative survey, by survey round

	Indicators	R-1 only	R-2 only	Both rounds
Household income and expenditure				
1	Household expenditure on basic education as percent of total consumption			Yes
Enrolment ratios among children of eligible age (ages 5-14)				
2	Gross enrolment ratio in primary school			Yes
3	Net enrolment ratio in primary school			Yes
4	Ratio of girls to boys enrolled in primary school			Yes
5	Gross enrolment ratio in secondary school			Yes
6	Net enrolment ratio secondary school			Yes
7	Ratio of girls to boys enrolled secondary school			Yes
8	Percent children entering first grade who reach fifth (KG- Grade 4)			Yes
Individual (all household members ages 15 and over)				
9	Adult literacy rate	Yes		
10	Literacy rate of 15-24 year-olds	Yes		
11	Ratio of literate females to males of 15-24 year-olds	Yes		
12	Ratio of females to males with high school completed	Yes		
13	Enrolment ratio in tertiary education	Yes		
14	Ratio of females to males in tertiary education	Yes		
15	Mean years in schooling	Yes		
16	Transition rate between levels	Yes		
Total number of indicators				**16**

[23] International Standard Classification of Education (ISCED 1997),United Nations Educational, Scientific and Cultural Organization, Paris, 1997.

The required information on the education and literacy were made available by the MICS household surveys. However, in the light of understanding the progress towards achievement of universal primary education, adult literacy and school enrollment were compiled via IHLCA-I survey data. Literacy rate were determined aggregated by age and sex based on the three sets of criteria: 1. Those who had never been to school (or) passed at most 1st standard (or) been to monastic education (and able to read, write and compute simple mathematics) 2. Those who completed 2nd standard to 10th standard 3. Those who have attended professional school (or) college/university education. Moreover, school enrollment indicators were included disaggregated by different levels of schooling, namely; primary school enrolment and secondary school enrolment.

As adult literacy and children's schooling patterns are unlikely to change significantly over a short period of time, their collection was limited to the first round only in IHLCA. Additionally, information on household's expenditure on education was included by following the COICOP categories of goods and services. Therefore, it was possible to measure the share of private expenditure on education in total household consumption expenditure in IHLCA-I quantitative survey.

To enable monitoring progress towards equitable universal primary education among children, gender equality in education and adult literacy, it is suggested that the indicators shown in Table 5.1; should be compiled and analyzed in the IHLCA-II survey. Additionally, new indicator "transition rates between levels" is recommended to be considered in the upcoming project to understand how the higher level of education affects the school drop-out. Indicators shown in Table 5.1 were mostly estimated in IHLCA-I quantitative survey.

6. GENDER EQUALITY AND WOMEN'S EMPOWERMENT

Gender equality merits specific attention from policy-makers, researchers and other stakeholders committed to the pursuit of human development and poverty eradication. Women have an enormous impact on the well-being of their families and communities, yet their potential is not realized at a global level because of a disadvantaged status that usually persists throughout their lives. Improving women's access to social and economic opportunities and enhancing returns on their efforts, therefore, are central to the MDG framework and other international instruments.

Ratios of girls to boys in primary, secondary and tertiary education were obtained from administrative records while the share of women in wage employment in the non-agricultural sector was estimated through the Labour force survey in 1990. However, the degree of comparability of administrative data was suggested to be checked with the data available from the household survey. The key indicators for monitoring progress towards gender equality and women's empowerment that can be measured through household surveys relate to access to education and labour markets. For one, the Literacy Gender Parity index, or ratio of the female literacy rate to the male literacy rate, measures progress towards gender equity in literacy and learning opportunities for women in relation to those for men.

This and other indicators of gender equality could be readily compiled based on eventual findings from the IHLCA through the disaggregation by sex of data on schooling, literacy and labour force activities (Table 6.1).

Table 6.1: Indicators on gender equality and women's empowerment recommended for inclusion in the IHLCA-I quantitative survey, by survey round

Indicator	R-1 only	R-2 only	Both rounds
Labour force, industry and occupation			
1. Share of women in wage employment in the non-agricultural sector*			Yes
Education and literacy			
2. Ratio of girls to boys enrolled in primary school**			Yes
3. Ratio of girls to boys enrolled in secondary school**			Yes
4. Ratio of females to males in tertiary-level schooling**	Yes		
5. Ratio of literate females to males of 15-24 year-olds**	Yes		
6. Ratio of females to males with high school completed**	Yes		
Total number of indicators			6

* See also section 4 on labour force and employment indicators.

** See also section 5 on education and literacy indicators.

Of the recommended indicators in table 6.1, indicators shown in table 6.2 were estimated:

Table 6.2: Indicators on gender equality and women's empowerment estimated in the IHLCA-I quantitative survey, by survey round

Indicator	R-1 only	R-2 only	Both rounds
Labour force, industry and occupation			
1. Share of women in wage employment in the non-agricultural sector*			Yes
Education and literacy			
2. Ratio of girls to boys enrolled in primary school			Yes
3. Ratio of girls to boys enrolled in secondary school			Yes
4. Ratio of literate females to males of 15-24 year-olds	Yes		
Total number of indicators			4

It is recommended that the same information collected in IHLCA-I quantitative survey should again be collected in IHLCA-II quantitative survey and that indicators 4 and 6 of table 6.1 should also be estimated in IHLCA-II to have a more complete picture of gender equality and women's empowerment. For this purpose, indicators like "Ratio of the female literacy rate to the male literacy rate and Ratio of females to males enrolled in vocational education" and "Ratio of literate female to male in the labour force be added to the list of indicators estimated in IHLCA-II quantitative survey.

7. HEALTH AND HEALTH CARE UTILIZATION

The burden of morbidity and mortality is heavily concentrated among the world's poor. Increasing recognition among policy-makers and other stakeholders of the linkages between health and poverty is exemplified in the attribution of three of the eight MDGs directly to issues of health (that is, improving maternal health, reducing child mortality, and combating HIV/AIDS and other major diseases). WHO advocates that the disease burden can be brought down in line with the MDGs only if there is a concerted, global strategy of increasing the access of the poor to essential health care services.

7.1 Maternal Health

Conditions during pregnancy and childbirth are likely to affect maternal and newborn health outcomes. High rates of maternal morbidity and mortality are generally the result of serious neglect of women's reproductive health, including inadequate access to methods for spacing and reducing the number of pregnancies as well as to rapid access to emergency obstetric care, notably treatment of haemorrhages, infections, hypertension and obstructed labour. However, measuring maternal mortality accurately is notoriously difficult (unless there is comprehensive registration of deaths and cause of death).[22] A number of process indicators are favoured for tracking maternal health outcomes by focusing on proper medical care during pregnancy and childbirth. The most widely used indicator is the proportion of deliveries occurring with the assistance of a skilled health professional.

Skilled birth attendance: Proportion of deliveries occurring with the assistance of skilled health personnel (that is, with the assistance of a doctor, nurse or midwife)[23] has been assessed via several previous household-based surveys in Myanmar (Appendix D: Table 7.1). It is uncertain to what extent the definitions of the different types of health personnel, as based on respondents' self-reports, are standardized across surveys, and whether or not they truly meet the international standard for "skilled attendants" as defined by WHO. Nonetheless; the indicator is considered one of the more reliable measures of a health system's ability to provide adequate care for pregnant women. It is usually expressed in terms of the percentage of births occurring within the five years preceding the survey.[24]

Antenatal care coverage: Other complementary maternal health-related indicators include antenatal care (ANC) coverage, and the contraceptive prevalence rate (CPR). ANC refers to women's consultations with skilled health personnel at regular intervals during pregnancy. As such, both aspects of the type of provider as well as the number of visits should be taken into account (Appendix D: Table 7.2). It may also be possible to collect additional information for attempting to gauge the content and quality of ANC care received, such as tetanus toxoid immunization among pregnant women; however, this has been evaluated as entailing more problems with reliable data collection and may be a non-specific reflection of RH services (where differences may be due to the effectiveness of the Expanded Programme on Immunization).

[22] A maternal death is defined as the death of a women while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental causes.

[23] Skilled health personnel should include only those who are properly trained and who have appropriate equipment and drugs. Traditional birth attendants, even if they have received as short training course, are not to be included.

[24] In practise, because of problems of incomplete reporting in household surveys, skilled births attendance, as well as antenatal care coverage and the maternal mortality ratio, are measured in terms of live births, that is, the product of conception which, after separation from the mother, breathes or shows any other evidence of life, irrespective of the duration of the pregnancy. Inconsistent application of this definition could otherwise lead to biased estimates to the given indicators.

Contraceptive prevalence: Contraceptive prevalence, or use of birth spacing and limiting methods among married couples, is also useful in tracking progress in health, gender and poverty goals. The CPR may distinguish between modern methods (that is, those that require supplies or clinical services, including contraceptive sterilization, intrauterine devices, hormonal methods, condoms and vaginal barrier methods) and traditional methods (including withdrawal and the calendar rhythm method). Because contraceptive use has been only measured through household surveys in Myanmar among married women (Appendix D: Table 7.3), it may be supplemented by an indicator on use among unmarried women and men in situations of risk of conception and of sexually transmitted infections (STIs) including HIV/AIDS (see section 7.3).

Maternal Mortality Rate: Previous estimates of the maternal mortality ratio (MMR) have been derived from different data sources in Myanmar and using various estimation techniques (Appendix D: Table 7.4). Statistically speaking; maternal deaths are a relatively rare event. In the 1994 Maternal Mortality Survey, for example, a sample of 85,500 households yielded only20 observations of maternal deaths. The coefficient of variation for measuring the MMR was found to be 35% at the national level[25].

In order to properly assess how well the health system is responding to the needs of mothers and newborns, questions related to antenatal and delivery care was recommended to be included in IHLCA-I. Additionally, the contraceptive prevalence was also suggested to be considered by the IHLCA-I to reflect the use of birth spacing and limiting methods among the married women (Table 7.1).

Table 7.1: Maternal health indicators recommended to be included in the IHLCA-I quantitative survey, by survey round

	Indicators	R-1 only	R-2 only	Both rounds
Ever married women ages 15-49				
1	Contraceptive prevalence rate		Yes	
2	Percent of births in the last 5 years by number of ANC visits during the pregnancy	Yes		
3	Percent of births in the last 5 years by source of ANC received during the pregnancy	Yes		
4	Percent of births in the last 5 years occurring at a health facility	Yes		
5	Percent of births in the last 5 years with skilled birth attendance	Yes		
Total number of indicators		**5**		

Maternal health related data covered in the IHLCA-I quantitative survey made it possible to estimate all indicators shown in Table 7.1. In order to monitor how the health system was responding to the needs of pregnant mothers, questions related to antenatal and delivery care were included. These questions referred to the women's live births in the five years preceding the interview.

[25] Maternal Mortality Survey 1994*:* Myanmar Maternal and Child Welfare Association, Institute of Economics, Ministry of Education, Department of Planning and Statistics, Ministry of Health, and UNFPA, Yangon.

Given the sample size of the IHLCA-I quantitative survey at 18,660 households, the MMR would be subject to a much greater degree of uncertainty than other maternal health indicators[26]. Moreover, it would not be possible to reliably disaggregate this indicator by region or population sub-group in the final analysis. Therefore, the IHLCA-I focused on monitoring skilled birth attendance and antenatal care coverage as the main indicators of progress towards improving maternal health.

Information related to contraceptive prevalence was also covered in IHLCA-I quantitative survey. Contraceptive use of modern as well as traditional methods was asked to currently married women while it could not be asked to the unmarried women as it is against Myanmar tradition.

It is recommended that the same indicators shown in Table 7.1 be included in IHLCA-II quantitative survey. As the list of MDGs (2008) includes new indicators; namely, adolescent birth rate and unmet need for family planning, these should also be covered in IHLCA-II quantitative survey to help measure the extent of safe and adequate access to reproductive health.

7.2 Child health

Assessing the level of infant and child mortality is central to monitoring progress towards the achievement of the MDGs, the National Programme of Action for Children, and other development goals. The infant mortality rate (IMR) is typically calculated as the ratio of the number of deaths under 1 year of age occurring in a given year to the total number of live births in the same year. The child mortality rate (CMR) is the ratio of the number of deaths at ages 1-4 in a given year to the total number of live births in the same year. These rates combined yield the under-5 mortality rate (U5MR). A number of different data sources (household surveys and vital statistics) as well as estimation techniques (direct and indirect methods) have been used to measure infant-child mortality rates in Myanmar (Appendix D: Table 7.5).

Other priority indicators for monitoring strategies to improve child health relate to health system coverage for primary health care interventions, notably coverage of the Expanded Programme on Immunization (EPI), as well as improved family practices for child health. In particular, a child must receive three doses of the diphtheria-pertussis-tetanus (DPT3) vaccine, three doses of oral polio vaccine (OPV3), one dose of BCG against tuberculosis and a measles vaccination in order to be considered fully immunized. The DPT3 and measles vaccinations are most often used to monitor childhood vaccination coverage rates and trends (Appendix D: Table 7.6).

[26] One approach for producing MMR estimates when relying on smaller sample size is by using sisterhood methods. This entails asking respondents of reproductive age in the household questions about how many of their sisters reached adulthood, how many have died, the date of death and whether those who died were pregnant around the time of death. However, this is obviously more time consuming than simply asking about the number of pregnancy-related deaths in the household in a given reference period (usually the last 12 months). Moreover, since the reference period of estimates using the sisterhood method tends to center around 6 years before the survey, it is not recommended to use this--or any--survey approach more than once every 7 to 10 years.

Early childhood breastfeeding practices are important determinants of the nutritional status of children, which in turn influence their health status. Research has revealed that infants who are exclusively breastfed for six months experience less morbidity from gastrointestinal infection than those who are mixed breastfed for shorter periods of time. Health benefits of longer durations of intensive breastfeeding have also been documented from the mother's perspective, linked to longer postpartum amenorrhea and subsequently longer birth intervals. WHO advocates exclusive breastfeeding for the first six months of life and appropriate complementary feeding practices thereafter.

The MICS surveys and FRHS in particular compiled information on breastfeeding practices for infants and young children (Appendix D: Table 7.7) using the current status approach (whereby the reference period of assessment was 24 hours prior to enumeration). However, care should be taken in comparing the indicators between two surveys due to definitional inconsistency.

In order to assess the level of child health and provision of child health system and their nutritional systems, the following indicators were suggested to be taken into account for the IHLCA-I.

Table 7.2: Child health indicators recommended for inclusion in the IHLCA quantitative survey round

	Indicator	R-1 only	R-2 only	Both round
Infant and child mortality rates				
1	Infant mortality rate*	Yes		
2	Child mortality rate*	Yes		
3	Under 5 mortality rate*	Yes		
Immunization coverage among children under 5				
4	Percent of children receiving BCG vaccination by first birthday	Yes		
5	Percent of children receiving OPV3 vaccination by first birthday	Yes		
6	Percent of children receiving DPT3 vaccination by first birthday	Yes		
7	Percent of children receiving measles vaccination by first birthday	Yes		
Breastfeeding and complementary feeding practices children under 2				
8	Percent of infants less than 6 months of age who were exclusively breastfed in the last 24 hours			Yes
9	Percent of infants 6 to 9 months of age who received breast milk and complementary food in the last 24 hours			Yes
10	Percent of children 20 to 23 months of age who are breastfeeding			Yes
	Total number of indicators			10

* See also sections 2.2 on mortality indicators as well as 7.1 on maternal health indicators.

In IHLCA-I, Indicators on children's vaccination coverage and early feeding practices were compiled by asking questions to the main caregiver of each child in the specified age range living in the sampled households at the time of the survey. Taking into account of potential seasonal variations the retrospective measure of child vaccination coverage was made in both survey rounds.

Data collected in IHLCA-I covered all indicators shown in table 7.2.

It is recommended that the same data be collected in IHLCA-II in order to track the child health situation in Myanmar.

7.3 HIV/AIDS and other major diseases

The main sources of data in Myanmar with regard to trends and impacts of the human immunodeficiency virus/ acquired immunodeficiency syndrome (HIV/AIDS) and other major diseases are administrative records. Little information has been complied and published via household surveys, and even less on the quality of reporting of existing data.

- ***HIV/AIDS***

HIV/AIDS is one of the priority diseases of the National Health Plan of Myanmar. Surveillance of HIV prevalence began in 1985. A National AIDS Committee was formed in 1989 to develop a multisectoral National Strategic Plan to Prevent and Control AIDS. The general objective of the National Strategic Plan has been to increase awareness and knowledge of HIV/AIDS among the population by promoting access to information and education leading to behaviour change and adoption of healthy lifestyles. Specific objectives include the promotion of condoms among higher risk groups and prevention of mother-to-child transmission of HIV. Forty local AIDS Prevention and Control teams have been established, strategically located in all states and divisions.

Among the priority, internationally recognized indicators that can potentially be collected via household surveys for monitoring the evaluation of the epidemic and assessing its impacts include:

- HIV prevalence rate among women aged 15-24;
- Condom use rate of the contraceptive prevalence rate;
- Condom use rate among 15-24 year-olds in high risk situations;
- Knowledge and misconceptions about HIV/AIDS among 15-49 years-olds;
- Ratio of orphans to non-orphans aged 10-14 years attending school[27].

Official HIV prevalence rates among women aged 15-24, as reported via sentinel surveillance from 29 sites across the country, are presented in Appendix D: Table 7.8. The rates range from a high of 5.26% in Meikhtila, to 0% for over half of the sites. While the spread of the epidemic appear to be concentrated geographically, it is uncertain to what extent the nil rates reflect incomplete reporting.

According to the Department of Health, the use of condoms, the only effective barrier method to prevent sexual transmission of HIV, would be 45.1% among young males aged 15-24 (Appendix E: Figure 7.1). No nationally representative household- based seroprevalence and/or behavioural survey has yet been conducted in Myanmar to validate these administrative data.

What has been collected and published from household surveys is limited information among women of reproductive age on knowledge and use of condoms for prevention of STIs including HIV/AIDS (Appendix D: Table 7.9). Results indicate that knowledge of condoms for disease prevention is very low, especially in rural areas. Only a slight increase in condom use was observed among currently married women of reproductive age between 1997 and 2001. No data have been made available on condom use during higher risk situation.

[27] Orphan prevalence is rising steadily in many countries, frequently jeopardizing children's well-being. Children and adolescents orphaned by AIDS often face prejudice, as well as decreased access to adequate nutrition, health care, schooling and other basic needs. Children orphaned by HIV/AIDS are defined as those who have lost their mother, father or both parents to AIDS before age 15. In practice, the impact of the AIDS epidemic on orphans is measured through the ratio of orphans to non-orphans who are in school.

- ***Tuberculosis***

Tuberculosis (TB) is an infectious disease caused by bacteria; it usually affects the lungs but all other body organs can also be involved (such as the lymph glands, kidneys or bones). Tuberculosis can be cured if treated properly; close monitoring of patient treatment is usually recommended since medication for TB must be taken daily. Surveillance and notification of tuberculosis cases and treatment outcomes under directly observed treatment short course (DOTS) are part of the national TB control strategy. Clinical monitoring of TB cases is applied in the 310 townships implementing the DOTS strategy (Appendix D: Table 7.10). Because monitoring of prevalence requires bacteriological confirmation or diagnosis by a clinician, direct measures via household surveys are uncommon.

- ***Malaria***

Malaria is another of the priority diseases in Myanmar. Not only is malaria prevention and control a key area for monitoring progress towards the MDGs and the WSC goals, it also emerged from the qualitative study conducted under the auspices of the IHLCA project as the principal health concern among respondents. The goals of the national malaria program include promoting personal protective measures, early diagnosis and prompt treatment. Specific strategies are dependent on local epidemiological conditions. Malaria risk areas are classified based on topography, level of transmission and possible vectors. They range in the country from "high risk" to "declared free from malaria". Interventions for promoting personal protective measures have included distribution of insecticide-treated bed nets (ITBN) and follow-up for re-impregnation in selected malaria endemic areas.

Information on malaria-related morbidity and mortality, as well as distribution of ITBNs, is available via administrative data from the Vector Borne Diseases Control Project (Appendix D: Table 7.11 and 7.12). It can be noted that over half of the population in areas targeted by ITBN distribution programme are covered; however, it remains uncertain whether the bed nets are being effectively used among higher risk sub-groups, notably among pregnant women and young children.

A number of indicators for monitoring progress in combating diseases in Myanmar, notably HIV/AIDS and malaria in the IHLCA-I are presented in Table 7.3. In particular, questions on knowledge and practices related to HIV/AIDS were suggested to ask to all men and women of reproductive age (15 to 49 years). As this is a subject that may be considered personal matters by some respondents, so it was recommended that the questions related to condom use and high risk sexual behavior are asked in the second round of data collection, allowing the interviewer more time to establish and maintain good rapports with the respondent.

Table 7.3: Indicators on prevention and control of major diseases recommended for inclusion in the IHLCA-I quantitative survey, by survey round

	Indicator	R-1 only	R-2 only	Both rounds
Household income & expenditure				
1	Household expenditure on health care as a percent of total consumption expenditures*			Yes
HIV/AIDS				
2	Condom use rate of the contraceptive prevalence rate**		Yes	
3	Knowledge of means of transmission and methods of prevention of HIV/AIDS		Yes	
4	Knowledge and misconception regarding HIV/AIDS by 15-24 year-olds		Yes	
5	Condom use in high risk situations by 15-24 year-olds		Yes	
6	Ratio of orphans to non-orphans ages 10-14 attending school***	Yes		
Malaria				
7	Percent of households in malaria risk areas with at least one insecticide-treated bed net		Yes	
8	Percent of children under 5 in malaria risk areas sleeping under an insecticide-treated bed net (the night prior to interview)		Yes	
Total number of indicators				**8**

* See also section 3.1 on household income and expenditures.

** See also section 7.1 on maternal health.

*** See also section 5 on children's education.

Information covered in IHLCA-I quantitative survey provided the estimation of all indicators in Table 7.3. But, no information was collected with regard to TB and malaria cases. As for HIV/AIDS, information on its knowledge was collected. It is recommended that the same information should be collected in IHLCA-II quantitative survey to estimate the trend of these indicators shown in Table 7.3.

Moreover, as also discussed in section 5 with respect to expenditures for education, by analyzing data on household consumption expenditures in accordance with the COICOP classification of goods and services, it is possible to extract information pertinent for monitoring private expenditures on health care (for all types of health care services and supplies, including for curative and preventive, from formal and informal sources).

8. ENVIRONMENTAL SUSTAINABILITY AND DEVELOPMENT OF GLOBAL PARTNERSHIPS

Many of the MDG indicators for monitoring progress towards achievement of environmental sustainability and development partnerships goals have been designed to be collected at the international level, across developed as well as developing countries. Among those that can be collected within a country via a household survey, and that have been collected in past surveys in Myanmar, are the proportion of the population with access to safe and convenient drinking water, the proportion with access to improved sanitation, the proportion with access to a telephone line, and the youth unemployment rate.

For one, the proportion of the population with access to safe and convenient drinking water has been compiled in the MICS and other surveys (Appendix D: Table 8.1). Certain definitional inconsistencies in what constitutes "safe and convenient drinking water" may hamper comparability across sources. Strictly speaking, the internationally recognized definition should only include the population who use any of the following types of water supply for drinking from sources located in their dwelling or within a convenient distance of their dwelling: piped water, public tap, borehole or pump, protected well, protected spring or rainwater. Improved water sources do not include vendor-provide waters, bottled water, tanker trucks or unprotected wells and springs. It is recognized that the concept of *convenient* access may vary across countries and settings; one common definition is "the availability of 20 litres per capita per day at a distance no longer than 1,000 metres"[28].

Proportion of the population with access to improved sanitation has also been compiled across various previous surveys (Appendix D: Table 8.2). It should be noted that this indicator should only refer to the population with access to facilities that hygienically separate human excreta from human, animals and insect contact. Facilities such as sewers or septic tanks, pour-flush latrines and simple pit or ventilated improved pit latrines are assumed to be adequate, provided that they are not public.

Monitoring the number of telephone lines and cellular subscribers among the population is considered essential for assessing the availability of new technologies, especially information and communication, in co-operation with the private sector. While data are usually derived from administrative record compiled by national regulatory authorities or telecommunication operators estimates can also be derived from household surveys.

Indicators shown in Table 8.1 were recommended for the IHLCA-I. For environmental sustainability, access to solid fuels, improved sanitation/drinking water and secured tenure indicators were suggested to be measured. As for the case of global development partnership, possession of motor vehicles, availability of communication services and status of unemployment rate for 15-24 years old were advised for inclusion in the IHLCA-I.

[28] Global Water Supply and Assessment Report 2000, World Health Organization and United Nations Children's Fund, Geneva, 2000.

Table 8.1 : Indicators of environmental sustainability and global development partnerships recommended for inclusion in the IHLCA-I survey

	Indicators	R-1 only	R-2 only	Both rounds
Environmental sustainability				
1	Percent of population using solid fuels	Yes		
2	Percent of population with access to improved sanitation	Yes		
3	Percent of population with access to safe and convenient drinking water	Yes		
4	Percent of households with access to secure tenure	Yes		
Global development partnerships				
5	Motor vehicles per 1000 inhabitants	Yes		
6	Personal computers per 1000 inhabitants	Yes		
7	Radios and TV sets per 1000 inhabitants	Yes		
8	Telephone lines per 1000 inhabitants	Yes		
9	Unemployment rate of 15-24 year-olds			Yes
Total number of indicators				**9**

*See also section 3.3 Household wealth and assets
** See also section 4 Labour and employment

All four indicators for environmental sustainability were covered in IHLCA-I. Indicators 5-8 of global development partnerships would be extracted from information collected on household assets and indicator 9 was covered by labour and employment part of the questionnaire.

It is recommended that information collected in IHLCA-I quantitative survey related to environmental sustainability and global development partnerships should also be collected in IHLCA-II quantitative survey to be able to measure the time trend in these indicators. As " Proportion of urban population living in slums" replaced "Proportion of households with access to secured tenure" in MDGs (2008), it is recommended that information on urban population living in slums should also be collected in addition to the information covered in IHLCA-I quantitative survey.

9. SUMMARY OF DATA NEEDS TO BE ADDRESSED BY THE IHLCA HOUSEHOLD SURVEY

Household living conditions are a multidimensional phenomenon, implying assessment through a variety of demographic, economic and social indicators. Income and consumption levels are powerful predicators of living conditions and poverty, but other factors also determine people's chance to be better-off, such as nutrition and diet, housing, working conditions, education, health and gender. Monitoring policies and programmes to improve living conditions and reduce poverty, therefore, require a comprehensive measurement and analysis scheme.

In particular, household surveys are conducted more or less regularly in most countries, from which analyses of household structure, consumption patterns, educational attainment, health status and other dimensions of poverty can be conducted. In Myanmar, a large number of surveys have been conducted in recent years on various aspects of living conditions. However, wide discrepancies have often been observed for the same indicators over successive surveys, likely related to varying collection and analysis strategies. Even wider divergence has been observed across types of data sources, notably surveys versus routine administrative data.

Thus, IHLCA quantitative survey was conducted in 2004-05 in order to provide the country's first reliable integrated assessment of major domains of living conditions. In reviewing and analyzing the data collected and published via various existing sources, a number of technical recommendations were offered to ensure the transparency, reliability and relevance of the data obtained in the first IHLCA survey (IHLCA-I).

- The need to ensure that the questionnaires for each round of the quantitative household survey is designed to enable the collection of variables that conform to internationally recognized indicators for monitoring human development goals;
- The need for a sound sampling plan, one that ensures complete geographic coverage, an independent re-listing of all selected enumeration areas in order to reliably update the sampling frame, and a frame that covers all types of household including those with no formal agreement;
- The need for a comprehensive analysis plan, one that goes beyond simple cross-tabulations of selected variables to include, among others, a detailed poverty profile and gender equity assessment.

IHLCA-I quantitative survey conducted for the first time in 2004-05 was designed to fulfill these recommendations. Following this success, it was agreed to conduct IHLCA again in 2009-2010. The second IHLCA quantitative survey is to be designed to fulfill the above recommendations as well as the additional recommendations. These are:

- The need to address the operational issues that arise in using the same sample design and sampling units interviewed in the first survey. For example; the missing households due to migration and other reasons, dropping and substituting sample units in the areas affected by cyclone Nargis that affected Myanmar in 2008 and the inclusion of townships that were excluded in the first survey due to extreme inaccessibility.
- The need for expansion of MDG indicators according to the updated list of MDGs (2008).
- The need for a panel survey, one that tracks the changes in living conditions of individual household already covered in the IHLCA-I while following the identical sampling design and questionnaire formats.

With regard to the series of internationally recognized indicators for continued -monitoring human development goals, summary list of recommended indicators and potential data sources is presented in (Appendix D: Table 1). This list is not meant to be comprehensive of all potential indicators for monitoring living conditions, but offers a solid basis for the development of the IHLCA quantitative household survey questionnaires that covers the key domains while still respecting the assumed time constraints for conducting personal interviews[29]. A certain overlapping in terms of indicator categorization (and thus sections of this report) is also noted, given the strong interrelationship between the different domains.

Lastly, the list of indicators is restricted here to those that can be readily collected through a household-based sample survey. As simultaneous implementation of a community-based survey in the same enumeration areas (that is, in the same urban wards and village tracts) would enable the compilation of a number of complementary indicators for community characteristics, it was recommended to conduct it in IHLCA-I. In particular:

- The use of a Price questionnaire for selected consumption items at local markets that would enable the comparison of household purchasing power across regions of the country (and, should the list of items eventually conform to the international methodology, for the calculation of $PPPs)[30];
- The use of a questionnaire for health facilities and pharmacies that would enable the calculation of a number of indicators related to access to and quality of health care, including access to primary health care services and access to affordable essential drugs on a sustainable basis (the latter being one of the core MDG indicators)[31];
- The use of a questionnaire for schools (primary and secondary levels) that would enable the calculation of a number of indicators related to access to and quality of basic education. The above recommendations were fulfilled by IHLCA-I survey.

  It is recommended that the four sets of questionnaires that have been used in IHLCA-I quantitative survey should be used with modifications and additions to allow for the estimation of additional MDG indicators, to ensure the availability of necessary information to calculate various indicators, to be more precise in forming questions and not to include redundant and vague questions.

Taking advantage of the different types of household and community questionnaires that are modified and edited accordingly in IHLCA-II, it would be possible to triangulate the data obtained for a number of key social and economic characteristics of sample households in order to assess the living conditions through various indicators.

[29] Evidence suggests that a long interview time (over about one hour) results in serious risk of enumerator and respondent fatigue, leading to greater non-sampling errors.

[30] At the time this document was produced, the standardized list of food and non-food items to be taken into account for calculating $PPPs was being determined by the Asian Development Bank for the International Comparison Program.

[31] The set of essential drugs and medicine should include those referred by the WHO Expert Committee on Essential Drugs, or a national list of drugs that are considered to satisfy the health care needs of the majority of the population.

REFERENCES

National data sources

Annual Report on Vector Borne Disease Control Project 1998-1999, Yangon (undated publication).

Detailed Analysis on Fertility and Reproductive Health Survey, Department of Population and UNFPA, Yangon, 2001.

Fertility and Reproductive Health Survey 2001: Preliminary Report, Department of Population, Ministry of Immigration and Population and UNFPA, Yangon, 2002.

Fertility and Reproductive Health Survey 1997: Population Department, Ministry of Immigration and Population and UNFPA, Yangon, 1999.

Fertility and Reproductive Health Survey 2007: Ministry of Immigration and Population (Department of Population) and UNFPA, 2009.

Handbook on Human Resources Development Indicators,2002: Department of Labour, Ministry of Labour and UNFPA, Yangon, May 2003.

Handbook on Human Resources Development Indicators, 2006: Department of Labour, Ministry of Labour and UNFPA, Yangon.

Human Development Initiative Baseline Survey, Myanmar 1996: Settlement and Land Records Department, Ministry of Agriculture and Irrigation (Yangon) and Macro International Inc. (Calverton, USA).

Integrated Household Living Conditions Survey in Myanmar: Poverty Profile, UNDP, Ministry of National Planning and Economic Development, UNOPS, IDEA, June 2007.

Integrated Household Living Conditions Survey in Myanmar: MDG-Relevant Information, UNDP, Ministry of National Planning and Economic Development, UNOPS, IDEA, June 2007.

Inventory of Studies and Reports on Human Development in Myanmar, UN Interagency Monitoring and Evaluation Theme Group, Yangon, July 1998.

Maternal Mortality Survey 1994: Myanmar Maternal and Child Welfare Association, Institute of Economic, Ministry of Education, Department of Planning and Statistics, Ministry of Health, and UNFPA, Yangon(undated publication).

Monitoring National Programme of Action Goals through Multiple Indicator Cluster Survey 2000: Department of Health Planning, Ministry of Health and UNICEF, Yangon (undated publication).

Monitoring Progress Toward Goals of National Programme of Action for Myanmar's Children through Multiple Indicator Cluster Survey 1997: Department of Health Planning, Ministry of Health and UNICEF, Yangon, 1999.

Multiple Indicator Cluster Survey 1995: Progress of Goals for Myanmar's Children, Department of Planning and Statistics, Ministry of Health and UNICEF, Yangon, 1997.

Myanmar Facts and Figures 2002, Ministry of Information, Yangon, March 2002.

National AIDS Programme in Myanmar, Department of Health, Ministry of Health, Yangon, 2002.

National Mortality Survey 1999, Central Statistical Organization, Ministry of National Planning and Economic Development, Yangon, 2000.

National Tuberculosis Programme Annual Report 2002, Ministry of Health, Yangon, August 2003.

Overall and Cause Specific Under-Five Mortality Survey,2002-2003,Draft Final Report, Women and Child Health Development Project, Department of Health, Ministry of Health, Yangon, 2003

Population Changes and Fertility Survey, 1991, Immigration and Population Development, Ministry of Immigration and Population , Yangon, 1995.

Report of 1997 Household Income and Expenditure Survey, Central Statistics Organization, Yangon, 1999.

Report on Myanmar Labour Force Survey, 1990, Ministry of Labour, UNFPA and ILO, Yangon, March 1993.

Reproductive Health Baseline Community Survey,2002: Draft Report, Ministry of Health and UNFPA, Yangon, 2003.

Reproductive Health Needs Assessment in Myanmar, Ministry of Health and UNFPA, Yangon, 1999.

Statistical Yearbook 2002, Central Statistical Organization, Yangon, 2002.

Study of Labour Market Functioning and Labour Mobility in Myanmar, Ministry of Labour, UNDP and ILO-ARTEP, Yangon, 1993.

Survey on Women and Children, 1991 (Educational Status and Labour Force Participation), Central Statistical Organization, Ministry of National Planning and Economic Development, Yangon, 1995.

Statistical Profile of Women and Children in 1997, Central Statistical Organization, Ministry of National Planning and Economic Development Development, Yangon, 1999.

Trend Assessment of Indicators for Children from Multiple Indicator Cluster Survey (1995,1997,2000), Ministry of Health and UNICEF (undated preliminary report).

Vital Statistical Report 1994, Central Statistical Organization and Department of Health, Yangon, 1996.

Women's Reproductive Health: Knowledge, Attitudes and Practices of Myanmar Women in a Rural Area, Related to Birth Traditions (undated preliminary report).

International report and guidelines

Classification of Individual Consumption According to Purpose (COICOP), United Nations Statistical Division, New York,1999.

Common Country Assessment Indicator Framework, United Nations Development Group, New York,1999.

Demographic and Health Surveys Model Questionnaire, with commentary for high contraceptive prevalence countries, ORC Macro, Calverton MD, USA, 2001.

Design Household Survey Questionnaires for Developing Countries: Lessons from 15 years of the living Standards Measurement Study, edited by M. Grosh and P. Glewwe, World Bank, Washinton,2000.

Education for All Global Monitoring Report 2002: Is the World on Track? United Nations Educational, Scientific and Cultural Organization, Paris, 2002.

Estimating wealth effect without expenditure data- or tears: An application to educational enrolments in states of India, by D. Filmer and L. Pritchett, Demography, vol. 38, pp.115-132-2001.

Gender Stats: Database of Gender Statistics, World Bank, Washington, 2002.

Human Development Report 2003 - Millennium Development Goals: A compact among nations to end human poverty, United Nations Development Programme, New York, 2003.

International Classification of Status in Employment (ICSE-93), International Labour Organization, Geneva, 1993.

International Standard Classification of Education (ISCED 1997), United Nations Educational, Scientific and Cultural Organization, Paris, 1997.

International Standard Classification of Occupations: ISCO-88, International Labour Organization, Geneva, 1990.

International Standard Industrial Classification of All Economic Activities (ISIC): Rev.3.1, United Nations Statistical Division, New York, 2002.

International Statistical Classification of Disease and Related Health Problems, 10th Revision, World Health Organization, Geneva, 1993.

Issues in Setting Absolute Poverty Lines, Poverty and Social Development Papers, Asian Development Bank, June 2003.

Manual X: Indirect Techniques for Demographic Estimation, United Nations Department of International Economic and Social Affairs, New York, 1983.

Millennium Development Goals: Health Related Indicators, Department of Reproductive Health and Research, World Health Organization, Geneva, 2003 (draft report).

Millennium Development Goals: Goals, Targets and Indicators for Monitoring Progress, United Nations Development Programme, New York, 2003.

Monitoring Progress toward the Goals of the World Summit for Children - A Practical Handbook for Multiple Indicator Surveys, United Nations Children's Fund, New York, January 1995.

Reproductive Health Indicators for Global Monitoring, World Health Organization, Geneva, 2001.

The Sisterhood Method for Estimating Maternal Mortality: Guidance notes for potential users, World Health Organization and United Nations Children's Fund, Geneva, 1997.

World Development Indicators Database, World Bank, Washington, July 2003.

APPENDICES

Appendix A:
Overview of the IHLCA project

In order to monitor progress towards the achievement of the Millennium Development Goals and other national and international targets for improving population well- being and reducing poverty, the United Nations Development Programme and Government of the Union of Myanmar have agreed to collaborate on the implementation of an Integrated Household Living Conditions Assessment (IHLCA) in 2003-2005, in order to provide the country's first reliable integrated assessment of all major aspects of household living conditions.

The expected output of the IHLCA project include:

- A nationwide survey-based integrated household living conditions assessment;
- A Management Information System (MIS) on household living conditions, to be utilized by the relevant line Ministries and development partners; and
- Consensus reached and awareness raised among policy-makers and other concerned stakeholders on the priorities for improving household living conditions.

The IHLCA survey of 2004/05 was conducted through a sample survey of 18,660 households living in urban and rural areas of the country's 62 districts across 17 states/divisions. The survey data provide for the first time a comprehensive perspective of living conditions including food and overall poverty and a wide range of social and economic indicators.

The integrated household assessment covers several domains of living conditions, including monetary poverty and related factors, health, education, gender equity, environmental concerns, and other non-material dimensions of well-being. The assessment started with a qualitative survey phase, whereby population perception of well- being and poverty were identified and prioritized via focus group discussions. It was expected that results of this phase would subsequently feed into a two-round quantitative survey phase for monitoring the most relevant dimension for improving living conditions. A number of economic and social indicators are compiled, representative at the national and regional levels and for different population sub-groups, and accounting for possible difference in selected indicators according to season.

At the completion of IHLCA-I survey, UNDP has reached an agreement with the government to undertake the IHLCA-II with the same implementing partner, Ministry of Planning and Economic Development. In this phase, the World Bank is to be involved in providing technical assistance. The objective of IHLCA-II is to provide an updated data set for socioeconomic conditions and outcomes at 4 years interval.

To ensure that the objectives of the IHLCA are reached and the outputs are completed, an institutional set-up has been proposed involving representatives from various line ministries and other stakeholders so that the information provided is most useful and meaningful for policy and programmatic purposes, as well as researchers and technical experts so that the data gathered are as reliable and accurate as possible.

Appendix B:
Targets and indicators for monitoring progress towards the achievement of the Millennium Development Goals (MDGs)

Millennium Development Goals (MDGs)	
GOALS AND TARGETS	**INDICATORS FOR MONITORING PROGRESS**
Goal 1: Eradicate extreme poverty and hunger	
Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1. Proportion of population below $1 (PPP) per day [a] 2. Poverty gap ratio [incidence x depth of poverty] 3. Share of poorest quintile in national consumption
Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	4. Prevalence of underweight children under-five years of age 5. Proportion of population below minimum level of dietary energy consumption
Goal 2: Achieve universal primary education	
Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	6. Net enrolment ratio in primary education 7. Proportion of pupils starting grade 1 who reach grade 5 8. Literacy rate of 15-24 years olds
Goal 3: Promote gender equality and empower women	
Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015	9. Ratios of girls to boys in primary, secondary and tertiary education 10. Ratio of literate females to males of 15-24 year-olds 11. Share of women in wage employment in the non- agricultural sector 12. Proportion of seats held by women in national parliament
Goal 4: Reduce child mortality	
Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of 1 year-old children immunized against measles
Goal 5: Improve maternal health	
Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel
Goal 6: Combat HIV/AIDS, malaria and other diseases	
Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	18. HIV prevalence among 15-24 year old pregnant women 19. Condom use rate of the contraceptive prevalence rate [b] 20. Number of children orphaned by HIV/AIDS [c]
Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	21. Prevalence and death rates associated with malaria 22. Population of population in malaria risk areas using effective malaria prevention and treatment measures[d] 23. Prevalence and death rates associated with tuberculosis 24. Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS)
Goal 7: Ensure environmental sustainability	
Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	25. Proportion of land area covered by forest 26. Ratio of area protected to maintain biological diversity to surface area 27. Energy use (kg oil equivalent)per $1 GDP(PPP) 28. Carbon dioxide emissions(per capita) and consumption of Ozone-depleting CFCs (ODP tons) 29. Proportion of population using solid fuel

Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water	30. Proportion of population with sustainable access to an improved water source, urban and rural
Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	31. Proportion of urban population with access to improved sanitation 32. Proportion of household with access to secure tenure (owned or rented)
Goal 8: Develop a global partnership for development	
Target 12: Develop future an open, rule-based, predictable, non-discriminatory trading and financial system Target 13: Address the special needs of the least developed countries (LDCs) Target 14: Address the special needs of landlocked countries and small island developing States Target 15: Deal comprehensively with the debt problems of developing countries through national and international measure in order to make debt sustainable in the long term	Official development assistance 33. Net ODA, total and to LDCs, as percentage of OECD/DAC donor's gross national income 34. Proportion of total bilateral, sector-allocable CDA of OECD/DAC donors to basic social service (basic education, primary health care, nutrition, safe water and sanitation) 35. Proportion of bilateral ODA of OECD/DAC donors that is united 36. ODA received in landlocked countries as proportion of their GNIs 37. ODA received in small island developing States as proportion of their GNIs Market access 38. Proportion of total developed country imports (by value and excluding arms) from developing countries and LDCs, admitted free of duties 39. Average tariffs imposed by developed countries in agricultural products and textiles and clothing from developing countries 40. Agricultural support estimate for OECD countries as percentage of their GDP 41.Proportion of ODA provided to help trade capacity Debt sustainability 42. Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 43. Debt relief committed under HIPC initiative, US$ 44. Debt service as a percentage of exports of goods and service
Target 16: In co-operation with developing countries, develop and implement strategies for decent and productive work for youth	45. Unemployment rate of 15-24 years-old, each sex and total
Target 17: In co-operation with paramedical companies, provide access to affordable, essential drugs in developing countries	46, Proportion of population with access to affordable, essential drugs on a sustainable basis
Target 18: In co-operation with private sector, make available the benefits of new technologies, especially, information and communication	47. Telephone lines and cellular subscriber per 100 population 48. Personal computers and internet users per 100 population

The Millennium Development Goals and targets come from the Millennium Declaration signed by 189 countries, including 147 Heads of State, in September 2000 (www.un.org/documents/ga/res/55/a55r002.pdf-A/RES/55/2). The goal and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries determined, as the Declaration States, "to create an environment - at the national and global levels alike-which is conducive to development and the elimination of poverty."

[a] For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

[b] Amongst contraceptive methods, only condoms are effective in preventing HIV transmission. The contraceptive prevalence rate is also useful in tracking progress in other health, gender and poverty goals. Because the condom use rate is only measure amongst women in union, it will be supplemented by an indicator on condom use in high risk situations. These indicators will be augmented with an indicator of knowledge and misconceptions regarding HIV/AIDS by 15-24 yeas-olds (UNICEF- WHO).

c To be measured by the ratio of proportion of orphans to non-orphans aged 10-14 who are attending school.

d Prevention to be measured by the % of under 5s sleeping under insecticide treated bednets; treatment to be measured by % of under 5s who are appropriately treated.

Appendix C:
Basic characteristics of main data sources related to household living conditions and the MDGs in Myanmar, 1990-2007

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Human Development Initiative (HDI) Baseline Survey, Myanmar 1996	UNDESA and Macro International, in collaboration with the Settlement and Land Records Department, Ministry of Agriculture and Irrigation	UNDP	* To provide in information for monitoring and evaluation of HDI programmes to improve population welfare in selected intervention areas. * To provide indicators of the general socio-economic conditions in the selected township. * To develop a standard methodology and provide baseline data for enabling future time-trend analysis using comparative data.	* Size: 23 townships (812 to 901 households per township). * Design: stratified multistage sampling. * Selection: urban/rural stratification of townships; selection of urban wards and village tracts as primary sampling units (PSUs) based on probability proportional to size (PPS); systematic random selection of households within PSUs. * Coverage: HDI programme intervention areas.	One round (staggered basis): April 1996- January 1997	* Household Profile: size, age and sex distribution, education occupation. * Housing characteristics: building type, water and sanitation, fuel for cooking, ownership of assets, access to schools. * Health and health care coverage: delivery care, immunization, knowledge and preventive practise related to malaria and HIV/AIDS, treatment of childhood illnesses. * Agriculture: farm operations, food and non- food crops.	**Human Development Initiative Baseline Survey, Myanmar 1996,* *Settlement and Land Records Department, Ministry of Agriculture and Irrigation (Yangon) and Macro International Inc. (Calverton, USA)
Household Income and Expenditure Survey (HIES), 1997	Central Statistical Organization, Ministry of National Planning and Economic Development	Governm ent of the Union of Myanmar and UNICEF	* To investigate change in the levels and patterns of consumption, spending and expenditures of household in accordance with the changing economy of Myanmar. * To assess the standard of living of households. * To enable the Consumer Price Index (CPI) at the national level and for all cities.	* Size: 25,470 households. * Design: stratified three -stage random sampling, based on administrative divisions plus cities of Yangon and Mandalay. * Selection: townships as first-stage units (some predetermined); urban wards/village tracts at second stage and households at third stage using simple random selection. * Coverage: 73% of all townships.	One round: November 1997	* Household profile: size age and sex distribution, * Housing characteristics: building type, water and sanitation, fuel for cooking, ownership of assets. * Access to mass media. * Expenditures: food, non-food, purchased, not purchased. * Income by source.	*Report of 1997 Household Income and Expenditure Survey,* Central Statistical Organization, Yangon, 1999.

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Household Income and Expenditure Survey (HIES), 2001	Central Statistical Organization, Ministry of National Planning and Economic Development		* To provide an updated assessment of the standard of living of households in terms of consumption, spending and expenditures. * To derive base weight for computing the CPI.	* Size: 30,000 urban and rural households. * Design: three-stage stratified random sampling, * Selection: stratification of 14 states/divisions; selection of 75 townships an urban wards/village tracts at first and second stages; households at third stage based on simple random sampling.	One round: October-November 2001	* Household size and housing characteristics. * Expenditures: food, non-food, purchased, not purchased.	*(Final report unpublished)* * Selected results published in: *Statistical Yearbook 2002,* Central Statistical Organization, Yangon, 2002.
Labour Force Survey (LFS), 1990	Department of Labour, Ministry of Labour	UNFPA	* To provide the first nation-wide survey estimates on labour force characteristics in Myanmar. * To compile baseline data for setting employment targets under the project "Establishing a Base for Integration of Population and Human Resources for Developing Planning."	* Size: 2,800 households (1400 urban & 1400 rural). * Design : two-stage stratified random sampling. * Selection : stratification of covered townships into 10 strata; selection of urban wards/village tracts and households at first and second stages respectively using simple random sampling.	One round: November 1990	* Labour force size and composition. * Characteristics of employed, unemployed and underemployed population * Selected characteristics of unpaid family workers and migrants.	*Report on Myanmar Labour Force Survey,1990* Ministry of Labour, UNFPA and ILO, Yangon, March 1993.
Study on Labour Market Functioning and Labour Mobility	Humate Associates, in association with Department of Labour, Ministry of Labour	UNDP	* To enable the first labour market analysis, in terms of functioning and mobility. * To provide baseline data for the "Strengthening of Manpower Planning" project.	* Size; 640 enterprise and 8000 employees in 25 large towns. * Design: stratified multi-stage sampling with both random and systematic selection of enterprises and employees (based on township labour offices' lists). * Coverage: public, cooperative and private sectors in manufacturing, trade, transport and communication, and service activities.	One round: July 1993	* Enterprises: profile, security and flexibility of existing workforce, changing work methods, recruitment and retention, training. * Employees: characteristics of workers and jobs, training, migration and mobility, situation of married women workers.	*Study of Labour Market Functioning and Labour Mobility in Myanmar,* Ministry of Labour, UNDP and ILO . ARTEP, Yangon, 1993
Integrated Household Living Conditions Survey in Myanmar (2004-2005)	UNDP, Ministry of National Planning and Economic Development, IDEA	UNDP	*To obtain an accurate and holistic assessment of population well-being by measuring a number of indicators related to living conditions from an integrated perspective;	Size : 18,660 urban/rural households Design: Stratified multi-stage random sample Stratification:	Two rounds: First round-November	* Household basic characteristics	Integrated Household Living Conditions Assessment Survey in Myanmar (2004-2005)

	International, UNOPS		*To provide reliable and updated data for identifying different levels of poverty in order to help better focus programmatic interventions and prioritize budget allocations; *To provide quantitative and qualitative data for better understanding the dimensions of wellbeing and poverty in Myanmar and the endogenous and exogenous factors behind the observed patterns and trends in living conditions; *To provide baseline information for monitoring progress towards the achievement of the Millennium Development Goals and other national and international targets; *To develop a rigorous and standardized methodology for establishing a framework for monitoring living conditions and conducting future time-trend analysis.	34 strata = 2 area types x 17 States/Divisions Coverage: urban, rural, regional and national level	2004 Second round-May 2005	* Housing * Education * Health * Consumption expenditure * Households assets * Labour and employment * Business * Finance and savings	Poverty Profile and MDG reports (2007)

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Survey on Women and Children (SEC), 1991	Central Statistical Organization, Ministry of National Planning and Economic Development	UNICEF	* To obtain statistical information on children and women, with emphasis on their educational attainment and labour force participation. * To study the schooling conditions of children in urban and rural areas. * To develop a statistical database relating to children and women for future planning and development programme.	* Size: 7,500 households. * Design: three-stage stratified random sampling. * Selection: stratification by 14 states/divisions; selection of townships at first stage based on PPS; urban wards/village tracts and households at second and third stages using simple random sampling.	One round: December 1991	* Basic household characteristics. * Education and Literacy. * Labour force participation and activities.	*Survey on Women and Children, 1991 (Educational Status and Labour Force Participation),* Central Statistical Organization, Ministry of National Planning and Economic Development, Yangon, 1995.
Population Changes and Fertility Survey (PCFS), 1991	Immigration and Population Department, Ministry of Immigration and Population		* To develop a system for generating periodic estimates of demographic indicators for policy formulation and developing planning. * To generate estimates of fertility, mortality, migration and related variables at the national and sub-national levels. * To developing a core Staff experienced in population data collection and analysis.	* Size: 192,917 persons in ordinary households and 6,675 ever-married women of reproductive age. * Design: Stratified compact cluster sampling. * Selection: stratification by 9 sub-national areas; subdivision of wards/tracts into aerial sampling units based on 1983 census results.	One round: January 1991	* Household profile: size, age and sex distribution, education. * Fertility, contraception and nuptiality : birth history, fertility intentions, contraceptive use, age at first marriage. * Maternal and child health: antenatal and delivery care, breastfeeding, immunization, childhood illnesses (diarrhoea) * Mortality: infant and child mortality, adult household deaths. * Migration: lifetime migration, duration of residence.	*Population Changes and Fertility Survey, 1991,* Immigration and Population Department, Ministry of Immigration and Population, Yangon, 1995.

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Fertility and Reproductive Health Survey (FRHS), 1997	Population Department, Ministry of Immigration and Population	UNFPA	* To assess knowledge, attitude and practices related to Reproductive Health/Birth Spacing (RH/BS) in Myanmar.. * To assess fertility and infant/child mortality trends and patterns. * To obtain basic information on selected demographic and RH/BS indicators. * To produce reports containing survey findings. * To Strengthen the capacity of the Population Department to plan and carry out future surveys.	* Size: 21,742 households; individual interviews with 16,042 ever-married women aged 15-49. * Design: two-stage stratified cluster sampling. * Selection: townships at first stage (excluding 24 inaccessible in border areas); urban wards/village tracts at second stage using PPS (based on updated household counts from local offices of Immigration and National Registration Dept.).	One round: March-May 1997	* Household profile : size, members, education, births and deaths. * Housing characteristics: water and sanitation, building type, ownership of assets. * Women's RH/BS knowledge and practises: fertility and pregnancy history, fertility preferences, contraception, breast feeding, STI/HIV/AIDS. * Maternal mortality. * Child health: childhood illnesses, immunization. * Husband's work status and other characteristics.	* *Fertility and Reproductive Health Survey 1997,* Population Department, Ministry of Immigration and Population and UNFPA, Yangon, 1999. * *Detailed Analysis on Fertility and Reproductive Health Survey,* Department of Population and UNFPA, Yangon, 2001.
Fertility and Reproductive Health Survey (FRHS), 2001	Population Department, Ministry of Immigration and Population	UNFPA	* To provide detailed information on changes in fertility, infant and child mortality, migration and STI/HIV/AIDS knowledge. * To study changes in fertility and reproductive health indicators compared to earlier surveys, and provide baseline information for monitoring and evaluation of RH-related programmes.	* Size: 37,696 households; individual interviews with 8288 ever-married women aged 15-49 and 4648 single women aged 15-34. * Design: two-stage stratified cluster sampling. * Selection: 267townships and 1339 clusters using PPS (based on estimates of population size from Dept of immigration and National Registration.)	One round: October-November 2001	* Household profile: members, education, occupation. * Housing characteristics: water and sanitation, building type, ownership of assets. * Women's RH/BS knowledge and practises: fertility, contraception, antenatal and delivery care, STI/HIV/AIDS. * Infant and child mortality. Internal migration.	*Myanmar Fertility and Reproductive Health Survey 2001: Preliminary Report,* Department of Population, Ministry of Immigration and Population and UNFPA, Yangon, 2002.
Fertility and Reproductive Health Survey (FRHS), 2007	Population Department, Ministry of Immigration and Population	UNFPA	* To develop a system of periodic estimates of demographic indicators needed for policy formulation * To provide up to date information on changes in fertility, mortality, migration and information on knowledge of STDs, HIV/AIDS and trafficking * To study the changes in fertility and reproductive health related indicators derived from the 2007 FRHS and earlier surveys	* Size: 32,416 households individual interviews with 8352 ever-married women aged 15-49, 6106 never-married women aged 15-34 selected from 415 segments * coverage: 9 domains comprising 17 States and Divisions	One round: 2007	* Household characteristics * Reproductive and birth history * Contraception * Breast feeding, immunization and child health * Marriage * Fertility preference * Knowledge on Sexually Transmitted Diseases (STDs) * Knowledge on HIV/AIDS and Trafficking	Country Report on 2007 Fertility and Reproductive Health Survey. Ministry of Immigration and population (Department of Population), UNFPA. 2009

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Reproductive Health Baseline Community Survey (RHBCS), 2002	Department of Health Planning, Ministry of Health and UNFPA	UNFPA	* To obtain detailed information on the level of knowledge and practise related to reproductive health of communities in the townships under the UNFPA RH project. * To obtain baseline information for specific Objectively Verifiable Indicators (OVI) for project monitoring and evaluation.	* Selection frame: 72 townships under UNFPA programme assistance in 2002 plus another 14 townships to be included in the project. * Design: three-stage stratified cluster sampling. * Selection: selection of townships based on PPES at first stage, stratified by urban/rural; wards/tracts at second stage based on either PPES or simple random sampling depending on availability of population estimates; households at third stage.	One round in 2002. (End-of-project survey planned for 2005)	* Basic household characteristics. * Knowledge and practises related to reproductive health, STI/HIV/AIDS, maternal health and contraception among women and men of reproductive age. * Practice of pregnancy, delivery, postnatal care and abortion among married women.	*Myanmar Reproductive Health Baseline Community Survey, 2002: Draft Report,* Ministry of Health and UNFPA, Yangon, 2003.
Knowledge, Attitudes, Perceptions and Practices Related to Birth Traditions: Pilot Study	Report authors: Dr Win May, Dr Than Tun Sein, Dr Katherine Bat hike and Daw Le Le Win	UNFPA	* To determine the knowledge, attitudes and practices of rural Bamar women in relation to birth traditions; * To identify the socio-cultural factors accounting for the selective utilization of health services for antenatal care and delivery; * to identify possible areas of women's involvement in safe reproductive health practices.	* Community-based study in a rural area in Kyauktan township in Yangon Division. * Target groups: women of reproductive age, their husbands and female elders. * Size: 400 married women aged 15-49 for individual interview. * Focus group discussions by category: women users vs. non-users of health services, husbands, elders. * In-depth interview with 4 currently married women aged 15-49 with parity 1 and above.		* Cultural beliefs and practices of women during pregnancy, delivery and the postpartum period.	*Women's Reproductive Health: Knowledge, Attitudes and Practices of Myanmar Women in a Rural Area, Related to Birth traditions* (undated preliminary report).

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Multiple Indicator Cluster Survey (MICS), 1995	Department of Planning and Statistics, Ministry of Health	UNICEF	* To asses the situation of women and children in Myanmar. * To furnish data for monitoring progress towards the goals established at the World Summit for Children.	* Size: 24,200 households. * Design: two-stage stratified cluster sampling. * Selection: stratification by state/divisions; selection of rural villages/ urban wards using probability proportional to estimated size (PPES) for each stratum (after excluding inaccessible wards/villages); households selected following map sketching to delineate clusters with about 40 households each.	One round n 1995.	* Household/housing characteristics; members, water and sanitation, salt iodization. * Children over 5: education. * Children under 5: infant and child mortality, vitamin A supplementation, breast feeding, car practises for illness, immunization. * Mothers. tetanus toxoid immunization. * Anthropometry.	*Multiple Indicator Cluster Survey 1995: Progress of Goals for Myanmar Children,* Department of Planning and Statistics, Ministry of Health and UNICEF, Yangon, 1997.
Multiple Indicator Cluster Survey (MICS), 1997	Department of Health Planning, Ministry of Health	UNICEF	* To assess the health and education situation of Myanmar's children, at the national level and disaggregated by urban-rural residence and by gender. * To provide baseline data for future time-trend analysis.	* Size: 35,200 households. * Design: tow-stage stratified cluster sampling. * Selection: stratification based on a administrative divisions plus border regions; selection of rural village/urban wards using PPES for 4each stratum; households selected following map sketching to delineate clusters with about 40 households each.	One round: December 1997-April 1998.	* Household/housing characteristics: members, water and sanitation, salt iodization. * Children over 5: education. * Children under 5: early education, vitamin A supplementation, breast feeding, diarrhoea, care practises for illness, immunization. * Mother. tetanus toxoid immunization. * Anthropometry.	*Monitoring Progress Toward Goals of National Programme of Action for Myanmar's Children through MULTIPLE INDICATOR CLUSTER SURVEY 1997,* Department of Health Planning, Ministry of Health and UNICEF, Yangon, 1999.

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Multiple Indicator Cluster Survey (MICS), 2000	Department of Health Planning Ministry of Health	UNICEF	* To provide updated information on the situation of children and women in Myanmar. * To furnish data for monitoring progress towards the goals established at the World Summit for Children and as basis for future action. * To improve data availability in Myanmar and strengthen technical expertise in the design, implementation and analysis of monitoring systems.	* Size: 25,600 households. * Design: two-stage, stratified cluster sampling. * Selection: stratification based on states and divisions (some state sub-divided); village tracts/urban wards selected at first stage using PPES; household selected at second state using random sampling after mapping segmentation within selected clusters.	One round: June-August 2000	* Household/housing characteristics members, water and sanitation, salt iodization. * Children aged 2-9: disability. * Children under 5: birth registration, early education, vitamin A supplementation, breast feeding, diarrhoea, care practises for illness, * Mothers: tetanus toxoid immunization. * Anthropometry.	* *Monitoring National Programme of Action Goals through MULTIPLE INDICATOR CLUSTER SURVEY 2000,* Department of Health and UNICEF, Yangon. * See also: *Trend Assessment of Indicators for Children from Multiple Indicator Cluster Survey (1995, 1997, 2000),* Ministry of Health and UNICEF.
Maternal Mortality Survey, 1994	Myanmar Maternal & Child Welfare Association, Institute of Economics, Ministry of Education, and Department of Planning & Statistics, Ministry of Health	UNFPA	* To provide an estimate of maternal mortality rate at the national and sub-national levels (states/divisions).	* Size: 85,500 households. * Design: two-stage stratified cluster sampling. * Selection: stratification of 14 states/divisions and urban/rural sub-strata within each state/division; selection of township using PPES, village tracts/urban wards at the second stage using simple random sampling.	* One round: September 1994-April 1995.	* Live births and deaths by cause (pregnancy-related or not) among women aged 15-50 years. * Selected background characteristics.	*Maternal Mortality Survey, 1994,* Myanmar Maternal & child Welfare Association. Institute of Economics, Ministry of Education and Department of Planning & Statistics, Ministry of Health, Yangon (undated report).

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
National Mortality Survey, 1999	Central Statistical Organization, Ministry of National Planning and Economic Development	UNICEF	* To determine sensitive mortality measures (infant, child, under 5, and maternal mortality rates). * To determine mortality rates by administrative regions (state/division) an by gender. * To produce indirect estimates for mortality in childhood for comparative study.	* Size: 105,600 households. * Design: three-stage stratified cluster sampling. * Selection: stratification based on administrative criterion; selection of two townships per stratum at the first stage using PPES, village tracts/urban wards at the second stage.	* One round: September-October 1999.	* Basic household characteristics. * Births and deaths: live births and still-births, all deaths including distinguishing pregnancy-related deaths among women of reproductive age.	*National Mortality Survey 1999,* Central Statistical Organization, Ministry of National Planning and Economic Development, Yangon, 2000.
Overall and Cause Specific Under-Five Mortality Survey, 2002-2003	Department of Health, Ministry of Health		* To assess the performance of ongoing interventions aimed at reducing the level of mortality of children less than five years. * To make available a database for monitoring the progress of health programs with a focus exclusively directed towards children less then five years of age.	* Size: 105,600 households. * Design: tow-stage stratified cluster sampling. * Selection; stratification based on region (Hilly, Coastal, Delta, Central Plain); balanced PSS at the first two stages and simple cluster section at the third stage.	* One round: March 2003.	* Under-five mortality rate at the national and sub-national levels (four geographic regions). * Leading causes of death in children under 5 (ARI, diarrhoea, measles, etc).	*Overall and Cause Specific Under-Five Mortality Survey, 2002-2003: Draft Final Report,* Women and Child Health Development Project, Department of Health, Ministry of Health, Yangon, 2003.
Agricultural Socio-Economic Survey, 2002	Settlements and Land Records Department, Ministry of Agriculture and Irrigation		* To study and analyse the socio-economic status of farm households and their families.	* Selection: stratified random selection of limited number of households in selected townships with agricultural land.	* One round in 2002	* Basic household/housing characteristics. * Land tenure and cultivation. * Agriculture: farm operations, food and non-food crops, livestock.	*(Final report not yet published)*

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
Study on Promotion of Household Food and nutrition Security in Myanmar, 1998-2000	National Nutrition Center, Department of Health, Ministry of Health	WHO	* To promote nutrition status of vulnerable family members, by providing information for and assisting in formulation of policy and programmes towards the improvement of household food and nutrition security. * To explore the household and intra-household determinants and its inter-linking mechanism influencing the nutritional status of the vulnerable members, namely mothers and children.	* Selection: one urban and one rural area of selected townships. * Quantitative survey: random selection of 300 households in both urban and rural areas. * Qualitative survey: 5 families each from the two categories of households with malnourished and well-nourished children.	Two round: quantitative survey (April 1998 and November 1998) and qualitative survey (June 1998 and December 2000).	* Basic household characteristics. * Anthropometric measurement of children under 5 and their mothers. * Maternal and child health: care during pregnancy and puerperium, birth spacing, breast feeding and complementary feeding, child care practises. * Food and income sharing practises.	*(Final report not yet published)*
Vital Registration and Statistics System	Central Statistical Organization, Ministry of National Planning and Economic Development		* Legal registration, statistical recording and reporting and reporting of the occurrence of vital events. * Collection, compilation, analysis, presentation and distribution of statistics pertaining to vital events.	* Vital registration system: vital events registered by health personnel at hospitals in towns and Rural Health Centers in rural areas. * Coverage: about 70% of total population (90% of urban and 63% of rural populations).	* Ongoing surveillance through monthly vital statistics registration form, published annually by CSO.	* Three vital events: live births, deaths, and late foetal deaths (stillbirths.)	See, for example: * *Statistical Yearbook 2002,* Central Statistical Organization, Yangon, 2002 * *Vital Statistics Report 1994,* Central Organization of Health, Yangon. 1996.
Vector Borne Diseases Control Project Annual Report	Vector Borne Diseases Control Project, Department of Health, Ministry of Health		* To describe the objectives, strategies, activities and resources of the Vector Borne Diseases Control Project.	* Routine information systems: clinical patient records and case reporting.	Ongoing surveillance.	* Clinical malaria morbidity and mortality. * Dengue hemorrhagic fever morbidity and mortality. * Japanese Encephalitis morbidity and mortality.	*Annual Report on Vector Borne Diseases Control Project 1998-1999,* Yangon (undated publication).
Report of the National AIDS Programme	National AIDS Programme, Ministry of Health		* To describe the objectives, strategies, activities and resources of the National AIDS Programme.	* Routine information system: sentinel surveillance surveys (total of 29 sentinel site across all states/divisions).	Ongoing surveillance.	* Target population and sample sizes. * HIV/AIDS case detection and related deaths. * STD (syphilis) case detection and treatment.	*National AIDS Programme in Myanmar,* Department of Health, Ministry of Health, Yangon, 2002.

Title of data source	Implementing agency	Funding agency	Main objectives	Sampling size and design	Time Frame	Main variables	Publications
National Tuberculosis Programme Annual Report	National Tuberculosis Programme, Ministry of Health		* To describe the objectives, strategies, activities, manpower situation, drugs and equipment situation, budget and research of the National TB Programme.	* Routine information system: ongoing monitoring of patient progress in 310 townships implementing the DOTS strategy (297 reporting in 2001-2002).	Ongoing surveillance through township quarterly progress reports.	* TB case detection, notification rates and treatment outcomes. * Drug supply and staffing situation in DOTS and non-DOTS townships.	*National Tuberculosis Programme Annual Report 2002,* Yangon, August 2003.

Note: The above review covers only a partial list of data collection activities conducted in Myanmar in recent years for assessing different aspects related to living condition. It does not include, for example, studies for which no documentation was available in English, studies implemented by academic institutions or non-governmental organizations, or some surveys for which the final report was not publicly released at the time this document was prepared.

Appendix D: List of Tables

Table 1: Summary of indicators and potential data sources for monitoring national and international goals for improving living conditions[24]

Indicator	Note	Framework							Measurable in a household survey	Recommend for inclusion in IHLCA
		MDG	HRD	WDI	CCA	GS	WSC/ MICS	RH		
Population and Household Indicators										
Population size			1	*					No	
Population distribution by age and gender			1	*		*			Yes	Yes
Age dependency ratio	dependents to working-age population			*					Yes	Yes
Sex ratio at ages 65 and above				*					Yes	Yes
Crude birth rate (per 1000 people)			2	*					Yes*	Yes
Total Fertility rate (children per women)			4	*		*		1	Yes	Yes
Adolescent fertility rate						*			Yes	Yes
Crude death rate (per 1000 people)			3	*					Yes*	Yes
Adult mortality rate (per 1000 people)	disaggregated by sex			*					Yes*	Yes
Life expectancy at birth	disaggregated by sex		8	*		*			Yes*	Yes
Net internal migration rate for a given reference period	by state/ division, urban/rural		5						Yes	Yes
Lifetime internal migration rate	by state/ division, urban/rural								Yes	Yes
Net international migration rate									No	
Percent of children (under 15 years) with at least one parent deceased							C3		Yes	Yes
Percent of children (under 15 years) who do not live with either biological parent							C2		Yes	Optional
Percent of children under 5 whose births are reported registered							C1		Yes	Optional
Average number of persons per room in the household					*				Yes	Yes
Macroeconomic and Sectoral Indicators										
Gross Domestic Product (GDP) and growth rate of GDP			41						No	
Real GDP per head and growth rate			42						No	
Investment, exports and imports			44						No	
Public expenditure by sector			45						No	
Public health expenditure (as % of GDP)				*					No	

[24] It should be underlined that this list is based on internationally recognized indicators, to ensure their transparency, reliability and relevance. The list is not meant to be comprehensive of all indicators that could potentially be used for monitoring living conditions. With regard to the recommendation for inclusion in the IHLCA, some indicators are marked as "optional", for consideration at later stage (that is, at the second round of data collection depending on the average interview length recorded in the first round). Detailed analyses of the main indicators that have been compiled through previous data collection activities in Myanmar for each of the key domains follow in subsequent sections of this report. As previously mentioned, the focus here is on household-and individual-level data, rather than meso/sectoral or macro data.

Table 1: Cont'd 1

Private health expenditure	as % of total household expenditure	*	Yes *	Yes
Population per physician		13 *	Yes	No
Population per nursing personnel		14	Yes	No
Population per hospital bed		15 *	No	
Village per Rural Health Centre (RHC) and sub-centre		16	No	
Traditional medicine hospitals and practioners		17	No	
Percent of RHC adequately supplied with staff, equipment and essential drugs		18	No	
Percent of population with access to primary health care services	based on national standard of services that satisfy the health care needs of the majority of the population	*	No	
Percent of population with access to affordable essential drugs on a sustainable basis	based on national standard of list of drugs that satisfy the health care needs of the majority of the population	46	No	
Public expenditure on education per student (as % of GDP per capita)	by schooling level	*	No	
Total number of teachers and pupils	by schooling level	*	No	
Student-teacher ratio	by schooling level	*	Yes	No
Consumers' Price Index	average change in retail prices of goods and services	46	No	
Poverty and malnutrition Indicators				
Percent of population below the national poverty line(poverty headcount)	by sex, state/division, urban/rural	1 * *	Yes	Yes
Percent of population below $1 PPP per day	based on international dollar, or $ purchasing power parity	1 * *	Yes	Yes**
Poverty gap ratio	incidence x depth of poverty	2 *	Yes	Yes
Gini index	measures of relative inequality in the distribution of income or expenditure	*	Yes	Yes
Income share by quintile group		*	Yes	Yes
Share of poorest quintile in national consumption		3 *	Yes	Yes
Percent of household income/expenditure spent on food for poorest quintile		*	Yes	Yes
Percent of children under 5 underweight/malnourished	based on anthropometric measurement height and weight by age group	4 9 * * 3	Yes	Yes
Percnet of children under 5 stunted		* 3	Yes	Yes
Percent of children under 5 wasted		3	Yes	Yes
Percent of low birth weight babies	less than 2,500 grams	11 * 12 9	Yes	No
Percent of popultion below minimum level of dietary energy consumption	calorie intake in context of food balance sheet	5 *	Yes	No
Percent of households using iodized salt	testing of edible salt	14	Yes	Yes

Table 1: Cont'd 2

Food availability per head	total amount of food available in the country per person		43					No	
Cultivated land per head	all cultivated land or sown area planted during the agriculture year per person		47		*			No	
Land use	gross area sown		48					No	
Labour and Employment Indicators									
Total labour force (size)			33	*				No	
Labour force participation rate	by age and sex		34	*		*		Yes	Yes
Labour force participation among children under 15 years	by sex			*	*		C4	Yes	Yes
Employment and unemployment rates	by age and sex		35	*	*			Yes	Yes
Unemployment rat of 15-24 years-olds	by sex	45		*				Yes	Yes
Labour force by education level	by age and sex		36	*				Yes	Yes
Employed population by occupation	by age and sex		37					Yes	Yes
Employed population by industry group	by age and sex		37	*				Yes	Yes
Employed population by employment status	by age and sex		38		*			Yes	Yes
Establishments and their growth by ownership			39					No	
Coverage of Social Security Scheme for registered employed persons			40					Yes	No
Coverage of maternity leave benefits for working women	compensation provided as share of full wages					*		Yes	No
Education and Literacy Indicators									
Net enrolment ratios by level	official age groups by level: 5-9 for primary, 10-13 for middle, and1 4-15 for high school	6	22	*	*		6	Yes	Yes
Gross enrolment ratios by level			21					Yes	Yes
Percent of children of school-entry age entering first grade (Kindergarten)							6	Yes	Yes
Percent of children enterining first grade who reach fifth (Kindergarten-4th Standard)	by sex	7		*	*		6	Yes*	Yes
Expected years of schooling per child of school-entry age	By sex					*		No	
Percent of children aged 36-59 months attending early childhood education programme	by sex						26	Yes	Optional
Transition rate between levels			23					Yes*	Yes
Retention rates by level			24					No	
Repetition rates by grade				*				Yes*	Yes
Internal efficiency of primary education	ratio of ideal to actual student-years in the education system		25					No	
Total enrolment in basic and monastic education			26					No	
Number of graduates by specialization			27					No	
Number of persons trained in technical, agricultural and vocational institutions	by skill level		28					No	

Table 1: Cont'd 3

Mean years of schooling per person aged 5 and over	by age and sex		30						Yes	Yes
Adult literacy rate (15 years and above)	by age and sex		29	*	*	*	7		Yes	Yes
Literacy rate of 15-24 year-olds	by sex	8		*	*	*			Yes	Yes
Indicators on Gender Equality and Women's Empowerment										
Ratio of female to male students by level (primary, secondary and tertiary)		9	31	*	*				Yes	Yes
Ratio of literate females to males of 15-24 years-old		10				*			Yes	Yes
Share of women in wage employment in non-agricultural sector	labour force activity: employment, occupation and industry by gender	11			*				Yes	Yes
Percent of senior positions held by women in public sector, state organizations and government ministries			32			*			No	
Percent of seats held by women in national parliament		12			*				No	
Maternal Health Indicators										
Contraceptive prevalence rate	by sex, marital status and method type		10	*	*	*	10	2	Yes	Yes
Percent of women at risk of unintended pregnancy	married women who report not wanting a pregnancy and not using contraception					*			Yes	No
Maternal mortality ratio (per 100,000 live births)	deaths among women during pregnancy, childbirth or postpartum period	16	7		*	2		3	Yes	No
Percent of pregnant women by number of anternatal care(ANC) visits						*	11	4	Yes	Yes
Percent of pregnant women by source of ANC								4	Yes	Yes
Percent of women who received at least 2 tetanus toxoid vaccinations during pregnancy							22		Yes	No
Percent of women who suffered from night blindness during pregnancy							15		Yes	No
Percent of births with skilled birth attendance	delivery assisted by doctor, nurse or trained midwife	17		*	*	*	11	5	Yes	Yes
Percent of women receiving Vitamin A supplements in the 2 months after delivery							15		Yes	No
Percent of health facilities properly equipped for emergency obstetric care								6	No	
Percent of primary health care facilities offering comprehensive obstetric care								7	No	
Prevalence of anemia in women	based on blood testing							11	Yes	No
Percent of obsteric and gynecological admissions owing to abortion								12	No	

Table 1: Cont'd 4

Reported prevalence of women with female genital mutilation (FGM)		13	Yes	No
Prevalence of infertility in women		14	Yes*	No
Reported incidence of urethritis in men		15	Yes	No
Child Health Indicators				
Under 5 mortality rate	by sex, state/division, urban/rural	13 6 * * 1	Yes	Yes
Infant mortality rate (0-11 months)	by sex, state/division, urban/rural	14 * * 1 8	Yes	Yes
Percent of children covered by universal child immunization	BCG, OPV3. DPT3 and measles vaccination before first birthday	12 22	Yes	Yes
Percent of children (12-23 months) receiving measles vaccination by first birthday		15 * * 22	Yes	Yes
Percent of children (12-23 months) receiving DPT3 vaccination by first birthday		* 22	Yes	Yes
Percent of children (6-59 months) receiving Vitamin A supplements in the last 6 months		15	Yes	Optional
Percent of children (24-59 months) with night blindness		15	Yes	No
Percent of children under 2 by breastfeeding and complementary feeding status	by age in months	16 6	Yes	Yes
Percent of children under 5 with diarrhea in the last 2 weeks who received oral rehydration salts and/or recommended home fluids		23	Yes	Optional
Percent of children under 5 with diarrhea in the last 2 weeks who took increased fluids and continued feeding		23	Yes	Optional
Percent of children under 5 with acute respiratory infection(ARI) in the last 2 weeks who were taken to a health provider		24	Yes	Optional
Percent of caretakers of children under 5 who know at least2 signs for seeking care immediately		I.2	Yes	No
Indicators on HIV/AIDS and Other Major Diseases				
HIV adult prevalence rate	based on seroprevalence testing among general population	*	Yes	No
HIV prevalence rate among pregnant women 15-24 years	based on serology among women attending ANC clinics,	18 * 16	No	
Syphilis prevalence rate among pregnant women	by location	10	No	
Condom use rate of the contraceptive prevalence rate	disaggregated by sex	19	Yes	Yes
Condom use rate among 15-24 year-olds in high rish situations	disaggregated by sex	19a	Yes	Yes
Knowledge of means of avoiding HIV infection among15-49 year-olds	disaggregated by sex	H.1	Yes	Yes

Table 1: Cont'd 5

Misconceptions about HIV/AIDS among 15-49 year-olds	disaggregated by sex					H.2		Yes	Yes
Knowledge of mother-to-child transmission of HIV among15-49 year-olds	disaggregated by sex					H.3		Yes	Yes
Knowledge and misconceptions regarding HIV/AIDS by 15-24 year-olds	disaggregated by sex	19b					17	Yes	Yes
Percent expressing a discriminatory attitudes towards people living with HIV/AIDS	disaggregated by sex					H.4		Yes	No
Percent of knowing of a place to get tested for HIV	disaggregated by sex					H.5		Yes	No
Percent having been tested for HIV	disaggregated by sex					H.6		Yes	No
Median age at first pregnancy among women aged 15-49						H.7		Yes	No
Number of children orphaned by AIDS		20						No	
Ratio of orphans to non-orphans aged 10-14 attending school		20a						Yes	Yes
Malaria prevalence and case fatility rates		21						Yes*	No
Percent of children under 5 who slept under an insecticide- treated bed net (ITBN) the previous night	for malaria risk areas included in survey sample	22a				I.3		Yes	Yes
Percent of children under 5 with fever in the previous 2 weeks who were treated with an appropriate anti-malarial		22b				I.4		Yes	Optional
Tuberculosis prevalence and case fatility rates		23						Yes*	No
Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS)		24						No	
Environmental Sustainability Indicators									
Forest coverage as percent of total land area		25						No	
Percent of total land area protected to maintain biological diversity		26			*			No	
Percent change in forest land in past 10 years (in km^2)					*			No	
Energy consumption per $1 GDP	kg oil or equivalent	27			*			No	
Energy consumption by type	power consumed for department use plus by consumers		50					No	
Carbon dioxide emissions and consumption of ozone- depleting CFCs (per capita)		28			*			No	
Percent of population using solid fuels	firewood and charcoal	29			*			Yes	Yes
Percent of population with access to safe and convenient drinking water	according to distance to supply, disaggregated by urban/rural	30	19	*	*		4	Yes	Yes
Percent of population with access to improved sanitation	disaggregated by urban/rural	31	20	*	*		5	Yes	Yes

Table 1: Cont'd 6

Proportion of households with access to secure tenure	owned or rented land	32	Yes	Yes
Social Development, Communication and Technologies Indicators				
Telephone lines per 1000 inhabitants	telephone and cellular subscribers	47 53	Yes*	Yes
Motor vehicles per 1000 inhabitants		49	Yes	Yes
Radios and TV sets per 1000 inhabitants		55	Yes	Yes
Personal computers in use per 100 inhabitants		48	Yes*	Yes
Railway traffic passenger miles		51	No	
Railway traffic cargo-ton miles		52	No	
Daily newspapers	total number of daily newspapers circulated in a day	54	No	
Number of libraries	registered libraries and library services of the information and public relations libraries	56	No	
Social Welfare Establishments	residential nursery, pre-primary school and day care centres	57	No	
Maternal and Child Welfare Establishments	day care centres of the Myanmar Maternal and child welfare association	58	No	
Villages with school, health clinic and electrical lighting		59	No	
Area under illegal cultivation (coca, opium poppy, cannabis) and seizures of illicit drugs		*	No	
Prevalence of drug abuse		*	Yes	
Crime rate (per 100,000 inhabitants)		60 *	No	

* Only indirect estimation possible through survey-based data.
** Measurement requires external data for converting national currency to international dollars.

Table 2.1: Percentage distribution of households according to size, by urban/rural residence, as measured through various household sample surveys in Myanmar, 1990-2007

No	Name of Survey	Particulars	HH Size											
			1	2	3	4	5	6	7	8	9	10	11 +	mean size
1	Myanmar Labour Force (1990)	Union	4	9	13	18	17	15	10	6	4	4**		**5.08**
		Urban	4	11	15	18	16	11	10	6	5	4**		**5.0**
		Rural	3	9	13	18	18	16	9	6	4	4**		**5.13**
2	Survey on Children and Women (SWC)	Union	0.8	5.3	10.9	17	19.2	17.7	12.2	7.9	4.3	4.9**		**5.5**
	(1991)	Urban	0.7	5	9.8	15.2	18.5	17.8	12.4	8.7	4.9	7.1**		**5.7**
		Rural	0.8	5.5	11.7	18.2	19.7	17.5	12	7.3	4	3.3**		**5.4**
3	Household Income and Expenditure Survey (HIES)	Union	8.59		76.66					12.54			2.20	**5.25**
	(1997)	Urban	8.79		76.45					12.14			2.63	**5.22**
		Rural	7.66		77.40					12.97			1.99	**5.32**
4	Fertility and Reproductive Health Survey (FRHS)	Union	3.9	8.8	13.8	18.5	18.3	14.2	9.8	6	3.4	3.3**		**5.0**
	(1997)	Urban	4.5	9.1	14.2	18.6	18.4	14.4	9.0	5.3	2.9	3.5**		**4.9**
		Rural	3.7	8.7	13.7	18.4	18.3	14.1	10.1	6.2	3.6	3.2**		**5.0**
5	National Mortality Survey (NMS)	Union	1.3	5.8	13.1	17.5	18.1	15	11	7.2	11*			**5.51**
	(1999)	Urban	1.5	5.5	13.1	17.7	18.1	14.6	10.6	6.9	12*			**5.56**
		Rural	1.2	6	13	17.4	18.2	15.2	11.3	7.3	10.4*			**5.48**
6	Fertility and Reproductive Health Survey (FRHS)	Union												**5.2*** **
	(2001)	Urban												**5.3*** **
	(Preliminary Report)	Rural												**5.1*** **
7	Reproductive Health Baseline Community Survey	Union												**4.9**
	(RHBCS) (2002)	Urban												**4.8**
	(Draft Report)	Rural												**5.0**
8	Integrated Household Living Conditions	Union												**5.2**
	Survey in Myanmar	urban												5.1
	(Poverty Profile): 2007	rural												5.2
9	Country Report on 2007 Fertility	Union	3.2	8.7	15.6	20.1	18.5	13.7	8.6	5.4	6.3*			4.9
	and Reproductive Health Survey	Urban	3.4	9.2	15.6	19.7	18.5	12.4	7.7	5.7	7.8*			5.0
		Rural	3.1	8.5	15.5	20.3	18.5	14.1	8.9	5.3	5.7*			4.9

Note: * = No. of HH size 9 and above; ** = No. of HH size 10 and above; *** = Unpublished figures

Table 2.2: Percentage distribution of households by headship, according to urban/rural residence, as measured through various household sample surveys in Myanmar

Sex of head of HH	Survey on Children and Women (1991)			FRSH (1997)		NMS (1999)			FRHS (2001) (PR)		(RHBCS) (2002)*		IHLCA (2007)		
	Union	Urban	Rural	Urban	Rural	Union	Urban	Rural	Urban	Rural	Urban	Rural	Union	Urban	Rural
Male	84.6	82.8	85.8	78.5	82.7	81.5	78.8	83.2	76.2	82.2	79.6	84.1			
Female	15.4	17.2	14.2	21.5	17.3	18.5	21.2	16.8	23.8	17.8	20.4	15.9	18.9	25.1	16.7

Note: Head of household as the person mainly responsible for earning the livelihood for the household.

* Preliminary unpublished figures.

Table 2.3: Dependency ratio, according to urban/rural residence, as measured through various household sample surveys in Myanmar

Region	Labour Force Survey (1990)	PCFS (1991)	FRHS (1997)		NMS (1999)	FRHS (2001)	RHBCS** (2002)	IHLCA (2007)
Union	0.75	0.73	0.59*	0.68	0.61	0.63	0.62	0.58
Urban		0.61	0.46*	0.54	0.54	0.53	0.57	0.48
Rural		0.78	0.64*	0.73	0.66	0.67	0.65	0.62

Note: Definition of dependency ratio = No. of persons under 15 yrs and 60 yrs and over/ No. of persons aged 15-59 yrs

* Dependency ratio = No. of persons under 15 yrs and 65 yrs and over / No. of persons aged 15-64 yrs

** Preliminary unpublished figures

Table 2.4: Total fertility rate (children per woman), by State/Division and urban/rural residence, as measured through various household sample surveys in Myanmar

Region	LFS (1990)	PCFS (1991)			SPWC 1997	FRHS (1997)			HRDI (2003) *(CSO)*			FRHS (2001) PR	RHBCS (2002)	FRHS (2007) TFR	
		Total	Urban	Rural		Total	Urban	Rural	1998-99	1999-00	2000-01			rural	urban
Total	**3.90**	**2.86**				**2.72**						**2.4**	**2.58**	**2.03**	
Urban		**1.97**			**3.45**	**1.77**			**3.43**	**3.05**	**2.96**	**1.8**	**2.03**	1.68	
Rural		**3.29**				**3.11**						**2.6**	**2.83**	2.18	
Kachin		2.99	2.06	3.76		3.15	2.85	3.23						2.50	1.66
Kayah															
Shan															
Kayin		2.76	2.36	3.02		2.69	1.74	3.00						2.30	1.65
Mon															
Tanninthary i															
Chin		3.04	1.71	3.33		3.07	1.30	3.50						2.14	1.76
Sagaing															
Bago		3.02	2.05	3.32		2.38	1.85	2.54						2.18	1.80
Magway		2.95	1.5	3.25		2.44	1.13	2.69						1.84	1.63
Mandalay		2.92	2.06	3.3		2.48	1.47	2.95						1.68	1.75
Rakhine		3.59	2.65	3.78		4.47	3.23	4.67						3.13	1.57
Yangon		2.13	1.81	2.99		1.76	1.50	2.36						1.87	1.68
Ayeyarwaddy		2.79	1.79	3.01		3.01	2.24	3.16						2.28	1.52

Table 2.5 Life expectancy at birth (years), by urban/rural residence, as measured through various data collection exercises in Myanmar

Region	Myanmar Gender Profile (CSO) 1997-98		HRDI (2003) (2000-01)	
	Male	Female	Male	Female
Union	60.2	62.9	60.6	63.4
Urban	60.6	64.6	61.1	65.1
Rural	60.1	62.3	60.4	62.8

Table 2.6: Percentage distribution of lifetime migrants, as assessed through various household surveys in Myanmar

Region	**LFS (1990)**			**FRHS (2001)**		
	Current residence			**Current residence**		
	Urban	**Rural**	**Total**	**Urban**	**Rural**	**Total**
Urban	47.94	16.49	64.43	33.5	9	42.6
Rural	17.96	17.61	35.57	25.4	32	57.4
Total	65.9	34.1	100	59	41	100

Table 3.1: Monthly household income/expenditure (in kyats) and distribution of households by income group, according to state/division and urban/rural residence

Particulars	HIES (1997)		HIES (1997) Percent distribution of income group				IHLCA (Poverty Profile) 2007			
	Avg monthly income	median monthly income	2000 or less	2001-10000	10001-20000	20001 and above	normalized HH consumption expenditure[1]		normalized HH consumption expenditure[2]	
							rural	Urban	Rural	urban
Union	10,122.98	6,966.15	6.27	66.49	18.62	8.64	**220,910**		**232,504**	
Urban	13,005.76	7,369.58	5.15	60.12	22.35	12.29		273,043		289,335
Rural	8,905.65	6,604.60	6.75	69.17	17.04	7.07		202,186		212,093
Kachin	13,196.61	8,867.02	5.11	57.57	24.70	12.60	189,561	220,004	202,651	246,107
Kayah	4,622.15	5,416.44	20.94	72.49	5.38	1.20	192,787	214,705	201,376	227,295
Kayin	11,800.54	8,361.48	6.37	56.64	22.15	14.83	241,192	303,153	254,452	316,083
Chin	6,836.21	6,335.19	21.11	61.07	14.58	3.24	148,335	181,149	161,508	203,838
Mon	10,767.66	7,416.58	3.59	64.08	23.73	8.60	226,806	224,644	239,417	232,256
Rakhine	6,660.56	5,974.91	13.26	70.31	13.52	2.92	190,717	229,352	198,088	236,629
Shan (north)	8,393.82	7,088.59	11.33	67.98	13.09	5.61	172,731	225,183	177,754	231,060
Shan (east)							171,881	220,547	177,143	226,648
Shan (south)							192,179	249,542	203,962	265,581
Ayeyarwaddy	12,311.42	7,554.38	2.83	58.01	26.31	12.86	212,739	240,855	225,757	257,979
Bago (E)	8,673.64	6,643.20	8.67	71.28	13.82	6.23	209,743	208,236	224,694	228,150
Bago (W)							203,906	238,204	211,183	248,435
Magway	6,560.61	5,645.11	3.83	86.96	7.03	2.20	187,133	241,776	194,584	256,111
Mandalay	8,650.39	6,220.92	4.95	72.00	16.16	6.90	183,784	249,535	191,342	259,652
Mandalay(city)	11,058.03	7,650.30								
Sagaing	7,760.88	6,368.27	10.46	68.29	15.53	5.71	213,449	239,646	222,359	254,318
Tanintharyi	12,712.76	9,710.68	4.43	49.92	31.52	14.14	208,852	278,005	224,036	291,474
Yangon	16,660.99	7,553.24	3.56	50.32	28.58	17.54	231,107	323,388	239,745	344,652
Yangon(city)	18,997.36	10,421.67								

Note: Income and Expenditure are as reported at the time of the survey.

[1] Excluding health expenditure

[2] Including health expenditure

Table 3.2: Monthly household expenditure for food and non-food items (in kyats), according to state/division and urban/rural residence

Region	HIES (1997)					HIES (2001)					IHLCA (2007): Poverty Profile							
	Average HH size	Food & Beverages		Non Food		Average HH size	Food & Beverages		Non Food		share of food exp[1]		share of food exp[2]		share of non food exp[1]		share of non food exp[2]	
		Expenditure (kyat)	% of total expenditure	Expenditure (kyat)	% of total expenditure		Expenditure (kyat)	% of total expenditure	Expenditure (kyat)	% of total expenditure	Rural	urban	rural	urban	rural	urban	rural	urban
Union	5.25	9779.45	70.95	4005.06	29.05	5.37	21077.86	71.91	8231.88	28.09	73		69.4		27		30.6	
Urban	5.22	10419.99	68.25	4846.43	31.75	5.32	23417.81	69.78	10143.68	30.22	66.3		62.6		33.7		37.4	
Rural	5.32	9479.30	72.41	3611.86	27.59	5.39	20140.54	72.96	7466.07	27.04	76.3		72.7		23.7		27.3	
Kachin	6.63	11849.72	72.39	4519.26	27.61	6.31	24146.69	71.41	9665.34	28.59	72.8	64.3	68.1	57.5	27.2	35.7	31.9	42.5
Kayah	5.53	8325.87	75.57	2691.7	24.43	5.79	17769.25	74.3	6144.75	25.7	74.8	73.4	71.7	69.4	25.2	26.6	28.3	30.6
Kayin	5.36	10857.7	72.65	4087.06	27.35	5.34	24605.42	66.15	12593.42	33.85	79.8	74.2	75.7	71.1	20.2	25.8	24.3	28.9
Chin	6.53	7880.85	72.83	2939.35	27.17	6.7	23646.85	75.74	7574.3	24.26	85.7	74.4	78.7	66.1	14.3	25.6	21.3	33.9
Mon	5.31	9533.62	69.55	4174.38	30.45	5.62	21184.9	70.59	8826.31	29.41	76.1	72.9	72.1	70.5	23.9	27.1	27.9	29.5
Rakhine	4.97	8893.81	73.91	3139.86	26.09	5.65	28929.97	74.27	10024.12	25.73	71.7	67.7	69.1	65.7	28.3	32.3	30.9	34.3
Shan (north)	5.83	12144.78	72.94	4505.13	27.06	5.05	21361.46	73.58	7670.92	26.42	78.6	70.4	76.4	68.6	21.4	29.6	23.6	31.4
Shan (east)						5.13	37951.67	73.28	13836.57	26.72	75.8	67.8	73.5	66	24.2	32.2	26.5	34
Shan (south)						5.42	20416.76	74.86	6856.79	25.14	72.9	63	68.7	59.2	27.1	37	31.3	40.8
Ayeyarwaddy	5.31	8521.91	69.46	3746.08	30.54	5.09	18954.18	71.95	7389.77	28.05	72.9	68.5	68.7	64	27.1	31.5	31.3	36
Bago (E)	4.62	9554.26	70.28	4040.96	29.72	5.52	22113.4	71.13	8545.8	28.87	76	73.8	71	67.4	24	26.2	29	32.6
Bago (W)						4.61	18043.15	73.67	6449.78	26.33	79.1	74.5	76.4	71.4	20.9	25.5	23.6	28.6
Magway	5.49	8921.28	75.78	2852.01	24.22	5.42	16069.2	74.02	5641.35	25.98	78.8	71.4	75.8	67.4	21.2	28.6	24.2	32.6
Mandalay	5.26	10029.98	72.5	3804.33	27.5	5.41	19991.74	72.16	7714.01	27.84	77	67.1	73.9	64.5	23	32.9	26.1	35.5
Sagaing	5.5	10015.74	73.83	3549.42	26.17	5.44	20869.65	72.88	7767.77	27.12	79.8	71.9	76.6	67.8	20.2	28.1	23.4	32.2
Tanintharyi	5.66	13099.47	67.89	6195.03	32.11	6.07	27566.56	64.88	14919.96	35.12	71.8	63.9	66.9	60.9	28.2	36.1	33.1	39.1
Yangon	5.11	10099.31	65.16	5400.44	34.84	5.09	22907.73	68.56	10506.36	31.44	77	63.4	74.2	59.5	23	36.6	25.8	40.5

Note: Expenditure in kyats as reported at the time of each survey.

[1] excluding health expenditure

[2] including health expenditure

Table 3.3: Percent of children under 5 who were underweight, stunted or wasted, by region of residence

Region	Percent of underweight children under 5						Percent of stuntedChildren under 5		Percent of wasted children under 5		IHLCA (2007): Poverty Profile			
	MICS 1995 Weight for Age		MICS 1997 Weight for Age		MICS 2000 Weight for Age		MICS 2000 Height for age		MICS 2001 Weight for height		moderately underweight		severely underweight	
	% below -2 SD	% below -3 SD	% below -2 SD	% below -3 SD	% below -2 SD	% below -3 SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	rural	urban	rural	urban
Union	42.9	15.8	38.6	12.6	35.3	7.9	33.9	12.4	9.4	1.2	34.35		9.4	
Urban	39.9	12.7	32.9	10.9	29.6	5.5	25.5	7.6	8.3	0.8	31.50		8.0	
Rural	44.0	16.8	40.4	13.3	37.0	8.6	36.3	13.8	9.7	1.3	35.10		9.8	
Kachin	37.0	16.0	21.0	4.0	27.3	7.7	32.9	11.6	12.3	3.8	29.44	23.83	9.25	8.41
Kayah	29.0	11.0	39.0	11.0	35.9	6.7	43.1	14	8.1	1.1	20.47	22.27	1.48	8.24
Kayin	46.0	15.0	39.0	15.0	40.1	9.9	40.8	17.2	9.0	1	29.62	32.16	5.32	9.09
Chin	52.0	27.0	45.0	16.0	41.3	9.0	44.0	22.1	11.1	0.9	30.66	38.16	4.25	6.51
Mon	41.0	14.0	39.0	12.0	33.5	5.8	31.7	7.8	6.6	0.6	34.27	39.24	9.70	14.33
Rakhine	56.0	29.0	53.0	21.0	48.1	16.9	46.4	20.3	14.4	3.7	58.46	80.22	25.37	40.60
Shan (north)	37.0	12.0	33.0	12.0	22.1	3.7	35.0	12	2.4	0.2	26.50	26.89	4.79	9.62
Shan (east)	48.0	23.0	40.0	20.0	38.7	8.7	40.8	23.2	10.1	1.4	26.03	22.86	6.35	10.03
Shan (south)	35.0	12.0	35.0	11.0	35.6	9.7	39.9	14.8	9.9	1.6	36.13	23.43	10.96	3.24
Ayeyarwaddy	44.0	17.0	42.0	15.0	36.8	6.7	35.0	12.5	7.8	0.5	35.97	37.92	9.90	9.65
Bago (E)	44.0	16.0	44.0	14.0	37.4	8.6	32.5	10.7	8.8	0.3	31.38	34.20	9.88	11.30
Bago (W)											23.23	37.29	5.78	10.09
Magway	51.0	20.0	44.0	15.0	36.5	5.7	33.2	10.4	12.5	2.1	42.48	41.42	9.69	7.49
Mandalay	42.0	15.0	36.0	11.0	31.2	6.9	27.4	10.9	8.8	0.2	33.98	30.36	9.61	6.88
Sagaing	42.0	14.0	32.0	7.0	31.5	5.8	29.5	9.8	8.6	1.6	27.61	38.14	5.47	9.62
Tanintharyi	42.0	15.0	40.0	19.0	40.1	15.7	44.3	22.3	11.6	3	32.00	16.91	7.74	2.49
Yangon	35.0	9.0	33.0	7.0	33.4	5.8	26.8	8.3	9.9	0.2	30.87	25.88	4.38	4.55
New settlement area	41.0	13.0												

Table 3.4: Percent of households consuming adequately iodized salt, by region of residence

Region	MICS 1995	MICS 1997	MICS 2000
Union	14.2	64.8	48.4
Urban	16.3	74.9	67.2
Rural	13.9	61	42.5
Kachin	15	63	54.6
Kayah	16	62	52.2
Kayin	19	75	27
Chin	46	28	32.4
Mon	20	59	50.2
Rakhine	30	29	15.1
Shan (north)	8	66	51
Shan (east)	34	54	53.5
Shan (south)	16	66	66.6
Ayeyarwaddy	6	54	34.9
Bago	13	72	49.7
Magway	28	59	52.3
Mandalay	5	77	57.2
Sagaing	8	69	39.1
Tanintharyi	71	46	27.2
Yangon	5	88	76
New settlement area	11		

Note: Consumption of iodized salt may be higher in Chin and Shan (East) in 1995 attributable to joint UNICEF and Myanmar Red Cross Society intervention program.

Table 3.5: Percentage distribution of households by building structure, according to state/division and urban/rural residence

Region	HIES (1997) Building Structure														
	Pucca			Semi-Pucca			Wooden			Bamboo			Other		
	Overall	urban	rural	Overall	urban	rural	Overall	urban	rural	Overall	urban	rural	Overall	urban	rural
Union	6.28	13.78	2.10	7.56	13.08	4.48	23.10	25.52	21.74	56.46	46.57	61.98	6.60	1.05	9.70
Kachin	2.48	7.04	0.60	13.31	35.89	4.00	25.71	28.06	24.75	58.50	29.01	70.66	-	-	-
Kayah	5.83	10.09	4.25	10.93	7.35	12.25	57.32	48.02	60.75	25.92	34.53	22.75	-	-	-
Kayin	2.07	7.36	1.40	5.74	5.24	5.80	53.44	48.73	54.04	37.21	38.67	37.03	1.54	-	1.73
Chin	2.07	12.99	-	1.46	9.21	-	91.78	77.00	94.58	0.97	0.80	1.00	3.72	-	4.42
Sagaing	7.99	15.59	3.05	7.27	11.98	4.20	14.01	17.60	11.68	70.60	54.67	80.97	0.12	0.16	0.10
Tanninthary i	5.63	10.05	0.90	4.62	6.85	2.23	46.86	43.03	50.97	41.40	39.57	43.36	1.48	0.49	2.54
Bago	9.57	22.12	2.76	10.11	16.79	6.47	38.13	36.38	39.09	41.44	24.71	50.54	0.74	-	1.14
Magway	3.93	10.37	1.89	4.31	5.09	4.06	4.11	4.75	3.91	86.75	79.50	89.04	0.91	0.29	1.10
Mandalay	5.99	10.68	3.96	5.38	9.33	3.67	7.38	9.13	6.63	78.65	70.86	82.02	2.59	-	3.71
Mon	3.40	3.28	3.60	8.81	9.85	7.10	37.78	32.36	46.63	48.85	53.54	41.19	1.16	1.48	0.97
Rakhine	3.09	7.05	0.23	3.83	6.62	1.81	24.27	16.10	30.19	68.38	70.16	67.10	0.42	0.07	0.68
Yangon	11.25	15.73	0.96	9.85	11.93	5.08	39.64	39.34	40.31	39.01	32.78	53.32	0.26	0.22	0.34
Shan	7.77	13.91	3.42	22.15	33.77	13.91	6.82	10.85	3.96	59.56	38.39	74.58	3.70	3.08	4.13
Ayeyarwaddy	0.62	5.58	0.11	1.56	6.02	1.10	27.64	33.10	27.08	35.63	41.52	35.02	34.54	13.79	36.70
Yangon (City)	17.29	17.29	-	12.00	12.00	-	39.46	39.46	-	31.03	31.03	-	0.23	0.23	-
Mandalay (City)	8.90	8.90	-	11.91	11.91	-	11.21	11.21	-	67.99	67.99	-	-	-	-

Table 3.6: Percent of households by selected household assets, according to state/division and urban/rural residence, as measured through various household surveys in Myanmar

Region	HIES (1997)									FRHS (1997)											FRHS (2001) (PR)	
	Radio	TV	Sewing machine	Bicyle	Motor cycle	Car	Cart	Boat	Refrigerator	Radio	TV	Sewing	Bicycle	Motor cycle	Car	Cart	Boat	Tractor	Tawlagyi	None	Radio	TV
Union	7.65	20.90	17.00	56.27	3.64	3.16	21.86	7.82	3.91	31.2	14.4	16.2	42.1	2.3	2.8	23.8	7.5	0.5	0.7	33.6	26.1	18.9
Urban										50.7	35.1	29.6	53.5	5.5	8.2	2.9	1.1	0.3	0.4	23.7	43	44.3
Rural										24.3	7	11.5	38	1.1	0.8	31.2	9.8	0.6	0.8	37.1	20.4	10.4
Kachin	17.10	30.41	42.77	86.86	6.52	6.38	24.24	15.39	2.63													
Kayah	13.58	10.03	21.14	73.04	4.27	2.63	29.12	0.60	1.80													
Kayin	8.21	25.23	17.12	48.51	3.32	1.84	12.15	11.17	1.09													
Chin	11.54	2.74	18.21	17.55	0.06	0.42	0.82	-	-													
Sagaing	5.66	12.61	11.38	73.46	7.87	2.86	21.00	2.14	5.52													
Tanninthary	9.14	21.77	25.67	53.24	15.97	4.31	5.66	4.61	2.37													
Bago	8.01	28.81	19.12	61.83	3.98	2.94	26.61	3.47	5.96													
Magway	6.26	16.91	12.52	47.20	1.62	2.07	46.85	0.99	1.70													
Mandalay	4.65	14.11	12.94	79.84	4.24	2.59	24.27	0.27	1.87													
Mon	9.62	29.18	16.90	39.71	2.78	1.17	9.58	3.61	2.50													
Rakhine	11.59	10.51	11.26	33.46	1.17	1.59	3.76	8.45	0.65													
Yangon	9.52	38.77	20.74	39.57	1.57	7.30	9.58	0.19	10.99													
Shan	9.67	20.51	30.34	61.97	5.02	7.88	23.07	0.47	3.89													
Ayeyarwaddy	9.47	21.03	19.92	34.44	0.74	0.61	13.99	39.46	0.78													
Yangon (City)	10.35	51.00	24.50	28.41	1.81	10.57	0.11	0.15	16.64													
Mandalay (City)	6.20	31.96	21.40	88.87	10.35	5.67	0.20	-	7.55													

Table 3.6: continued

Region	IHLCA (2007): Poverty Profile									
	radio-cassette or stereo		TV		telephone		bicycle		motorcycle	
	rural	urban	rural	urban	rural	urban	rural	urban	rural	urban
Union	21.1		25.68		3.08		41.76		9.78	
Urban	30.4		52.73		9.74		48.81		15.33	
Rural	17.7		15.96		0.69		39.22		7.79	
Kachin	25.3	32.7	14.91	50.66	0.69	13.94	62.04	87.72	23.97	46.46
Kayah	30.4	41.5	18.03	39.72	0.82	3.50	83.13	81.96	4.49	23.74
Kayin	15.5	30.5	20.14	57.58	0.41	4.52	28.45	49.01	5.72	24.75
Chin	9.8	18.5	1.46	17.65	0.00	8.31	8.97	17.78	0.56	8.65
Sagaing	21.3	31.1	11.75	35.61	0.35	7.27	52.81	76.45	15.53	28.05
Tanintharyi	20.3	17.8	15.53	37.38	0.62	6.75	23.32	28.45	14.07	28.03
Bago (E)	16.1	25.9	10.76	25.57	1.40	5.21	53.76	57.74	4.15	12.25
Bago (W)	15.0	31.2	18.08	35.71	0.00	5.58	47.78	66.57	4.43	10.30
Magwe	18.3	35.5	7.33	39.02	0.73	12.32	31.43	70.92	3.35	25.47
Mandalay	15.5	20.9	12.18	42.97	0.36	5.70	48.32	66.24	7.88	29.56
Mon	19.5	19.1	40.63	58.38	1.27	4.30	59.65	70.02	15.42	18.00
Rakhine	6.2	28.0	3.01	39.41	0.07	3.45	11.12	61.95	1.47	6.51
Yangon	17.0	35.0	30.71	63.95	0.00	13.43	39.46	27.12	3.90	1.27
Shan (S)	24.2	36.6	12.99	60.13	1.22	7.34	35.38	27.12	7.16	27.38
Shan (N)	22.8	30.0	15.28	53.58	0.61	9.40	36.21	60.40	21.90	44.67
Shan (E)	23.6	35.0	29.20	70.01	3.55	12.44	16.80	28.94	25.34	61.02
Ayeyarwaddy	19.2	31.1	23.28	57.14	1.28	10.23	28.68	68.46	3.25	19.39

Table 4.1: Labour force participation, employment and unemployment rates, by urban/rural residence and by sex, as measured through labour force and other household surveys in Myanmar

Region	Labour Force Survey (1990)							SCW	FRHS (2001) (PR)		IHLCA (2007)		
	Total labour force (as % of population 10+ yrs)		Employed (as % of population 10+)		Unemployed (as % of population 10+ yrs		Visible Underemployment Rate (%)	Total labour force (as % of population 10+ yrs)	Employed (as % of labour force 15+ yrs)	Unemployed (as % of labour force 15+ yrs)	Total Labour (10 yrs and above)	Unem-Ployed (10 yrs and above)	Under-Employed (less than 30 hrs)
	Exclude UFW	Include UFW	Exclude UFW	Include UFW	Exclude UFW	Include UFW							
Union	41.61	60.56	39.09	58.04	2.52	2.52	*29.3 **26.4		98.6	1.4	57.6	2.3	10.8
Male								66.6			70.6		
Female								41			45.8		
Urban							*19.9 **13.7		96.7	3.3	50.8	4.6	8.8
Male								67.9					
Female								33.7					
Rural							*32.8 **30.1		99.1	0.9	60.2	1.5	11.5
Male								65.6					
Female								46.9					

UFW = Unpaid Family worker

*** Visible underemployment by Time utilization approach (i.e. % of those in the labour force who worked less than 44 hours per week.)**

**** Visible underemployment by Usual Status Approach (i.e % of those who worked less than 6 months in the previous year).**

Table 4.2 (a): Employed population (in percent) by industry, as reported in the 1990 Labour Force Survey

Industry	Male	Female	Both sex
Primary sector			
Agriculture, Hunting, Forestry and Fishing	62.89	41.67	56.47
Secondary sector			
Mining and Quarrying	1.21	0.37	0.95
Manufacturing	9.52	15.61	11.36
Tertiary sector			
Electricity Gas and Water	0.26	0	0.18
Construction	3.67	0.26	2.64
Wholesale and Retail Trade and Restaurants and Hotels	9.58	30.16	15.81
Transport, Storage and Communication	4.83	1.35	3.78
Financial Institutions	0.28	0.23	0.27
Community, Social and Personal Services	6.87	9.71	7.73
Activities not adequately defined	0.89	0.64	0.81

Table 4.2 (b): Employed population (in percent) by industry

Industry	IHLCA	FRHS (2007)		
	(2007)	urban	rural	Union
Primary sector		11.2	72.4	58.2
Agriculture, hunting, forestry and fishing	53			
Secondary sector		17.1	6.9	9.3
Mining and quarrying	1.2			
Manufacturing	7.4			
Constructions	2.7			
Tertiary sector		71.7	20.7	32.5
Electricity, gas and water	0.3			
Wholesale and retail trade and restaurants	12.5			
and hotels				
Transport, storage and communication	3.3			
Financial institutions	0.2			
others	18.6			

Table 5.1: Adult literacy rate, by region of residence, as measured in household surveys in Myanmar, 1991-2007

Region	SWC (1991)			MICS 2000			IHLCA (2007)		
	M	F	Total	M	F	Total	M	F	Total
Union	93.9	84.1	88.8	93.7	86.2	89.7	88.2	82	84.9
Urban	96	89.2	92.4	97.9	93.3	95.4			92.1
Rural	92.2	79.9	85.8	92.3	83.6	87.7			82.1
Kachin	89.4	79.6	84.3	90	82.2	85.8	87.8	84.3	86
Kayah	79.1	68.5	73.9	83.7	73.4	78.4	80	73.2	76.5
Kayin	85.7	71	77.6	79	68.7	73.5	82.5	81	81.7
Chin	84.4	70.6	77.3	84.1	65.7	74.7	90.5	78.5	84.3
Mon	92.4	88.2	90.2	91.9	84.5	88	90.1	86.1	88
Rakhine	87.5	88.6	92.7	79.3	63.1	70.8	70.3	61.7	65.8
Shan (north)				74.2	61.7	67.7	71.1	63.4	67.1
Shan (east)				49.7	30	40.6	44.8	38.4	41.6
Shan (south)	90.9	77.1	83.8	88.3	67.8	77.4	75.7	68.1	71.9
Ayeyarwaddy	96.4	92	94.1	98.1	95	96.5	91.6	88.2	89.8
Bago (E)	96.7	88.2	92.2	98.8	93.8	96.2	89.6	81.5	85.4
Bago (W)							91.9	87.8	89.8
Magway	97.1	79.1	87.4	98.3	87.1	92.3	88.5	79.3	83.5
Mandalay	95.2	85.7	90.2	99	92.4	95.5	91.7	82	86.5
Sagaing	97.2	82.7	89.4	96.2	89.8	92.7	92.1	85.8	88.7
Tanintharyi	97.7	92.8	95	96.6	94	95.2	87.2	84.6	85.8
Yangon	93.9	87	90.4	98.2	94.7	96.3	96	91.7	93.7

Table 5.2: Net enrolment rate in primary education, by region of residence, as measured in household surveys and routine information systems

Region	SCW (1991)			MICS 1995			MICS 1997			Administrative data as reported in the HRDI Handbook**									IHLCA (2007)	
	M	F	Both sexes	M	F	Both sexes	M	F	Both sexes	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	rural	urban
Union	78.9	81.8	80.4	85.1	85.1	85.2	80.1	79.6	79.8	74.8	75.2	77	76.1	77.5	78	79.6	80.8	81.3	84.7	
Urban	83.4	86.2	84.8	90.3	92.0	91.1	87.4	85.5	86.5										87.6	
Rural	76.4	79.2	77.7	83.8	83.9	83.9	77.5	77.6	77.5										84.0	
Kachin				90	90	90	89	84	86										88.2	89.6
Kayah				84	84	82	76	73	74										89.2	100.0
Kayin				87	87	88	65	68	66										86.0	90.9
Chin				83	83	82	80	76	78										81.0	83.1
Mon				92	92	90	80	81	80										81.2	92.9
Rakhine				61	61	58	56	58	57										65.3	74.2
Shan (north)				84	84	84	74	81	77										76.3	89.3
Shan (east)				50	50	52	51	46	49										76.0	83.3
Shan (south)				76	76	76	83	86	85										79.2	79.4
Ayeyarwaddy				82	82	84	88	83	85										87.1	91.2
Bago (E)				88	88	89	81	79	80										82.9	91.5
Bago (W)																			83.9	89.6
Magway				87	87	85	80	81	80										87.5	88.9
Mandalay				91	91	90	83	82	83										89.0	89.1
Sagaing				87	87	88	89	93	91										91.3	79.7
Tanintharyi				90	90	90	86	85	85										86.0	87.8
Yangon				90	90	91	87	85	86										84.1	89.2

Note: Net enrolment rate = No. of children aged 5-9 enrolled in primary school/ Total no. of children aged 5-9.

* A negative variation in the enrolment rate according to the 1997 MICS compared to the 1995 survey many be partially attributable to a late school opening in 1997.

** Certain discrepancies between enrolment rates obtained through the MICS and those obtained through administrative records may be attributable to the timing of survey fieldwork, which did not correspond to the beginning of academic year.

Table 7.1 Percentage distribution of births in the last five years by type of delivery assistance, according to region of residence, as measured by various surveys

Region	PCFS (1991)				FRHS (1997)				FRHS (2001)(Preliminary Report)				IHLCA (2007)		FRHS (2007)			
													doctor, nurse, midwive, CHA/ LHV, birth attendance, other health personnel		last 2 births in last 5 yrs attended by			
	Doctor	Nurse-Midwive	TBA	Others/ no-one	Doctors	Midwives	TBA	Others/ noone	Doctor	Nurse-Midwive	TBA	Others/ non-one	rural	urban	Doctor	Nurse/midwife	TBA	others
Total	**8.5**	**38**	**46**	**5.1**	**11.5**	**44.9**	**38**	**5.8**	**13**	**44**	**38.9**	**4.1**	**72.50**		17.4	46.5	32.6	2.9
Urban	30.2	50	16.4	1	38.4	48.5	12.5	0.5	35.5	44.5	17.5	2.5	88.60		42.9	39.0	16.1	1.5
Rural	2.5	34.5	53.9	6.1	4.7	44.0	44.5	6.7	6.4	43.9	45.3	4.5	67.90		9.3	48.9	37.9	3.3
Kachin	15.2	38.5	32.9	12									63.40	79.41	23.6	50.1	19.8	5.1
Kayah					10.9	49.3	22.8	17.0					72.28	100.00				
Shan (S)													85.82	91.98				
Shan (N)													69.83	96.55				
Shan (E)													60.24	79.97				
Kayin	9.3	72.3	16.5	0.5									55.22	80.40				
Mon					11.8	57.5	28.9	1.8					90.11	96.39	19.0	63.5	14.8	2.5
Tannintharyi													77.56	87.18				
Chin	4	40.9	16.5	05									41.25	61.63	8.1	49.7	33.8	5.9
Sagaing					4.2	49.3	34.1	12.3					65.64	79.07				
Bago (E)	3.2	37.4	56.2	2									74.58	85.52	12.4	48.5	38.5	0.6
Bago (W)					9.5	45.2	44.1	1.0					57.96	93.53				
Magway	3.9	34.7	52.8	4	4.9	54.2	37.2	3.7					75.33	88.99	10.9	45.0	43.2	1.0
Mandalay	9	48	36.8	2.6	11.6	46.6	40.7	1.2					81.87	89.58	17.4	56.3	21.4	4.2
Rakhine	3.7	15.6	70.4	8.8	4.2	26.3	64.7	4.5					44.17	73.03	6.2	24.1	65.3	3.9
Yangon	35.1	33.2	27.2	1.2	41.0	32.8	25.0	1.1					73.13	92.30	53.3	31.6	13.9	1.0
Ayeyarwaddy	4.5	38.6	49.2	1.8	7.4	40.0	49.8	2.8					61.40	88.41	9.1	43.9	45.0	1.9

TBA: Traditional Birth Attendant

Table 7.2 Percent of births in the last five years by frequency and source of antenatal care, according to region of residence, as measured in various household surveys

Region	FRHS (1997)					FRHS (2001)	FRHS (1997)					FRHS (2001)(Preliminary Report)					IHLCA (2007)*		FRHS (2007) last 2 births in last 5 yrs attended by			
	0 visit	1-2 visits	3-5 visits	6-9 visits	10 and over	3 or more visits	Doctor	Nurse/ Midwife	TBA	Others	No one	Doctor	Nurse/ Midwife	TBA	Others	No one	rural	Urban	Doctor	Nurse/ midwife	TBA	others
Union	18.5	19.0	40.8	9.3	12.4	60.3	11.5	64.3	7.3	0.4	16.5	10.4	62.6	7.1	1.1	18.8	**53.0**		13.6	66.2	N.A	3.6
Urban	7.0	7.9	32.3	22.5	30.4	76.0	38.7	52.3	2.4	0.5	6.1	33.4	48.8	4.5	2.1	11.2	69.8					
Rural	21.5	21.9	43.1	5.8	7.7	55.6	4.7	67.2	8.5	0.4	19.2	3.6	66.7	7.9	0.8	21.1	48.2					
Kachin																	55.2	58.9				
Kayah	23.0	17.0	37.1	12.8	10.1		11.5	64.3	4.4	0.3	19.6						36.5	55.3				
Shan (S)																	40.4	57.1				
Shan (N)																	41.8	76.2				
Shan (E)																	45.0	65.2				
Kayin																	45.0	73.7				
Mon	9.3	19.7	41.9	12.4	16.7		10.9	72.1	8.7	0.2	8.1						65.1	62.1				
Tanninthary i																	58.8	60.0				
Chin	25.8	18.0	46.8	4.0	5.4		3.7	68.9	3.9	0.4	23.1						27.2	65.9				
Sagaing																	42.5	34.1				
Bago (E)	16.8	20.7	42.7	7.5	12.4		8.1	70.6	6.6	0.3	14.4						56.8	77.8				
Bago (W)																	51.1	63.4				
Magway	11.9	19.9	60.3	2.9	5.0		3.3	84.5	2.6	0.2	9.4						60.6	67.5				
Mandalay	15.8	22.7	39.8	8.1	13.6		10.8	66.5	7.3	0.4	15.0						43.2	74.0				
Rakhine	41.1	24.6	28.0	3.7	2.7		5.6	42.3	13.0	0.0	38.9						29.3	46.6				
Yangon	8.7	9.9	28.8	22.2	30.4		43.3	40.0	8.8	0.2	7.7						59.9	78.6				
Ayeyarwaddy	16.9	19.7	42.8	8.0	12.6		8.2	66.2	10.5	1.1	14.0						49.5	64.8				

*** Antenatal care is defined as proportion of women given birth in the last 5 years who visited skilled health personnel (excluding traditional birth attendants) for antenatal care at least three times during pregnancy**

Table 7.3 Percent of currently married women using contraception, by type of method, according to region of residence, as measured in various household surveys

Region	PCFS (1991)		FRHS (1997)		FRHS (PR) (2001)		FRHS (2007)	
	modern method	any method	modern method	any method	modern method	any method	modern method	any method
Total	13.5	16.8	28.5	32.7	32.8	37.0	38.4	41.0
Urban	29.3	34.3	46.8	50.6	45.9	50.6	49.0	52.9
Rural	7.6	10.3	22.4	26.7	28.1	32.1	34.4	36.5
Kachin	9.2	23.4	32.9	36.5			39.4	43.8
Kayah								
Shan								
Kayin	16.8	18.8	25.6	27.7			37.2	39.2
Mon								
Tannintharyi								
Chin	11.0	13.4	19.5	21.9			28.3	29.5
Sagaing								
Bago	11.1	13.2	31.8	35.5			45.3	47.7
Magway	8.2	13.5	17.4	22.2			30.5	33.9
Mandalay	11.4	15.5	29	33.9			41.6	44.2
Rakhine	5.9	7.5	13.6	14.6			32.3	33.9
Yangon	30	35.3	46.5	50.7			57.2	60.7
Ayeyarwaddy	11.5	13.7	28.5	36.8			31.4	33.3

Table 7.4 Maternal mortality ratio (per 1000 live births), by region of residence, as measured in household surveys and vital registration systems

Region	MMS (1994)	Vital Statistics* (1994)		SPWC 1997	FRHS** (1997)	National Mortality*** Survey (1999)		
		Urban	Rural			Urban	Rural	Total
Union	2.32	1	1.8	1.5	2.83	1.78	2.81	2.55
Urban				1				
Rural				1.7				
Kachin	2.12	1.3	2.4			2.13	2.50	2.40
Kayah	1.52	1.6				1.61	3.42	2.88
Kayin	1.48	1.7	2.7			1.44	2.34	2.12
Chin	2.69	1.4	2.1			2.22	4.13	3.61
Sagaing	5.3	0.9	1.5			1.15	1.43	1.36
Tannintharyi	1.46	0.9	1.8			1.80	3.57	3.07
Bago	2.14	1.6	2			1.14	1.79	1.58
Magway	2.64	0.7	0.9			2.54	2.98	2.86
Mandalay	2.09	0.6	1.7			1.41	2.08	1.76
Mon	1.19	0.5	0.9			1.85	2.26	2.13
Rakhine	4.67	1.1	0.6			2.13	3.92	3.44
Yangon	3.46	0.9	1.7			1.41	3.48	1.70
Shan (south)						3.70	4.78	4.36
Shan (north)						4.27	5.58	5.18
Shan (east)						4.46	5.52	5.27
Shan	1.04	0.7	2.3					
Ayeyarwaddy	4.35		1.6			1.21	1.94	1.73

Note: MMR = Number of deaths among women of reproductive age occurring during pregnancy, childbirth or within 42 days of childbirth/ Total number of live births which took place within the same reference period.

* Registration system covered 170 urban and 62 rural townships.

** Estimation of MMR using "sisterhood method" drawing on data compiled from women of reproductive age on mortality of female siblings.

*** Estimation of MMR using data on adult female deaths in the household during the 12 months preceding the survey.

Table 7.5: Infant mortality rate (per 10000 live births), by region of residence, as measured in the household surveys and vital registration systems.

Region	PCFS (1991)	Vital Statistics (1994)*		FRHS (1997)**	NMS (1999)***	NMS (1999)****			FRHS (2001)	FRHS (2007)
		Urban	Rural			Urban	Rural	Total		
Union	94	47.5	49.6	81.12	45.0	55.05	62.53	59.77	70.5	66.1
Urban	80			53.36	28.0				66.2	50.7
Rural	98			87.88	52.0				71.8	70.8
Kachin		39.7	49.4			63.83	72.5	70.24		
Kayah		41.4				40.32	54.79	50.48		46.0
Shan (south)				72.56		51.85	71.77	63.95		
Shan (north)		38	49.9			51.28	74.35	67.36		
Shan (east)						80.36	93.92	90.72		
Kayin		42.6	49.5			43.16	56.07	52.91		37.9
Mon		37	49.5	70.43		37.04	46.23	42.55		
Tannintharyi		36.8	49.8			54.05	57.14	56.26		
Chin		44.1	49.9	86.68		44.44	49.59	48.19		66.0
Sagaing		44.7	48.9			57.47	63.13	61.59		
Bago (E)		36.2	49.4	68.37		60.84	66.19	64.48		66.7
Bago (W)										
Magway		40.1	49.8	82.94		76.14	71.57	72.86		93.3
Mandalay		42.5	49.5	85.10		35.31	42.86	39.24		93.3
Rakhine		42.7	48.8	95.54		69.15	58.82	61.60		50.9
Yangon		59.7	49.9	67.49		52.26	60.87	53.46		49.7
Ayeyarwaddy		49.8	49.9	94.96		70.39	58.08	61.59		79.6

* Registration system covered by 170 urban and 62 rural townships.

** Direct estimation of IMR using data on mortality of children obtained from birth histories among women of reproductive age

*** Indirect estimation of IMR using "United Nations General" model life table and data on deaths in the households.

**** Direct estimation of IMR using data on live births and infant deaths in the household during the 12 months preceding the survey

Table 7.6: Percent of children ages 12-23 months having received DPT3 and measles vaccinations before their first birthday, by region of residence, as measured in various household surveys

Region	PCFS (1991)		MICS 1995		MICS 1997		FRHS (1997)		MICS 2000		immunized against measles		
			DPT	Meas	DPT	Meas	DPT	Meas	DPT	Meas	IHLCA (2007)		FRHS
	DPT3	Measles	3	-les	3	-les		-les	3	-les	rural	urban	(2007)
Union	65	62.1	75.0	74.8	80.2	80.6	83.9	81.1	82.9	87.1	80.30		83.6
Urban	84.5	81.4	79.4	81.4	83.5	82.8	92.6	89.9	85.8	86.6	79.70		91.4
Rural	59.2	56.3	73.9	73.6	79.2	80.2	81.4	78.5	82.1	87.3	80.40		81
Kachin			54.0	52.0	83.0	87.0			85.0	85.9	83.11	66.91	84.3
Kayah			48.0	55.0	54.0	57.0			62.8	67.5	92.50	81.84	
Shan (north)	39.5	34.2	59.0	57.0	64.0	64.0	84.7	80.6	72.6	75.9	58.27	66.85	
Shan (east)			39.0	39.0	45.0	51.0			50.4	62.6	88.28	67.94	
Shan (south)			49.0	48.0	71.0	70.0			74.8	78.6	95.82	100.00	
Kayin			75.0	72.0	56.0	57.0			59.9	70.6	76.06	81.79	89.4
Mon	64.5	62.9	85.0	86.0	83.0	81.0	85.8	84.6	86.5	86.5	77.81	89.54	
Tannintharyi			62.0	64.0	94.0	93.0			92.2	93.2	75.76	72.92	
Chin	57.7	52.3	52.0	51.0	70.0	70.0	84.6	83.5	63.8	65.3	56.96	87.85	75.6
Sagaing			73.0	78.0	85.0	86.0			87.1	90.1	78.86	78.68	
Bago (E)	78.7	78.7	85.0	84.0	88.0	89.0	84.8	80.1	93.3	91.3	90.94	53.96	80.8
Bago (W)											67.89	81.31	
Magway	77.1	80	86.0	83.0	93.0	93.0	85.6	88.7	92.4	94.8	87.67	84.61	83.7
Mandalay	76.1	63.4	83.0	82.0	87.0	88.0	84.5	81.6	83.8	95.4	90.65	86.04	91
Rakhine	12.9	12.9	45.0	44.0	77.0	76.0	64.7	63.5	74.6	81.9	62.48	87.70	60
Yangon	87.6	81.9	85.0	80.0	80.0	80.0	92.0	88.5	89.0	89.1	86.38	78.57	94.4
Ayeyarwaddy	81.9	81.2	77.0	81.0	78.0	78.0	84.4	77.4	81.5	88.9	78.14	80.76	81.6
New settlement area			59.0	58.0									

Table 7.7: Percent of children less than two years old by breastfeeding status, according to region of residence, as measured in surveys

Region	MICS 1995			MICS 1997		MICS 2000			FRHS (2007) **
	% of child: <4 months exclu: breastfed*	% of child: 12-15 months breastfed	% of child: 20-23 months breastfed	% of child: 12-15 months breastfed	% of child: 20-23 months breastfed	% of child: 0-3 months exclu: breastfed	% of child: ;12-15 months breastfed	% of child: 20-23 breastfed	
Union	30	83	55.8	84.5	74.6	15.8	89.0	67.4	96.4
Urban	25.57	83.7	41.7	82.1	60	17.5	91.2	53.3	96.2
Rural	32.7	82	58.5	84.9	79.3	15.3	88.3	70.7	96.4
Kachin	28	76	24	72	46	28.2	68.7	26.6	
Kayah	24	84	41	82	52	10.3	87.7	30.9	
Shan (north)	29	55	19	69	56	25.1	74.6	37.8	96.9
Shan (east)	33	67	19	60	47	24.3	72.8	37.8	
Shan (south)	28	66	31	83	58	32.8	86.4	56.4	
Kayin	24	89	56	79	70	13.6	90.5	68.1	98.4
Mon	35	70	23	87	64	9.3	85.7	46.2	
Tanintharyi	10	69	46	90	86	3.7	86.5	63.6	
Chin	46	84	47	85	50	33.3	85.8	56.4	96.6
Sagaing	31	88	73	95	90	22.4	93.2	63.6	
Bago	41	88	52	79	78	5.8	96.4	77.8	97.6
Magway	8	84	78	97	100	12.6	94.3	86.9	95.7
Mandalay	34	84	62	77	83	19.5	87.6	77.2	94.7
Rakhine	22	82	69	93	94	3.2	90.9	80.4	96.3
Yangon	35	94	56	78	72	19.5	96.5	51.6	95.5
Ayeyarwaddy	38	85	59	97	71	15.3	87.1	71.6	96.0
New settlement area	23	80	54						

* Exclusive breastfeeding is defined as children who received only breast milk , vitamins, mineral supplements or medicines during the reference period of assessment.

** Proportion of last births that were breastfed during 5 years preceding the survey.

Table 7.8: Percent of HIV seroprevalence among pregnant women ages 15-24, as monitored through sentinel surveillance data compiled annually from antenatal clinics

All sites			**1.21**
Major urban areas (average)			**0.68**
Outside major urban areas			**1.25**
Yangon	0	Magway	0
Mandalay	1.37	Hpa-an	5
Meikhtila	5.26	Sitewe	0
Taunggyi	0	Monywa	0
Lashio	0	Loikaw	0
Tachileik	3.57	Haka	0
Muse	1.94	Hinthada	1.75
Dawei	0	Maubin	0
Kawthaung	1.2	Myeik	4.35
Myintkyina	1.72	Myingyan	0
Bhamo	0	Pakokku	1.92
Mawlamyaing	0	Shwebo	0
Pathein	0	Kyaingtong	2.17
Bago	0	Myawaddy	1.28
Pyay	3.57		

Source: National AIDS Programme, Department of Health, Ministry of Health, Yangon,2003

Table 7.9: Knowledge and use of condoms among currently married women ages 15-49, by urban/rural residence, as measured in the Fertility and Reproductive Health Surveys, 1997-2001

Region	**1997**			**2001(PR)**		
	Knowledge of condoms to prevent HIV/AIDS	**Use of condoms***		**Knowledge of condoms to prevent HIV/AIDS**	**Use of condoms***	
		Condom use rate	Condom use as % of CPR		Condom use rate	Condom use as % of CPR
Union	**5.37**	**0.1**	**0.3**	**NA**	**0.3**	**0.8**
Urban	12.26	0.3	0.6	NA	0.4	0.8
Rural	3.05	0.1	0.4	NA	0.3	0.9

* Condom use for any reason, including family planning and/or prevention of STIs and HIV/AIDS

NA = Not avaicble

Table 7.10: Tuberculosis case notification, treatment and death rates in 297 DOTS townships, as measured via routine information systems

Region	Case notification rate of new smear positive TB cases (per 100,000 pop)	Death rate of new smear positive TB patients (2001 cohort) (%)	Cured rate of new smear positive TB patients (2001 cohort) (%)
Union (estimate)	**46**		
All DOTS townships	**53**	**5**	**74**
Yangon	98	5	67
Kachin	95	5	71
Magway	36	6	84
Mandalay	39	6	84
Kayah	59	3	94
Shan(South)	33	5	86
Shan(East)		7	74
Shan(North)		11	66
Ayarwaddy	47	4	82
Kayin	42	5	66
Mon	53	6	74
Bago(East)	60	6	76
Bago(West)		6	75
Rakhine	43	3	72
Chin	34	3	66
Sagaing	32	4	65
Taninthayi	50	6	72

Source: National Tuberculosis Programme, Ministry of Health, Yangon, August 2003.

Table 7.11: Malaria case notification and death rates, as measured via routine information systems, 1990-2002

Particulars	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000*	2001*	2002*
Number of malaria cases treated (in thousands)						**656**	**664**	**568**	**548**	**591**	**592**	**663**	**721**
Case fatality rate (%)	3.32	3.44	3.58	3.28	3.33	3.54	3.31	3.35	3.36	3.55	3.23	3.22	3.2
Malaria mortality rate (per 100,000)	12.6	12.6	11.2	9.78	9.96	8.35	7.5	6.33	6.72	7.58	5.5	5.46	5.05

Table 7.12: Number and percent of households with at least one insecticide-treated bed net, as measured via routine information systems

No. of Townships with ITBN Programme	No. of Villages with ITBN Programme	Total no. of HHs in Programme Areas	HHs with ITBN in Programme Areas		Total population in Programme Areas	Population with ITBN in Programme Areas	
			No.	%		No.	%
49	1,048	150,685	114,782	76.2	662,444	346,980	52.4

Source: WHO

Table 8.1: Percent of households with access to safe and convenient drinking water, according to region of residence, as measured in various household surveys

Region	MICS*	MICS**	MICS***	FRHS****	IHLCA (2007)				
	1995	1997	2000	2001 (PR)	Rural	Urban	Poor	Non Poor	Total
Union	59.7	66	71.5	63	55.30	89.61	59.40	64.27	62.62
Urban	78.1	87.9	89.3	77.9					
Rural	49.6	59.9	65.8	58					
Kachin	67	68	75		79.04	97.20	78.80	88.00	83.89
Kayah	64	37	62.6		83.50	97.00	87.70	89.00	88.54
Kayin	74	62	43		53.08	70.71	40.70	57.50	55.44
Chin	62	57	41.9		74.85	84.67	72.80	88.90	77.04
Mon	69	69	66.4		84.68	94.67	79.10	88.66	86.58
Rakhine	33	60	47		33.85	71.67	42.60	40.60	41.39
Shan (N)	69	58	75.8		69.28	94.34	68.20	80.90	74.37
Shan (E)	68	63	56.4		71.54	94.85	67.50	85.80	75.83
Shan (S)	45	57	58.2		46.25	78.37	40.80	61.40	52.81
Ayeyarwaddy	43	58	60.2		30.06	76.36	43.10	32.80	36.06
Bago (E)	66	82	82.9		69.22	93.72	73.40	73.0	73.11
Bago (W)					53.35	82.66	57.73	54.90	55.82
Magway	54	56	76.9		53.71	94.06	51.82	60.93	56.77
Mandalay	75	68	77.2		68.65	96.31	66.60	81.48	75.50
Sagaing	60	62	78.5		57.76	74.50	58.50	60.50	59.94
Tanintharyi	57	54	51.8		49.21	79.39	52.80	53.90	53.50
Yangon	66	84	90.6		63.77	97.38	93.5	84.68	86.07

***Safe and convenient drinking water = piped water, public tap, borehole/tube-well, protected well/spring; available in the home or from a source located less than 100 yards from home.**

**** Safe drinking water = piped water, public tap, borehole/tubewell, protected well/spring, pond and covered rain water.**

***** Safe drinking water = piped water, public tap, tube well, protected well/spring, protected pond/rain water.**

****** Safe drinking water = piped water, protected well.**

Table 8.2: Percent of households by means of sanitation, according to regional of residence, as measured in various household surveys

Region	MICS* (1995) Safe excreta disposal	MICS** (1995) Safe excreta disposal	FRHS (1997)				HIES (1997)				MICS*** (2000) Safe excreta disposal
			Flush	Water seal	Pit	Bucket/ Other/ None	Flush/ Water seal	Covered pit	Un-covered pit	Bucket/ Other	
Union	42.8	45.2	0.3	49.4	27.8	22.7	11.99	59.02	19.04	9.95	63.1
Urban	56.3	64.5	0.7	81.7	14.7	2.9	27.38	59.74	10.6	2.28	83.6
Rural	35.8	39	0.1	37.9	32.4	29.6	3.4	58.63	23.75	14.23	56.6
Kachin	53	64					20.7	27.37	49.98	1.95	79.8
Kayah	48	34					7.22	40.8	49.15	2.83	55.3
Kayin	58	42					7.23	48.16	39	5.62	46.3
Chin	69	61					10.06	77.48	11.11	1.35	59.3
Mon	48	52					41.23	40.21	9.2	9.37	72
Rakhine	34	16					6.58	42.39	18.89	32.15	21.6
Shan(north)	32	27									53.9
Shan(east)	81	46					2.08	34.71	62.66	0.56	52.7
Shan(south)	32	38									60.3
Ayeyarwaddy	33	50					2.25	45.66	22.45	29.64	54.9
Bago (E)	56	44					13.73	54.84	23.78	7.65	66.3
Bago (W)											
Magway	34	53					8.53	81.39	8.87	1.2	59.7
Mandalay							10.42	46.85	29.06	13.67	
Mandalay (city)	57	52					22.39	72.7	4.9	0	70.7
Sagaing	20	20					11.33	69.75	7.74	11.17	76.3
Tanintharyi	38	37					27.32	34.89	30.31	7.48	67.8
Yangon							23.05	66.67	9.3	0.98	
Yangon(city)	51	72					35.48	52.51	11.72	0.29	73.4

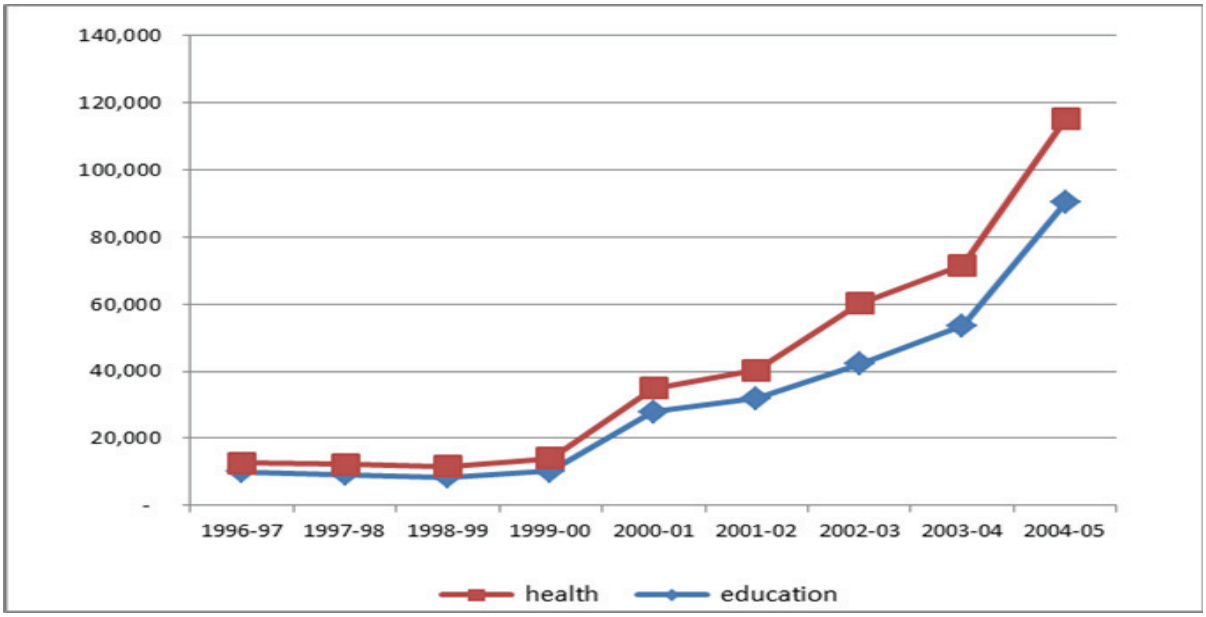
***** safe means of excreta disposal = Flush to sewage system, flush to septic tank or covered pit latrine located in the dwelling or less than 50 yards away from the dwelling.

** Safe means of excreta disposal = Flush to sewage system, flush to septic tank or covered pit latrine.

*** Safe means of excreta disposal = Flush toilets connected to sewage system or septic tanks, other flush toilets and improved pit latrines.

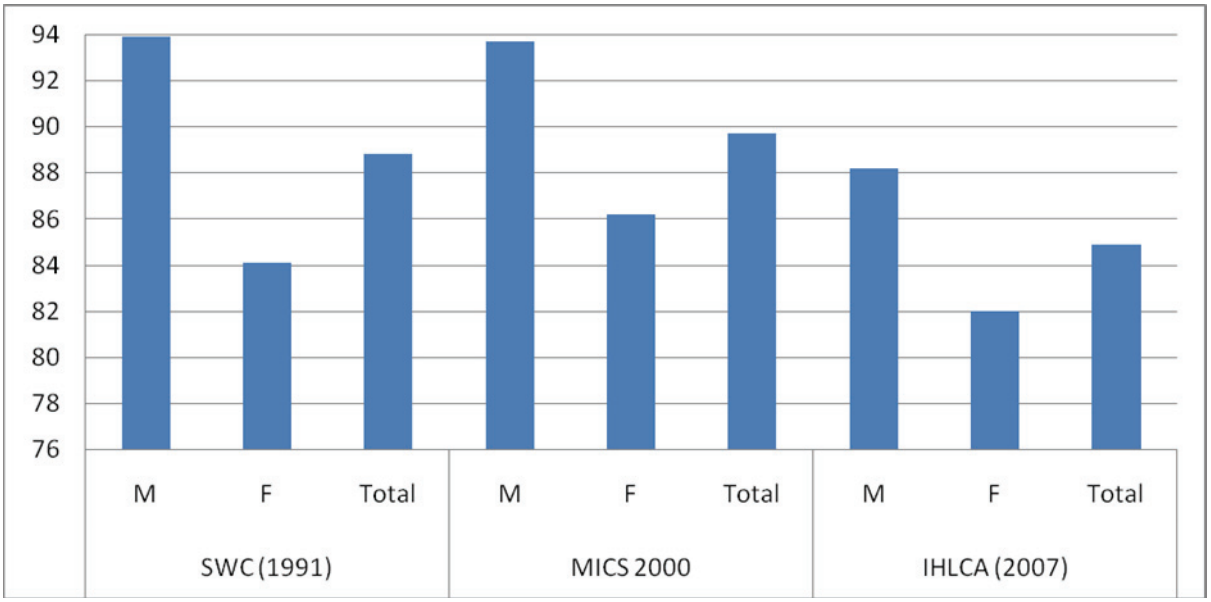
Appendix E: List of Figures

Figure 5.1: Trends in public expenditure in the education and health sectors, Myanmar, 1996-97 to 2004-05 (in millions of Kyats)



Source. Handbook on Human Resources Development Indicators, 2006 (Special Edition)

Figure 6.1: Literacy rate, Myanmar



Source. SWC (1991), MICS (2000) and IHLCA (2007)

Figure 7.1: Percentage distribution of males aged 15-24 years by condom use, according to behavioural surveillance on HIV/AIDS at selected sites as reported by the Department of Health

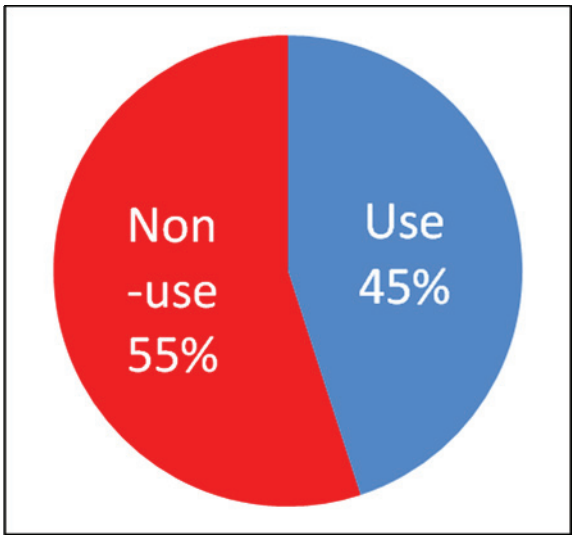
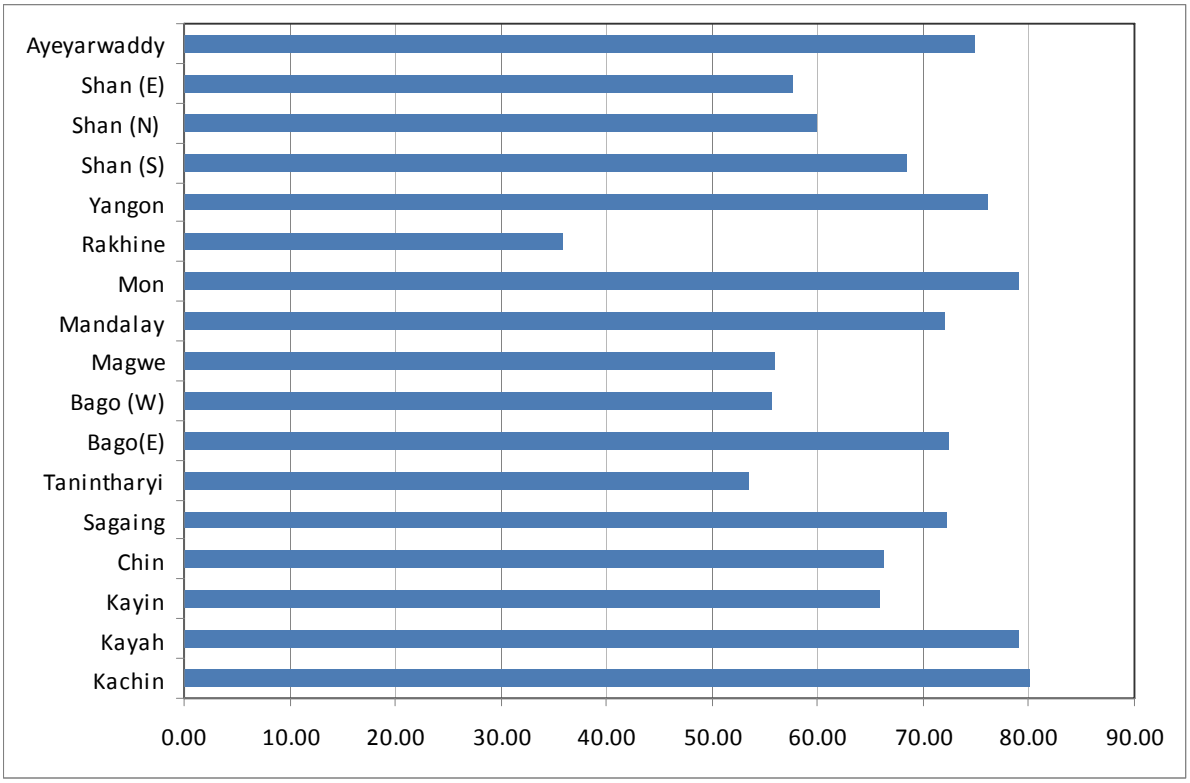


Figure (8.1): Percent of population with access to improved sanitation



Source. IHLCA (2007)

Appendix F:

F-1: Categories of ISIC System

A: Agriculture, hunting and forestry

B: Fishing

C: Mining and quarrying

D: Manufacturing

E: Electricity, gas and water supply

F: Construction

G: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods

H: Hotels and restaurants

I: Transport, storage and communications

J: Financial intermediation

K: Real estate, renting and business activities

L: Public administration and defense; compulsory social security

M: Education

N: Health and social work

O: Other community, social and personal service activities

P: Private households with employed persons

Q: Extra-territorial organizations and bodies

F-2: International Classification of Occupations (ISCO)

1. ***Legislator, Senior official, or Manager:*** Examples of occupations in this category include senior government officials; heads of villages; and corporate directors, chief executives or managers of enterprises, organizations or departments.
2. ***Professional:*** Examples of occupations in this category include professional mathematicians and computer scientists, architects, engineers, health professionals, teachers, lawyers, and social scientists. These are generally well-trained workers in jobs that normally require a university or advanced-level degree.
3. ***Technician of Associate Professional:*** Examples of occupations in this category include engineering technicians, health associate professionals, teaching associate professionals, police inspectors and detectives, electronic equipment operators, business services agents, ship and aircraft controllers and technicians, and bookkeepers. These are generally workers in jobs requiring skills at a non-university educational qualification level.
4. ***Clerical:*** Examples of occupations in this category include secretaries, keyboard operators, stock clerks scribes, office assistants, cashiers, and receptionists.
5. ***Services, Marketing, or Sales:*** Examples of occupations in this category include travel attendants, restaurant workers, personal care workers, barbers, and salespersons.
6. ***Skilled Agricultural or Fisheries Worker:*** Examples of occupations in this category include market-oriented or subsistence gardeners and crop growers; livestock, dairy, and poultry producers; forestry workers and loggers; and fishery workers.
7. ***Craft, Construction, or Trades:*** Examples of occupations in this category include miners, stone cutters, and carvers; construction workers; sheet-metal workers, blacksmiths, and tool-makers; electrical and electronic equipment mechanics and fitters; potters, glass-makers; handicraft workers in wood, textile, leather and related materials; and textile and garment workers.
8. ***Plant or Machine Operator or Assembler:*** Examples of occupations in this category include processing-plant operators, power-production operators, assembly-line operators, machine operators, and motor-vehicle drivers.
9. ***Elementary Occupation:*** Examples of occupations in this category include street vendors, shoe cleaners, launderers, domestic helpers, building caretakers, messengers, doorkeepers, garbage collectors, freight handlers, and labourers in agriculture, fishery, mining, construction, manufacturing or transport.
10. ***Armed Forces:*** This category includes anyone who is employed as a member of military service.

F-3: International Classification of Status in Employment (ICSE)

In terms of worker's employment status, these should be essentially recorded according to the six groups of the ICSE:

1. Employees(optionally with distinguishing of "regular employees/ employees with stable contracts");
2. Employers;
3. Own-account workers;
4. Members of producers" cooperatives;
5. Contributing family workers;
6. Workers not elsewhere classifiable.

F-4: International Standard Classification of Education (ISCED)

1: Pre-primary education

2: Primary education

3: Lower secondary (middle school)

4: Upper secondary (high school)

5: Post-secondary non-tertiary education

6: First stage of tertiary

7: Second stage of tertiary (advanced research qualification)

F-5: Main COICOP categories of goods and services

01: Food and non-alcoholic beverages

02: Alcoholic beverages, tobacco and narcotics

03: Clothing and footwear

04: Housing, water, electricity, gas and other fuels

05: Furnishings, household equipment and routine household maintenance

06: Health

07: Transport

08: Communication

09: Recreation and culture

10: Education

11: Restaurants and hotels

12: Miscellaneous goods and services