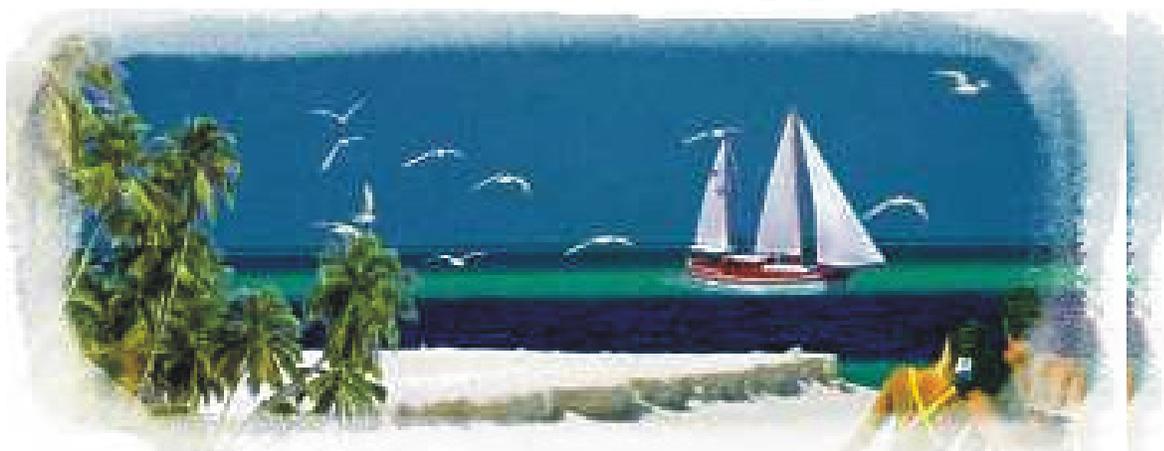
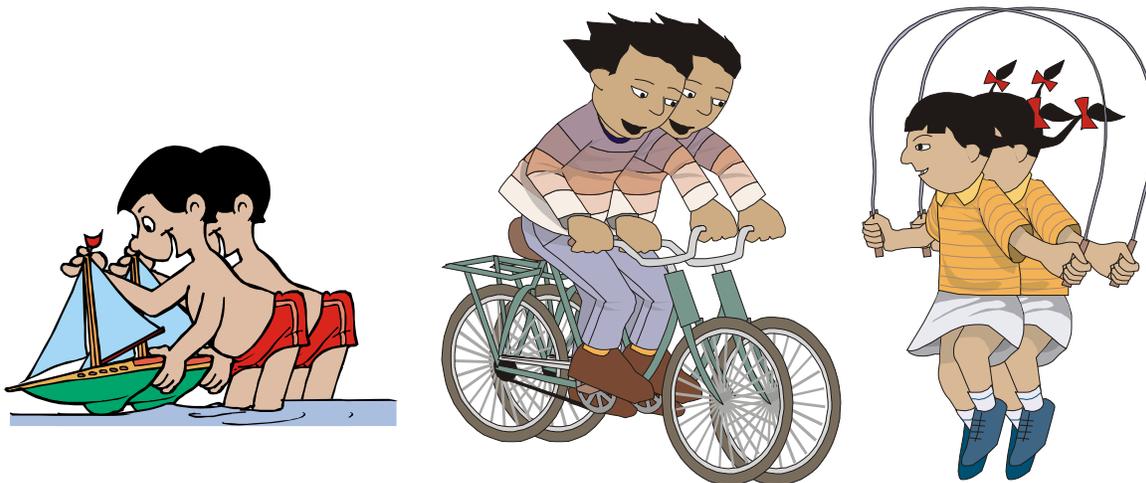


MULTIPLE INDICATOR CLUSTER SURVEY (MISC 2)

MALDIVES



**MINISTRY OF HEALTH
REPUBLIC OF MALDIVES**

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EXECUTIVE SUMMARY

In accordance with the Plan of Action for Children, the Republic of Maldives have initiated Multiple Indicator Cluster Surveys (MICS) to assess the situation of children and to monitor the progress made through intervention programmes. The first MICS was conducted in 1995 to assess the achievement of mid-decade goals and the second survey (MICS-2) was conducted in 2001 with a primary objective of assessing the end decade goals and to provide national level information on key indicators of health and welfare of children. In addition to the aspects covered in the first survey, the 2001 survey gathered data on dietary patterns in general and while child suffers from diarrhoea, salt iodization, pre-natal care and care during delivery, anaemia among women and children, child labour, general living arrangement of children and the extent of birth registration.

The standard 'EPI 30 Cluster' sampling technique was used thus selecting 30 clusters from the 200 inhabited islands. Additional sample was taken for estimating the extent of Vitamin A supplementation. Over all, MICS-2 covered 1062 households and a household population of 7648. The number of women in the reproductive age group, interviewed in the present survey was 1949 thus covering 854 children aged below 5 years.

The highlights of the findings of the survey are presented in the following paragraphs:

Household Composition

- The sample population was evenly distributed across five regions while regional differences could be observed for women in the reproductive ages (with Male' registering a share of one-fourth and Southern region accounting for only one-sixth) and children under 5 years (with Male' and the Southern region showing a smaller share). It was found that, in general, the data from MICS-2 could be considered as of high quality.
- Age-sex distribution of the sample population is comparable to that observed in census 2000. On an average, there are 7.1 members in the family as compared to 7.7 observed in 1995. However, in more than a quarter of the households, there are more than 10 members. In 58 percent of the households there is at least one child below age 5. Marital status composition indicates a growing need in the future to consider ensuring family and social support to aged women who are widowed.

Education

- In 5-17 age group, 86 percent are currently attending school, with 4 percent each have never attended school or dropped out from educational system. Data on education though indicates almost universal literacy among the adult population, points that the drop out rate is still high and that the average number of years-attended school is low.
- About two-thirds of children aged 36-59 months attending some kind of organised early childhood education.

Water and Sanitation

- Overall in Maldives, three-fourth households (77 percent) have access to safe drinking water. If rain water is excluded as a source of safe water then this share reduces to one-fourth (27 percent). This division is important since in more than four-fifth of the households no attempt to purify the water is made.
- Proportion of households using well water as the main source decreased from 19 to 16 percent during 1995-2001. Regional differences exist in the availability and source of safe water. On an average, about 35 percent of the households have to travel to fetch drinking water, the mean time taken per trip being 11 minutes.
- Some kind of facility to store rain water is available in 95 percent of the households, most commonly people use private tank and in fewer cases government cement tank.
- Radio and TV, in that order, are the most popular media through which people obtain information on water and sanitation.
- In country, four-fifth (81 percent) of household proper sanitary means of excreta disposal is followed, showing a remarkable improvement since 1995. While Male' and the Southern region are advanced in this respect, in other regions only 70 percent of households use proper methods for excreta disposal. When disposal of excreta of children is considered, only in 65 percent of households appropriate safe methods are followed.

Health

- Four out of five (85 percent) children aged 12-23 months are fully immunised (received one dose of BCG, 3 doses of DPT, 4 doses of Polio and one dose of Measles).
- The percentage of children (12-23 months) who have been given BCG vaccine is 96 percent (86 percent in 1995), given OPV3 is 93 percent (89 percent in 1995), given DPT3 is 92 percent (87 percent in 1995) and given Measles vaccine is 92 percent (82 percent in 1995).
- In ninety-one percent of the cases, immunisation status of children under 5 years were assessed after seeing the immunisation cards. Regional differences in immunisation status are marginal.
- Eighty-seven percent of births born during the one year preceding the survey were weighed at birth, of which 18 percent were babies with low birth weight (below 2500 grams).
- Among the 854 children under 5 years of age, 4.4 percent (as compared to 8 percent in 1995) have had diarrhoea during the two weeks prior to the interview and more than a quarter reported as having had suffered from other illnesses. A little more than one-fifth had an episode of illness with a cough and 11 percent had illness with a cough along with abnormal breathing.

- While the child was suffering from diarrhoea, breast milk was given in only in 45 percent of the cases, ORS packet solution was given in 55 percent of cases, and in 30 percent of the cases locally defined acceptable fluids like coconut water and lime juice were given. More importantly, in three-quarters of diarrhoea cases the child was given only water. In a large proportion of the cases, the children was given much less than normal, to drink or to eat.
- About 22 percent of children under 5 years suffered from acute respiratory infection (ARI) during the two weeks prior to the survey (as compared to 70 percent in MICS-1). Of them, only 22 percent sought advice or treatment, the most preferred sources being health centre and hospital.
- One out of five (21 percent) mothers/care takers knew at least two signs of serious illness that should prompt immediate care seeking.
- In 98 percent of births during the last one year preceding the survey, antenatal check-up was done. Tetanus injection was given in 65 percent. Mostly doctors (48 percent), trained traditional birth attendant (45 percent) and ANM/Nurse (22 percent) conduct deliveries. Trained medical attendance was available in 97 percent of the births. Forty-three percent of mothers who have given birth during one year preceding the survey, had received at least two doses of tetanus toxoid during their life time

Nutrition

- Dietary pattern of children in Maldives showed that more than half of the children are given fish (56 percent) and milk (59 percent) and only one-fifth (22 percent) are given green leafy vegetables at least three times a week. About 44 percent are given ripe fruits and 22 percent are given eggs. Liver (of any animal) is not an important part of the diet for the majority of children in the country. Regional variations in dietary pattern exist and appear to be influenced by the extent of availability of various food items.
- In Maldives, breast-feeding is universal, with 97 percent of children (under age 5 years) being ever breastfed and 47 percent being breastfed during the time of the survey. Mean length of exclusive breast-feeding is 4 months. Only 42 percent of children are exclusively breastfed for 4-6 months, and only 10 percent are exclusively breastfed by the 6th month. The survey results show the introduction of supplementary foods by from the 4th month in the country.
- One-fifth of the children are fed from a bottle with a nipple, bottle feeding being greater for children aged 12-23 months.
- In Maldives, one out of three (31 percent) children is underweight and one out of ten (9 percent) children are severely underweight. Undernutrition among children typically starts after 6 months of age. The proportion of undernourished children is the highest in the age group 6-11 months.

- The proportion of children under 5 years who are underweight decreased from 43 percent in 1995 to 30 percent in 2001, the proportion severely stunted decreased from 30 percent to 25 percent, and the proportion of 'wasted' declined from 17 percent to 13 percent during the same period.
- In Maldives, 51 percent of children received one dose of Vitamin A supplement within the last 4-6 months and 15 percent received a Vitamin supplement during the 24 hours prior to the interview. Regional variations are considerable in the extent of Vitamin A supplementation.
- More than 2 percent of children have difficulty in vision during daylight while 1.2 percent have difficulty with vision at dusk. Another 1.9 percent of children find difficulty in recognising people at dusk. Thus, in the country more than 5 percent children suffer from vitamin A deficiency. This indicates that Maldives has severe vitamin A deficiency among children (under functional classification).
- Among women aged 15-49 who has a children below 5 years or have given birth during the 12 months preceding the survey, 11 percent had difficulty in seeing in daylight while 6 percent suffered from night blindness.
- Anthropometric measurements show that the mean height of women is 150 cm; the proportion shorter than 145 cms is 17 percent. Mean body mass index was 23.5; chronic energy deficiency is observed in more than one-fifth of the women (23 percent). While regional variations in height are substantial, those in body mass index are meagre. Energy deficiency was found to be greater among younger women (15-24 years)
- Haemoglobin level was tested for 85 percent of women in the sample. More than one-half (51 percent) were found to be anaemic to some degree: 41 percent are mildly anaemic, 10 percent moderately anaemia and 1 percent severely anaemic. Regional differences in the prevalence of anaemic are substantial, ranging from 38 percent in the South to 64 percent in the North. Prevalence of anaemia is considerably higher among women in the 15-19 age group.
- Among the households where salt iodization was tested (93 percent of the total selected households), only 44 percent use salt iodized to the recommended level of 15ppm or more. About 3 percent of the households use salt that is not at all iodized and 46 percent use minimally iodized salt. Regional variations in the use of iodized salt are substantial, ranging from 69 percent of the households using properly iodized salt in Male as compared to 31 percent in North.

Other child rights indicators

- Extent of birth registration (for children below 5 years of age) is 73 percent in Maldives, with large extent of regional differences. Age differences in the extent of birth registration showed an improvement in registration over the years. Most frequently reported reasons for not registering birth are distance, difficulty in commuting, late and did not want to pay fine, did not know where to register, birth took place outside home island, postponed for school enrolment or the child not yet completed seven days.

- Even though it is mandatory to register birth within seven days of child's birth, only 54 percent mothers/caretakers reported to have registered their births within seven days and 4 percent of mothers reported that they paid fine.
- About four-fifth of children aged 0-14 years in Maldives stay with both parents, 15 percent with mother, 2 percent with father and 5 percent do not live with any parent.
- Overall, 26 percent of children (5-14 years) are currently working (33 percent of female and 20 percent of male children) in the country. More female children (3 percent paid and 5 percent unpaid) are currently working for someone who is not a family member as compared to male children (2 percent paid and 4 percent unpaid). Regional differences in child labour are considerable, with Male having the lowest extent and North central region registering the highest.
- Overall, the indicators showed a marked improvement in health and welfare of children during the past five years. In general, the health and welfare indicators show only marginal differences by gender, for most of the indicators (the major exceptions being birth registration and Child Labour) the situation of female children being slightly better. However, regional differences are substantial for many of the indicators.

Recommendations

The findings from the present study when viewed along with those from earlier analyses could provide fruitful suggestions for improving the situation of children and women in Maldives. The major recommendations on strategies that could be of use in enhancing the well being of children are briefly presented below:

- (i) The high level of drop out rates from primary and secondary education and the overall low level of education in the population (despite almost universal literacy), underlines the importance to focus on reducing the drop out rates. Enhancing the facilities for early childhood care and education would contribute to a reduction in the drop out rates in future. Appropriate strategies need to be developed to improve the awareness among people regarding the utility of enhancing the educational status of their children. It would be beneficial to effectively utilise the youth of today to promote the value of education among common masses.
- (ii) Since a large proportion of the population of the country still have to depend on rain water as a source of safe water, it is necessary that they are made aware of the need for purifying the water before drinking. People should be educated about easy and culturally compatible ways of purifying water. Also, the dependence on well water though decreased, is still high. Strategies need to be developed to further enhance the storage facilities of rain water. Saving the exception of Male, it is essential that future strategies in the provision of safe drinking water should aim at providing water through public taps that are installed fairly close to the houses; it is not surprising that people have to rely on less safe sources if they have to travel (on an average) to travel for 11 minutes to fetch water just once.

- (iii) It is essential to improve the awareness among people of the need to follow safe and hygienic methods of sanitation and enhance their knowledge on these matters. Focusing on the disposal of the excreta of children, as an initial intervention, would be rewarding. In addition to the currently popular media of radio and TV, it is essential to educate the present day children most of who are in the educational system at least till 4th class, through specific strategies, on the need for and methods of proper hygiene.
- (iv) Though immunisation coverage of specific diseases is very high, full immunisation would only be achieved by intensifying the interventions. It appears that, if one compare with the extent of trained medical attendance at delivery that most of the children who are not weighed at birth are attended by trained health personnel. It is imperative that either they are made further aware of taking the weight of the child at birth and if affordable to consider providing them with weighing machines.
- (v) It appears that though the nation has made significant improvements in the area of control of diarrhoea, further reduction in the incidence of diarrhoeal diseases is possible. Particularly, it is necessary to improve the knowledge and awareness regarding the use of ORS packets and the foods (types and quantities) to be given when children are having diarrhoea. The dietary pattern during episodes of diarrhoea appears to be culturally suggested rather than the result of interventions. It is necessary that future programmes focus on these aspects by aiming at alleviating the misconceptions in the minds of mothers.
- (vi) The reduction in the incidence of acute respiratory infection is remarkable. However, there is a need to improve the knowledge about importance signs of illness that should be treated seriously and should prompt to seek immediate medical attention. It is also necessary to improve their knowledge about the sources of treatment that are under-utilised currently.
- (vii) An important point related to the reduction in child morbidity relates to the pattern of breastfeeding. It is necessary to ensure that while exclusive breast-feeding is stopped, the child is given adequate supplementary foods to ensure high nutritional status. In order to arrive at any specific strategies relating to this, further studies on dietary patterns are needed, with a strong focus on the types of foods available and affordable in different areas of the country.
- (viii) That the proportion of children stunted, under weight or wasted is quite high in the nation requires immediate government attention. Strategies aiming at monitoring the growth of children in early childhood years would prove rewarding. When seen along with the need to enhance the facilities for early childhood care and education, this point assumes greater importance and becomes an area that should receive immediate attention in health planning and implementation. Also, child health is dependent upon the health of the mother. It appears from the results of this survey that further attention needs to be given in educating mothers about the need as well as the possible steps they could take in ensuring adequate nutrition during pregnancy.
- (ix) Vitamin A supplementation requires improvement not only for children but also for women. As per the survey results more than 5 percent of children and over 17 percent of women suffer from Vitamin A deficiency. More effective strategies are to be identified and effectively implemented urgently.

- (x) Anaemia is highly prevalent among women. The fact that half of them suffer from anaemia is unsettling and should be taken seriously. This happens despite the fact that almost universally women are checked during the antenatal period for any possible deficiencies that could affect the health of themselves and their children.
- (xi) Low birth weight babies are higher risks of dying than normal birth weight babies. It is not only depends on nutritional in-take but also anaemic status of mother during pregnancy. In country, one out of five mothers delivered low birth weight, which is very high. In-depth study may be undertaken to identify various causes for low birth weight babies. Accordingly more effective strategies are to be identified and implemented as a national program.
- (xii) Use of iodized salt for cooking is low in Maldives. It is necessary to educate people to use appropriately iodized salt and also to ensure that properly iodized salt (15 ppm or more) is available sufficiently in the local market. The government may adopt and enforce legislation on iodised salt and conduct adocacy for the public and in schools to increase consumer demand for iodised salts.
- (xiii) Though there has been an improvement in the extent of birth registration in recent years, it appears necessary that further awareness programmes should be aimed at this direction in educating people not only of the need for registration, but about simple things such as where they should go for registering. If possible the fine should be reduced as a considerable proportion of women have not registered the birth of their child, because the fine is not affordable.
- (xiv) Focused attempts are required to ensure good health and living conditions of children who are staying with one parent or are orphaned.
- (xv) The extent of child labour in the country is high and requires government intervention to educate the people as well as to ensure that the child stays in school for more years than it is now.
- (xvi) Both census and the age-sex distribution observed in this survey suggest a high proportion of women in the reproductive age group and a high proportion of children in the 5-9 and 10-14 age groups. Both points to a high number of births if in the near future if fertility does not decline drastically. In order to offset the effect and as well as to improve the situation of children and women, it is necessary that fertility in the country be brought down. Particularly it is essential to focus on the spacing methods in the coming years because direct attempts at limiting number of births per woman may not immediately succeed. Also, a focus on spacing would increase the birth interval thus enhancing the health of children and women and would indirectly reduce the effective reproductive span.
- (xvii) Another indication emerging from the data is the fact that a large proportion of older women are widowed. Since the current trend in life expectancies and health indicators suggest a widening gap in the life expectancies of males and females, it is quite possible that this share would increase in the coming years. It is necessary to plan for this in advance by ensuring familial support through interventions aimed at enhancing family ties and to anticipate the possible implications for public expenditure in providing support to them.

(xviii) An important point that emerges from the present survey is the possibility of regional variations in many of the indicators relating to the health and welfare of children. This suggests that it is imperative that studies aiming at understanding the socio-economic and cultural differences across regions should become a focus of future research. More urgently, studies should be designed to examine the major factors that determine the regional variations in the health situation of women and children in the country.

CHAPTER I

INTRODUCTION

1.1 Background of the Survey

Heads of State, ministers, and senior officials from countries around the world who attended 'The World Summit for Children' (WSC), pledged themselves to a Declaration and Plan of Action for Children. The Plan of Action called for each country to "establish appropriate mechanisms for the regular and timely collection, analysis, and publication of data required to monitor social indicators related to the well being of children"(para.34(v))¹. The Plan of Action identified seven major goals and twenty supporting goals to be achieved by the year 2000. Following the Declaration, the Republic of Maldives marked 1991 as the Year of the Maldivian Child. A national conference for children was held during this year with the objective of formulating a programme of action for the protection of the rights, and to ensure survival and welfare of the Maldivian children by the year 2000. An inter-ministerial council was formed for the protection of the Rights of Child and to develop national policies and strategies to supervise the implementation of International Convention on the Rights of the child. In November 1992, a Unit for the Rights of Children was also established with the mandate of implementing the WSC Plan of Action and the National Plan of Action for the Child. The government prepared a set of various targets for achieving mid-decade goals ensuring gender equality.

In many developing countries, routine recording and reporting system in all development sectors are either incomplete or often inadequate, do not uniformly collect information on many of the goals or consistently indicates very high level of achievements. Also, many such records are not generally verified by comparing with sample surveys or sentinel data. The United Nations Children's Fund (UNICEF) has developed an affordable, fast and reliable household survey methodology (called the Multiple Indicator Cluster Survey - MICS) as a tool in collaboration with the World Health Organization (WHO), the UN Statistical Division, London School of Hygiene and Tropical Medicine, and the Centre for Disease Control and Prevention (CDC) to assess the standard WSC goals set for the mid-decade and end-decade in areas critical to child survival and development. A set of model questionnaires of different modules was incorporated into a manual that had detailed instructions for planning and implementing MICS. The questionnaire and manual were circulated to the UNICEF country offices with instructions that they should carry out a Multiple Indicator Cluster Survey (MICS) if it is of particular relevance and use to the country and if there are no other reliable sources of data to report on the Goals.

In 1995, like in many other developing countries, the Republic of Maldives conducted a national survey to assess the achievement and situation of various mid-decade goals indicators using Multiple Indicator Cluster Survey Guideline. The findings of the first MICS indicated that Maldives has achieved all mid-decade goals. After a gap of five years, in 2001, the second Multiple Indicator Cluster Survey (MICS-2) is conducted to assess the achievements of end-decade goals relating to the survival, health, nutrition, education, and protection of children. The survey is intended to provide estimates at the national level. MICS-2 was conducted with financial support from the UNICEF, with additional funding from

¹ Annex to 'Ceremony for the presentation of the Declaration and Plan of Action adopted by the world leaders at the World Summit for Children: Note by the Secretary-General', document A/45/625, United Nations, New York, 1990.

World Health Organization (WHO) for the Survey on Vitamin A. The Ministry of Health, Republic of Maldives, was the survey agency and shouldered the responsibility of conducting the survey.

1.2 Republic of Maldives: Socioeconomic and Demographic Profile

The Republic of Maldives is one of the world's archipelagos states located 600 kilometers south of India extending from the equator to 7 degrees 6' 3" North, has 200 inhabited islands and about 1000 other islands including resorts stretching across 500 miles of Indian Ocean. Most of the islands are small, few having a land area in excess of one square kilometer, and are mostly low lying with an average elevation of 1.6 meter above sea level. The Maldives has been an independent state throughout its history except for a brief period of 15 years of Portuguese occupation in the 16th century. In 1887 Maldives became a British Protectorate and remained so until 1965, and on July 26, 1965 Maldives became an independent nation. In 1968, Maldives was reverted from a Sultanate to a Republic with democratic political system. The President is both the Head of State and Chief Executive of the government nominated by the 'Citizen's Majlis' (parliament) and is elected by public referendum to a renewable five years. The Republic is divided into 20 administrative units, also called atolls (chain of islands) for the purpose of administration. Every atoll has an atoll chief, who heads atoll office and handles the atoll-based administration, facilitates and works on behalf of other central government authorities. Each inhabited island has an island office, which handles the island-based administration on behalf of the atoll office.

The population of the Maldives was 244,814 in 1995 (Census 1995). In addition to this there are about 19,000 resident foreign workers and their dependents. About 26 percent of the population live in the capital island of Male' and the rest of the population is scattered over 200 inhabited islands. In addition to Male's permanent population, it also has a floating population of several thousands who arrive from other islands for commercial purposes, education and medical treatment. In the early 1990's, the population was growing at an annual rate of 2.8 percent. The growth rate has slightly declined to 2.1 percent as per the 2000 census. This high growth rate has important implications for public expenditure in the social sectors such as health and education, as well as for the potential growth in per capita income. In addition to the resident population, over 300,000 tourists visit Maldives each year.

Two periods can be identified in the history of growth of the Maldives population. The first transition stage relates to the years before 1965. The country entered its second stage of demographic transition in the late 1960s. The total population was 77,473 in 1911, 142,832 in 1981, and 244,814 in 1995. The rate of growth of population was less than one percent per annum till 1960. However, during second stage of transition, the population had continued to grow from 2.0 percent in 1965 to 3.4 percent in 1990, and thereafter declined to reach 2.8 percent per annum in 1995. Male', the capital of Maldives is the only urban area and it is very important to see the differences between Male' and the rural areas. The percentage of the total population living in the urban areas increased from 7 percent in 1911 to 11 percent in 1965 and to 26 percent in 1995. During the period 1911-1957, the sex ratio of population in the country has been fluctuating between 119 to 116 males per 100 females and highest ratio (119) was registered in 1931. Thereafter the sex ratio declined from 113 males per 100 females in 1965 to 107 in 1985 and to 104 in 1995. The percentage of population aged 0-14 years increased from 45 to 47 percent, between 1977 and 1995 and declined to 41 percent by 2000. The percentage of population aged 65 and above increased marginally from 2 to 3.8 percent

during the same period. The high volume of young population has important policy implication and puts a heavy burden on the government expenditure for education and health. The population density of Maldives is 800 person per km² compared with 30,000 persons per km² in Male', indicating a very high and increasing pressure on land in the capital city.

Fertility and Mortality information is available for the period since 1978. The crude birth rate (CBR) increased from 37 per 1,000 population in 1978 to reach a peak of 49 in 1985, but thereafter declined slowly to 21 in 1998. The total fertility rate (TFR) also declined from over 6 children per women in 1990 to 5.3 in 1995. One of the causes for the high fertility is early marriage and early child bearing (in the age group 15-20). The crude death rate has declined considerably, from 14 to 4 per 1,000 population between 1978 and 1998. The infant mortality rate declined from 120 to 20 per 1,000 live births between 1978 and 1998 and under-5 mortality from 48 in 1990 to 27 in 1998. Maternal mortality rate has been fluctuating between 6 and 2 per 1,000 live births during years 1978-1993. It declined from 6 per 1,000 live births in 1978 to 2 in 1998. In 1997, life expectancy was 69 years for males and 70 years for females, indicating substantial increases from the level of 48 years for males and 46 years for females in 1978.

In 1984, Maldives government had launched family-planning program, and subsequently the reproductive health program, to control the high population growth rate. The family planning policy in Maldives is to improve the quality of life of Maldivians through reproductive health care and birth spacing to reduce infant, child and maternal mortality. The contraceptive user rate (defined as the percentage of eligible couples protected against pregnancy by using various methods of contraception) in Maldives was 18.5 percent in 1998, compared with 5 percent in 1971 (Health Report, 2000).

Maldives is predominantly a fishery-based economy state, although this has been changing rapidly. During past two decades, the country's economy rapidly shifted from old fisheries-based economy to an economy, which is multi-sectoral, dominated by tourism and fisheries, and other tertiary sectors. The potential for other economic activities such as agriculture and industry is very much limited due to the lack of resources, such as raw materials, water, labour and physical space (World Bank, 1995).

Despite the constraints, the country has progressed significantly in most of the socio-economic indicators, including per capita income, infant mortality, life expectancy and school enrolment, during the past three decades. During past decade, the tertiary sector mainly distribution, communications, and tourism, grew at a rate of 10.2 percent. Average economic growth was sustained above six percent during this period. Recent progress in the Maldives is mainly supported by the two dominant industries of fishing and tourism, sharing 10 percent and 18 percent of GDP, respectively, in 1998. The fisheries sector's contribution to GDP registered a growth of 5 percent during the last five years, with the fish landings increasing by 28 percent during this period. Similarly, tourism sector's contribution to GDP expanded by 53 percent during the last five years, with the tourist arrivals during the period increasing by 85 percent. Consequently the per capita income increased from Rf 4,893 in 1988 to Rf 14,649 in 1998, and per capita public expenditure increased from Rf 2,009 in 1988 to Rf 8,299 in 1998. Maldives invests more than 20 percent of its GDP on social services (education and health). In the social sector, school enrolment, for example, has increased by 75 percent during the period 1988-1998.

The islands are geographically scattered and are far from one another, making it difficult to deliver effective services due to higher cost of transportation. Lack of communication facilities in the between islands will remain a major challenge for improving

the quality of life of the inhabitants. Despite such inherent constraints, Maldives has managed to initiate many development projects to broaden the target beneficiaries of on-going development programmes. Distribution of investment projects among the 20 Atolls of the Republic, development of predetermined growth centres, and expansion of infrastructure development through out the country, are some of the examples of positive steps taken by the Government for achieving better equity in the distribution of development benefits.

1.3 Objectives

The main objective of MICS-2 is to provide national-level information on key indicators related to the health and well being of children in order to assess the achievements of end-decade goals of the WSC Plan of Action. It will provide information on household composition, water and sanitation, salt iodization, education (including early childhood), adult literacy, child labour force, birth registration and reasons for non-registration of births, breastfeeding, child morbidity and treatment (diarrhoeal diseases and acute respiratory infection), immunization, nutrition status of women and children, vitamin A deficiency (both functional and biochemical investigation), tetanus toxoid, low birth weight, anaemia among women and maternal health (antenatal and delivery). It also provides information to policymakers and programme administrators for future planning and implementing strategies to improve health and nutrition status of children and women.

1.4 Questionnaires

MICS used the standard three modules of questionnaires: Household Questionnaire, Questionnaire for Children Under Five and Questionnaire for Woman of Reproductive ages (15-49 years), recommended by the UNICEF globally to assess end-decade WSC goals. The content and format of the questionnaires were similar to MICS surveys in other countries, thus providing a basis for inter-country comparison.

The Household Questionnaire enumerated usual residents in each sample household who stayed in the household the night before the interview date. For each enumerated person, the survey collected basic information on age, sex, marital status, and literacy. For children aged 5-14, information was gathered on paid or unpaid work outside home, household chores and household farm/business i.e., other family work, number of hours per week spent in these activities; For children age 5-17, data was gathered on school attendance, and school dropout. For children under age 15, information was obtained on alternative care and orphans. In addition, the Household Questionnaire also collected information on the main source of drinking water, type of toilet facility, and use of iodized salt for cooking.

Questionnaire for Children under age 5 collected information on various child indicators: Information on birth registration, attending early childhood learning programme, ever breast fed, duration of exclusive breastfeeding, complementary feeding started, prevalence and treatment of common childhood diseases such as diarrhoea, fever, and Acute Respiratory Infection (ARI), availability of immunisation card, and coverage for specific primary immunisation doses, and anthropometrics.

The Woman's Questionnaire for women of reproductive age 15-49 collected information on Women indicators: Nutritional status (height, Weight, Hemoglobin content, Vitamin A); Women who had delivered during the year preceding the survey: Proportion

who had antenatal check-up, received two doses of tetanus toxoid injections, assistance at delivery, and night blindness during pregnancy.

The content of individual Modules is described below:

Household Listing Form: This form was used to list both usual residents and visitors in each sample household who stayed in the household the night before the interview. For each listed person, basic information on sex, age, marital status, and literacy has gathered. For children under age 15, data were gathered on the living status of parents. The main purpose of these forms were to identify persons aged 5 or above and children aged 15-17, children aged 5-14, children under age five, and women aged 15-49 who were eligible to respond to education module, child labour module, questionnaire for children under five, and questionnaire for women of reproductive aged 15-49 respectively.

Water and Sanitation Module: This module collected household information such as main source of drinking water, storing facility of rainwater, safety precautions before drinking water, type of toilet facilities, and the procedure for disposal of stools of children of age 0-3 years.

Salt Iodization Module: This Module collected enumerator's observation of iodization of salt used to cook the main meal eaten by members of household last night.

Birth Registration and Early Learning Module: This Module was used to collect information for all children age 0-59 months on age, birth registration, reasons for not registering birth, whether paid fine for late registration of birth and for children aged 36-59 months, information on early childhood education programme.

Breastfeeding Module: This Module was used to collect information for all children aged 0-59 months on ever breastfed, currently breastfeeding, duration of exclusive breastfeeding, and bottle feeding.

Care of Illness Module: This Module was used to collect information for all children aged 0-59 months on the prevalence and treatment of common childhood illnesses such as fever, cough and diarrhoea, and sources of treatment, mother/caretaker's awareness about serious illnesses of child.

Immunization Module: This Module was used to collect information for all children aged 0-59 months on immunization coverage including Hepatitis B.

Anthropometry Module: This Module was utilised to collect information for all children aged 0-59 months on Weight and Height.

Vitamin A Module: This Module was used to collect information for all children aged 0-59 months on whether they received a Vitamin Supplement, have night blindness, and food consumption.

Women Information Panel: This Module was used to collect information for all women aged 15-49 on the current age, weight, height, hemoglobin content, source of water, sanitation and hygiene education, and whether had a live birth during the last year.

Tetanus Toxoid (TT) Panel: This Module was used to collect information for all women aged 15-49 who had given a live birth in the year preceding the date of interview on whether received TT and how many doses.

Maternal and Newborn Health Module: This Module was used to collect information for all women aged 15-49 who had a live birth in the year preceding the date of interview. Information was gathered on whether the woman received antenatal check-up during

pregnancy, assistance during delivery, birth weight of baby, night blindness during pregnancy and mother's awareness of child disability.

Vitamin A for Women: This Module was used to collect information for all women aged 15-49 who have a child of under 5 years or a live birth in the year preceding the date of interview, difficulties seeing in daylight, night blindness, night blindness during pregnancy and current status of pregnancy.

1.5 Sample Design and Implementation

Sample Design

The standard 'EPI 30 cluster' sampling technique was used (recommended by UNICEF procedures for sampling with PPS-option 2). The 1995 census served as the sampling frame. Maldives was divided into five geographic regions (based on the 20 atolls in 1995 Census) and clusters were selected in each region as follows:

- Region I: Male' [Henveiru, Galholhu, Machchangolhi, Maafannu (two clusters)]
- Region II: North: (Ha. Ihavanddhoo, Ha. Thruraakunu, HDh. Nolvivaramu, HDh. Kulhudhuffushi, Sh. Goidhoo, and Sh. Komandoo)
- Region III: North central: (N. Lhoho, R. Alifushi, R. Innamaadhoo, B. Dhonfanu, Lh. Hinnavaru, and Lh. Olhuvelifushi)
- Region IV: South: (Ga. Devvadhoo, GDh. Thinadhoo, Gdh. Rathafandhoo, Gn. Fuvahmulah, S. Hithadhoo, and S. Feydhoo)
- Region V: South central: (K. Guraidhoo, AD. Mahibadhoo, M. Naalaafushi, Dh. Bandidhoo, Th. Kandoodhoo, L. Maabaidhoo, and L. Maamendhoo)

A total of 30 clusters were selected based on the population proportion to size (PPS) methodology from sample frame of 200 inhabited islands taking into account the possible non-response rates. The sample was designed to provide national level estimates for key indicators. The over all target sample size was 35 households of each cluster to get completed 782 interviews of children under 5 years. The required sample sizes calculated for assessing the bulk of WSC indicators were very much smaller than the required sample for Vitamin A (night blindness) estimation. Details of each target sample size are attached as an Appendix. An additional sample was taken to meet the target of 50 children aged 24-59 months and 50 women aged 15-49 years in each cluster for Vitamin A module (night blindness and DBS) estimates.

Sample Implementation

Table 1.1 summarizes the basic features of the sample and also shows response rates for households and individuals. Non-response can occur at the stage of the household interview, at the stage of the individual woman interview or at the stage of mother/caretaker interview to collect information for children. The survey succeeded in achieving a household response rate of 99.9 percent. As expected, response rate is somewhat lower in individual interview (98 percent). For ninety-seven percent of children under age 5 information was collected. A total of 1,062 households, 1,949 women aged 15-49, and 854 children under age 5 were covered.

Table 1.1: Sample features	
Number of selected and interviewed households, women aged 15-49, and children under age 5, and response rates, Maldives, MICS, 2001	
Number of household	
Sampled/selected	1063
Interviewed	1062
Response rate	99.9
Number of women aged 15-49	
Selected/Identified	1985
Interviewed	1949
Response rate	98.2
Number of children under age 5	
Selected/Identified	878
Interviewed	854
Percent completed	97.3

1.6 Training and Fieldwork

Officials of the Ministry of Health trained the field staff for the survey in Male'. Training consisted of classroom training as well as field practice and additional training for supervisors. Medical doctors gave separate training to clinicians attached to enumerator teams on measuring height and weight, testing for anaemia, and the DBS technique. It included classroom training and extensive field practice in random households in Male'. Five enumerator teams conducted the fieldwork, each team consisting of one supervisor, four female enumerators and one or more clinician(s). The fieldwork was carried out between 15 March 2001 and 28 March 2001. Project coordinator and senior staff of Ministry of Health monitored and supervised the data collection operations.

1.7 Data Processing

Completed questionnaires were sent to the Ministry of Health, Male' for data processing. Before data entry, questionnaires were thoroughly checked which consisted of office editing and coding using the Epi Info software. Data entry was done by four data entry operators under the supervision of one senior staff of the MOH. Data entry and editing operations were completed by July 2001. After machine editing under supervision of UNICEF consultant, data was analyzed using SPSS software. UNICEF country office staff assisted to calculate nutrition indicators for children using anthro pack. DBS sample collected from children and women are sent to WHO Geneva for laboratory analysis, the results are awaited.

CHAPTER II

QUALITY OF DATA

An assessment of the quality of gathered data would be useful to evaluate the accuracy of estimates arrived at and the reliability of conclusions made. This, when heeded with the information on the adequacy of sample size at various levels, provides an idea about the validity of the observations made from the results. This chapter examines data quality considering selected aspects such as age data, education, work status of children, birth date, and indicators of maternal and child health.

In Table 2.1 the single year age returns of the sample population is presented for male and female household population. In a society that is universally literate but having on an average a low educational status, one could expect slight age mis-reporting. A look at the age data indicates the existence of age heaping at certain ages especially for ages below 30 years. Existence of age heaping may also be seen from the line graph of age distribution given in Figure 3.1. In the absence of age misreporting the graph, given the mortality pattern in the country, should resemble that of the survival function in a life table, it, monotonously decreasing. However, the line graph shows a zigzag pattern thus showing that age heaping is present, though to a lesser extent compared to many other developing nations.

In order to evaluate the extent of age mis-reporting, the Myer's index was calculated for each sex. From these results it can be seen that slight heaping exists at ages ending in digit 5, 4 and to a lesser extent at ages ending in 6. The extent of heaping is the highest at ages ending in 4. Age heaping is slightly higher among males compared to females (Myre's index being 7.3 for males as compared to 6.5 for females). A comparison with the value of Myer's index for other countries indicates that reported age data in the present survey is of relatively high quality. The fact that the age not stated category accounts for only less than one percent also suggests a high quality data.

The level of education for those aged 5 years or above is not reported in only 0.8 percent of cases while the number of years of schooling is not stated in 7 percent of the cases. Since a considerable proportion of the population does not have formal schooling and because of the high drop out rates, this observation is not surprising. The survey gathered information on working status of children aged 5-14 to examine the extent of child labour in the country. The number of working hours for working children is not reported in 6.5 percent of the cases. As one would expect, based on observations from other populations, complete birth date of women in the reproductive age group is available only in 77.4 percent cases, could be due to difficulties in recalling their birth dates. However, the fact that complete birth date is reported in 96.6 percent of the children indicates a high quality of data.

Looking at the data relating to maternal and child health, while the dates of last tetanus toxoid injection are not reported in about 17 percent of the cases, the percentage of children having had diarrhoea in the last two weeks was not reported only in less than 1 percent of the cases. As in the case of complete birth date and dates of tetanus toxoid injection, the anthropometric information for women is also not available in about 15 percent of the cases. It may possible that the slips used to record anthropometrics information is detached or not entered either on the slip or into the questionnaire. That data on haemoglobin

level is missing in 16 percent of the cases is not surprising because of the misconceptions about giving blood for examination and also considering the educational status in the general population. However, in the case of children, the extent of missing cases in data relating to anthropometry is considerably less (9 percent in the case of height and 10 percent in the case of weight). Though this much exclusion may not be seen in surveys of developed countries, compared to the situation in developing countries, this is on the lower side.

Overall, it appears from the above analysis that the data may be considered as of high quality, with a caution that conclusive interpretations relating to maternal health should be made carefully.

Table 2.1: Age-sex distribution of the household population

Single year age distribution of the household population by sex, Maldives, MICS, 2001

Age	Male		Female		Age	Male		Female	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
<1	99	2.7	95	2.5	40	63	1.7	60	1.6
1	89	2.5	70	1.8	41	26	0.7	28	0.7
2	96	2.7	77	2.0	42	29	0.8	40	1.0
3	92	2.5	77	2.0	43	25	0.7	40	1.0
4	105	2.9	73	1.9	44	17	0.5	23	0.6
5	84	2.3	89	2.3	45	53	1.5	32	0.8
6	102	2.8	106	2.8	46	18	0.5	18	0.5
7	120	3.3	93	2.4	47	21	0.6	20	0.5
8	105	2.9	114	3.0	48	23	0.6	14	0.4
9	126	3.5	107	2.8	49	12	0.3	12	0.3
10	123	3.4	143	3.7	50	41	1.1	59	1.5
11	120	3.3	117	3.0	51	10	0.3	5	0.1
12	128	3.5	105	2.7	52	14	0.4	12	0.3
13	116	3.2	112	2.9	53	14	0.4	13	0.3
14	119	3.3	130	3.4	54	14	0.4	13	0.3
15	121	3.3	116	3.0	55	29	0.8	24	0.6
16	92	2.5	101	2.6	56	15	0.4	19	0.5
17	96	2.7	99	2.6	57	12	0.3	19	0.5
18	84	2.3	96	2.5	58	16	0.4	14	0.4
19	64	1.8	93	2.4	59	12	0.3	5	0.1
20	59	1.6	103	2.7	60	44	1.2	34	0.9
21	70	1.9	80	2.1	61	6	0.2	8	0.2
22	59	1.6	58	1.5	62	9	0.2	9	0.2
23	32	0.9	76	2.0	63	12	0.3	5	0.1
24	55	1.5	59	1.5	64	8	0.2	7	0.2
25	38	1.1	73	1.9	65	15	0.4	14	0.4
26	26	0.7	61	1.6	66	10	0.3	4	0.1
27	41	1.1	62	1.6	67	13	0.4	4	0.1
28	42	1.2	53	1.4	68	8	0.2	5	0.1
29	43	1.2	52	1.4	69	7	0.2	5	0.1
30	51	1.4	68	1.8	70+	93	2.6	66	1.7
31	26	0.7	45	1.2	Missing	32	0.9	14	0.4
32	41	1.1	64	1.7					
33	26	0.7	52	1.4	Total	3613	100.0	3851	100.0
34	33	0.9	39	1.0					
35	51	1.4	60	1.6					
36	31	0.9	40	1.0					
37	30	0.8	32	0.8					
38	27	0.7	70	1.8					
39	30	0.8	46	1.2					

Figure 2.1
Single Year Age Returns

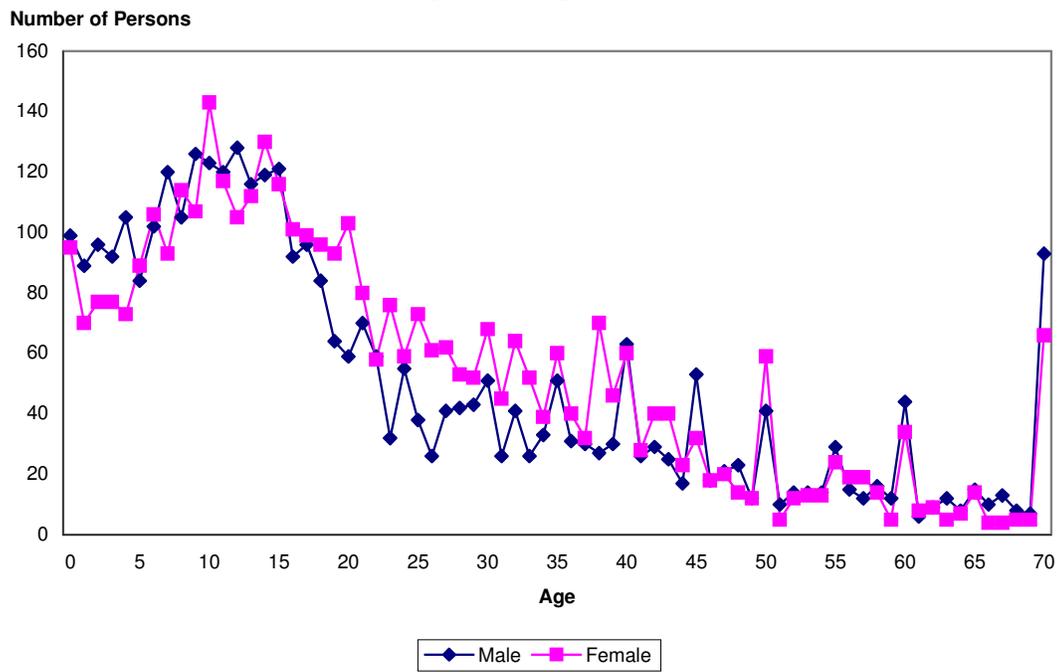


Table 2.2: Completeness of reporting

Percentage of cases with missing information for selected questions, Maldives, MICS, 2001

Question	Reference population	Percent missing	Number
Education			
Level of education	Household persons aged 5 or over	0.8	5744
Year of education	Household persons aged 5 or over	7.0	5744
Child Labour			
Number of hours worked	Working children aged 5-14	6.5	153
Birth date			
Complete birth date	Women aged 15-49	22.6	1949
Complete birth date	Children under age 5	3.4	854
Titanus toxoid			
Date of last tetanus toxoid injection	Women with a live birth in the last year	16.8	179
Diarrhoea in last 2 weeks	Children under age 5	0.8	854
Anthropometry			
Height	Women aged 15-49	15.3	1949
Weight	Women aged 15-49	16.2	1949
Woman's haemoglobin level	Women aged 15-49	16.0	1949
Anthropometry			
Height	Children under age 5	8.8	854
Weight	Children under age 5	9.6	854

CHAPTER III

SOCIO-DEMOGRAPHIC PROFILE AND ENVIRONMENTAL HEALTH

3.1 Background Characteristics

MICS-2 covered a household population of 7468 from 1062 households. The gender distribution shows that 51.6 percent of them are females thus implying a sex ratio of 94. Age-sex distribution by five-year age groups presented in Table 3.1 and the age pyramid in Figure 3.1 suggest a young age structure with about 43 percent of the population being children below 14 years, as compared to 41 percent observed in 2000 census. A comparison of data for different years indicates that over the years there has been a decline in the proportion of children. The aged population (65+) forms only 3.3 percent thus leaving 53 percent available in the working age group. Hence the child dependency ratio in Maldives still remains high (81.1) and old age dependency ratio is a low of 6.2. Another notable feature of the age sex distribution is that more than half (51.6 percent) among females is in the reproductive age group.

Table 3.1: Household population by age and sex

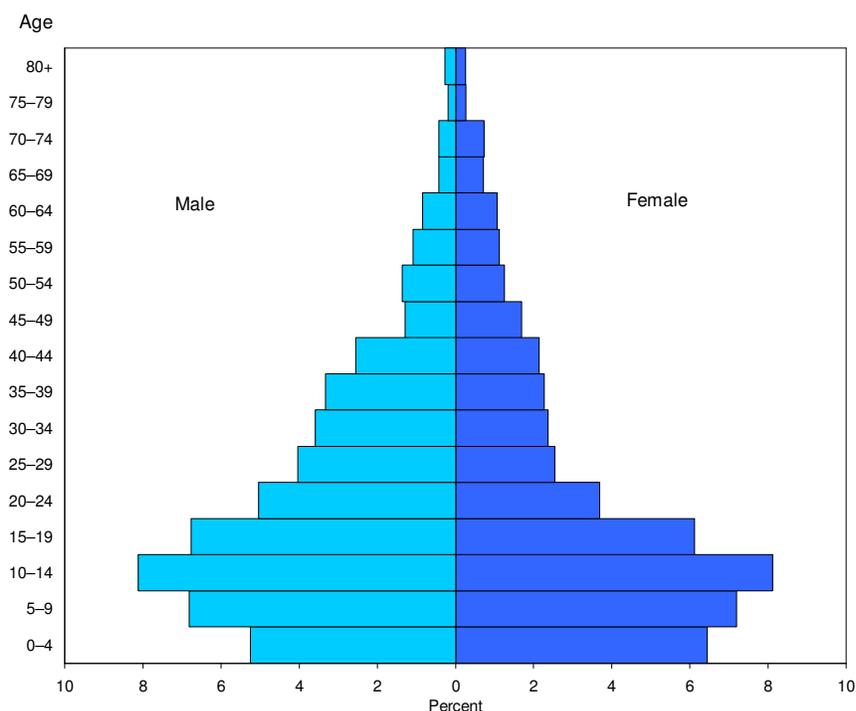
Percent distribution of household population by sex and age from MICS-2 and Census, Maldives, 2000-2001

Age	MICS 2001			Census 2000		
	Male	Female	Total	Male	Female	Total
0-4	13.3	10.2	11.7	11.0	11.5	11.44
5-9	14.9	13.2	14.0	14.1	14.0	14.0
10-14	16.8	15.8	16.2	15.2	15.2	15.2
15-19	12.6	13.1	12.9	12.1	12.5	12.3
20-24	7.6	9.8	8.7	8.5	8.9	8.7
25-29	5.3	7.8	6.6	7.2	7.7	7.4
30-34	4.9	7.0	6.0	6.5	6.9	6.7
35-39	4.7	6.4	5.6	5.7	5.9	5.8
40-44	4.4	5.0	4.7	4.6	4.6	4.6
45-49	3.5	2.5	3.0	2.9	2.6	2.8
50-54	2.6	2.6	2.6	2.2	2.2	2.2
55-59	2.3	2.1	2.2	2.3	2.1	2.2
60-64	2.2	1.6	1.9	2.5	2.2	3.3
65-69	1.5	0.8	1.1	1.9	1.5	1.7
70-74	1.5	0.8	1.2	1.3	0.8	1.1
75-79	0.6	0.4	0.5	0.6	0.4	0.5
80+	0.5	0.5	0.5	0.5	0.3	0.5
Missing	1.0	0.4	0.7	0.6	0.3	0.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Sex ratio	NA	NA	94	NA	NA	103
Number of persons	3616	3852	7468	137200	132901	270101

Note: Sex ratio is the number of males per 100 females.

NA: Not applicable.

**Figure 3.1
Population Pyramid**



MICS, Maldives, 2001

Region-wise distribution shows a relatively fair distribution of sample population across the five regions, the share is marginally higher for South central and North central regions (Table 3.2). On an average there are 7 persons per household this being large compared to many developing nations. The proportion of households having 10 or more members is more than one fifth while 61 percent of the households have 5 more members. In 58 percent of the households there is at least one child aged under 5 and in 95 percent of the households there is at least one woman in the reproductive age group. These observations underline the importance of and the implications for planning for maternal and child health in the country.

Table 3.2: Household characteristics

Percent distribution of sample households by background characteristics, Maldives, MICS, 2001

Characteristics	Percent	Number
Region		
Male	16.6	176
North	19.8	210
North central	21.2	225
South	19.4	206
South central	23.1	245
Number of members in the household		
1	1.7	18
2-3	12.1	129
4-5	25.2	268
6-7	22.5	239
8-9	18.0	191
10+	20.4	217
Mean household size	7.1	1062
At least one child under age 5	58.4	620
At least one woman age 15-49	94.7	1006
Number of households	100.0	1062

3.2 Marital Status

Overall, 31 percent of males and 21 percent of females aged above 15 years remained never married in Maldives (See Table 3.3). Also, while 7 percent of males are either divorced or widowed, among females their share is considerably higher (11 percent). Among females, even in the reproductive age group, the percentage of those divorced is close to 5 percent. In the reproductive age group, the percentage of never married is 40 percent among males and 27 percent among females. Most of the women in the country are married before they complete 25 years while among men about a quarter remains unmarried even by 30 years.

As may be expected, the percent of widowed and divorced increase with age; the share, particularly of the widowed, becomes higher among females after 50 years of age indicating a higher rate of male adult mortality. The facts that of those aged 60 and above, the percent of widowed, among females, ranges from 25 percent in the 60-64 age group, to 40 percent in 65-69 and to 65 percent in 70+ age groups suggest the need for social and governmental support to them. In future one could expect an increase in this share as the gap between life expectancies of males and females widens.

Table 3.3: Marital status of household population

Percent distribution of household population by marital status, according to age and sex, Maldives, MICS, 2001

Age	Marital status				Total percent	Number
	Never married	Currently married	Divorced	Widowed		
MALE						
15-19	92.9	3.5	1.0	2.6	100.0	312
20-24	65.6	28.8	4.0	1.6	100.0	250
25-29	23.9	74.5	0.5	1.1	100.0	184
30-34	13.9	82.1	4.0	0.0	100.0	173
35-39	4.3	92.0	3.1	0.6	100.0	162
40-44	5.1	92.4	2.5	0.0	100.0	157
45-49	2.4	92.8	0.8	4.0	100.0	125
50-54	1.2	86.0	7.0	5.8	100.0	86
55-59	1.2	90.2	4.9	3.7	100.0	82
60-64	2.7	80.8	6.8	9.6	100.0	73
65-69	0.0	77.4	9.4	13.2	100.0	53
70+	7.1	65.9	10.6	16.5	100.0	85
15-49	39.6	56.6	2.3	1.5	100.0	1363
All ages	31.2	61.7	3.8	3.2	100.0	1773
FEMALE						
15-19	81.0	17.4	0.8	0.8	100.0	363
20-24	39.8	54.5	4.9	0.9	100.0	347
25-29	8.6	85.9	4.8	0.7	100.0	291
30-34	7.3	84.4	7.6	0.8	100.0	262
35-39	2.9	90.9	4.9	1.2	100.0	243
40-44	1.6	87.3	6.9	4.2	100.0	189
45-49	1.1	84.2	9.5	5.3	100.0	95
50-54	1.0	76.0	11.0	12.0	100.0	100
55-59	2.5	71.3	11.3	15.0	100.0	80
60-64	3.3	65.6	6.6	24.6	100.0	61
65-69	3.3	46.7	10.0	40.0	100.0	30
70+	0.0	24.2	11.3	64.5	100.0	62
15-49	27.2	66.4	4.9	1.5	100.0	1790
All ages	23.1	65.5	5.7	5.6	100.0	2134

3.3 Education

An important sphere where government interventions have been intensive in the recent past is education. Thus an analysis of current educational situation would be useful in assessing the effectiveness of such interventions. Information on general and children's education is presented in five tables (Tables 3.4 to 3.8).

There exist both age and gender variations in terms of educational attainment. Among those who are aged below 18 years 14.5 percent have not undergone any formal education. In

the older age groups this percentage is higher. An important feature that has a bearing on the labour force structure is the low percentage of people with higher educational status. Only 1.1 percent has had education higher than secondary level. Most of those who have had any formal education have completed only primary education. Thus, while the availability of unskilled or semiskilled labour is high, there is a dearth of trained persons. It thus becomes necessary that higher education is given more importance in future educational planning. An important prerequisite for improving higher education is a reduction in the drop out rates especially from the primary classes, which appears to be quite high at present. The share of those having only minimal or no formal education is slightly higher among females. Despite the slight gender difference, among both males and females, the share of persons with higher education (University Diploma/First degree/Master degree) is quite low in the 18-49 as well as in the 50+ age groups.

Table 3.4: Literacy and educational attainment

Percent distribution of household population according to literacy and educational attainment, by age and sex, Maldives, MICS, 2001

Age	Literacy and education									Total percent	Number
	Never attended school	No standard	Basic literacy	Primary	Secondary	University diploma	First Degree	Master degree or above	DK/mis sing		
MALE											
5-17	4.8	2.3	7.7	70.8	13.2	0.0	0.0	0.0	1.3	100.0	1419
18-49	10.9	0.2	21.8	32.5	30.6	0.9	0.7	0.2	2.1	100.0	1229
50+	37.4	1.5	42.6	12.1	3.6	0.0	0.3	0.3	2.3	100.0	390
Total	11.7	1.4	18.1	47.4	18.9	0.4	0.3	0.1	1.8	100.0	3038
FEMALE											
5-17	4.5	2.4	7.4	70.9	14.1	0.0	0.0	0.0	0.8	100.0	1393
18-49	10.3	0.2	24.7	41.6	21.4	0.4	0.1	0.1	1.2	100.0	1646
50+	33.0	1.8	47.3	13.9	2.1	0.0	0.3	0.0	1.5	100.0	330
Total	10.3	1.3	19.9	50.8	16.4	0.2	0.1	0.0	1.1	100.0	3369
TOTAL											
5-17	4.7	2.3	7.5	70.8	13.6	0.0	0.0	0.0	1.0	100.0	2812
18-49	10.5	0.2	23.5	37.7	25.3	0.6	0.4	0.1	1.6	100.0	2875
50+	35.4	1.7	44.7	12.9	2.9	0.0	0.3	0.1	1.9	100.0	720
Total	10.9	1.3	19.0	49.2	17.6	0.3	0.2	0.1	1.4	100.0	6407

That national drive towards complete literacy has borne fruit can be seen from the fact that 98.2 percent of persons aged 15 and above are literate. It may be noted that in the remaining cases the information is missing thus one cannot conclude that they are illiterates. Gender difference in this regard is only marginal, the rate being slightly higher for females in almost all age groups and in all the five regions. A comparison of literacy rates across regions shows that only the Southern region exhibits a slightly lower rate. Even age differentials are not prominent; only the older age groups of 55-64 and 65+ show relatively lower literacy rates.

Educational attendance of children aged 3-4 years indicates that on an average 63 percent attend some kind of organised early childhood education. Attempts to increase this percentage would contribute in the long run to reduce the drop out rates and would thus enhance the average number of years of schooling in the country. Early childhood attendance

Table 3.5: Adult literacy rate

Adult literacy rate (15 + years) by sex, according to region and age, Maldives, MICS, 2001

Region/Age	Male			Female			Total		
	Literate	Not Known	Number	Literate	Not Known	Number	Literate	Not Known	Number
Region									
Male	99.7	0.0	587	99.5	0.2	573	99.6	0.1	1160
North	97.2	1.1	282	97.8	1.2	403	97.5	1.2	685
North central	98.1	1.5	269	98.8	0.9	330	98.5	1.2	599
South	94.5	1.2	422	98.8	0.0	423	96.7	0.6	845
South central	97.8	1.9	269	98.6	0.2	417	98.3	0.9	686
Age									
15-24	99.3	0.1	715	99.4	0.2	871	99.4	0.2	1586
25-34	98.4	0.8	365	99.3	0.2	563	98.9	0.4	928
35-44	98.5	0.3	326	99.5	0.0	435	99.1	0.1	761
45-54	98.1	1.4	216	98.5	0.5	197	98.3	1.0	413
55-64	93.7	1.9	159	95.8	1.4	142	94.7	1.7	301
65+	89.4	3.5	142	90.3	4.3	93	89.8	3.8	235
Total	97.5	0.9	1954	98.7	0.4	2311	98.2	0.7	4265

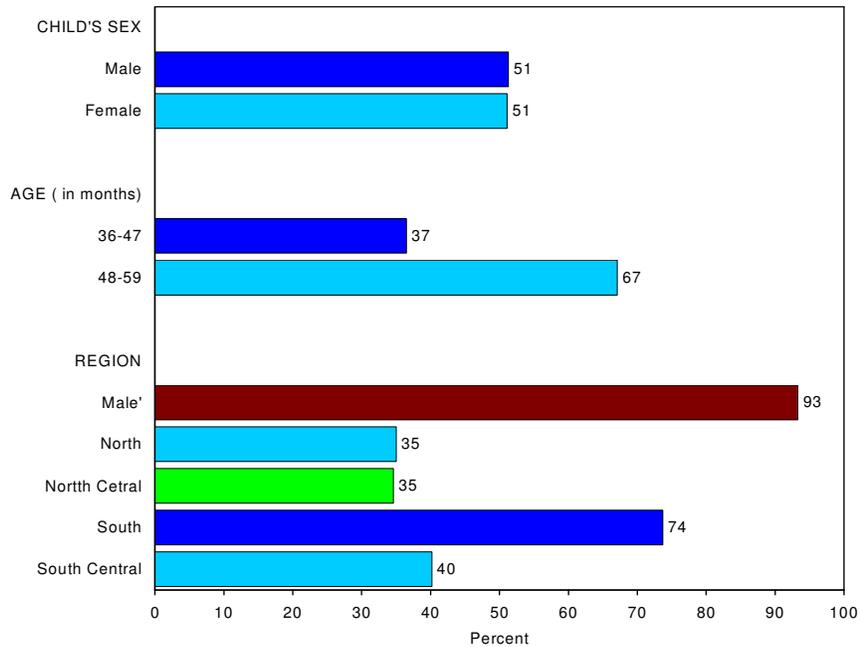
shows wide variations across regions. Gender differences, though not large, exist in this regard; the percentage of children attending some form of educational system being higher among girls. While the capital urban region Male' has 93.3 percent of its children aged 36-59 months attending organised educational institutions, the share is low particularly in the North (35 percent), North central (34.6 percent) and in the South central regions (40.2 percent). However, it needs to be cautioned that the sample of children in these regions is lower than 180, the minimum size required to have reliable estimates, thus allowing us only to take these as indications of possible regional variations. As one would expect, the percentage of children attending educational institutions increases with age; while only 37 percent of those aged 36-47 months attend such institutions, 67 percent of the those aged 48-59 months attend such systems.

Table 3.6: Early childhood education attendance

Percentage of children aged 36-59 months who attending some form of organized early childhood education by background characteristics, Maldives, MICS, 2001

Characteristic	Percent	Number
Sex		
Male	51.3	187
Female	51.1	135
Region		
Male	93.3	45
North	35.0	60
North central	34.6	78
South	73.7	57
South central	40.2	82
Age		
36-47 months	36.5	167
48-59 months	67.1	155
Total	51.2	322

Figure 3.2
Early Childhood Education by Sex, Age, and Region



MICS-2, Maldives, 2001

A majority of these children attend kindergarten (42 percent) while 9 percent attend Edhuruge. About 12 percentage of children 36-59 months obtain home based education. Here one should note that about 10 percent of cases falls in to the category of doesn't know or missing.

Table 3.7: Type of early childhood education programme attended

Percent of children aged 37-59 months attending early childhood education by type of facility, according to sex, Maldives, MICS, 2001

Type of facility	Boys	Girls	Total
Kindergarten	41.2	43.0	41.9
Edhuruge	10.2	8.1	9.3
Home	5.9	5.9	5.9
Tuition class	4.8	7.4	5.9
Day care center	0.0	0.0	0.0
Doesn't go any where	35.3	31.9	33.9
DK/missing	10.2	8.9	9.6
Total percent	100.0	100.0	100.0
Number of children	187	135	322

Table 3.8: School attendance by characteristics

Percent distribution of children aged 5-17 by school attendance, according to age and sex, Maldives, 2001

Characteristic	Never attended school	Currently attending school	Drop out from school	Missing	Total percent	Number of children
Age						
5-9	9.6	83.7	1.4	5.4	100.0	1046
10-14	1.5	94.4	1.1	3.1	100.0	1213
15-17	1.3	72.6	13.3	12.8	100.0	625
5-6	23.4	65.4	1.8	9.4	100.0	381
7-9	1.7	94.1	1.2	3.0	100.0	665
10-13	1.5	94.5	0.9	3.1	100.0	964
14-17	1.4	78.7	10.0	10.0	100.0	874
Sex						
Male	4.4	85.7	4.1	5.8	100.0	1452
Female	4.3	85.8	3.6	6.2	100.0	1432
Total	4.4	85.8	3.8	6.0	100.0	2884

Another educational aspect relevant for educational planning is the extent of drop out from the formal educational system. Overall, 4 percent of children aged 5-17 years dropped out from school with another 4 percent having never attended school. Since many of the children in the country begin their school education after completing 6 years, it is not surprising to observe that 23 percent of those aged 5-6 years have never gone to school. As noted while examining the distribution by completed level of education, it can be seen that a high proportion drops out during and after secondary level, especially after 15 years of age. The drop out rate, contrary to usual pattern in many developing countries is slightly higher among males.

3.4 Water and Sanitation

Environmental health has been an area of special concern in health planning during the last five years. Specific strategies were proposed, among others, to make provisions for safe water, to promote coverage of and access to safe sanitation, to minimise groundwater contamination from specific tanks, to facilitate the usage of rain water, to provide sanitary means of sewage and waste water disposal for 25 percent of inhabited islands, to expand water supply technology to the islands and to identify alternative technologies for water supply.

In Maldives, 77 percent of the selected households have access to safe drinking water (Table 3.9). If rain is excluded as a source of safe water, then this share reduces to 27 percent. The proportion having well as the main source of water is 16 percent as compared to 19 percent observed in 1995 in rural areas of the country. Rain was the major source of drinking water in 81 percent of rural households in 1995; the share of rainwater tanks at home being the main source, as per the present survey, is 49 percent. Private water connection is the major source for drinking water in 13 percent of the households while 15 percent depend on public taps.

An important feature in the safe drinking water access is the regional differences. While Male, the major urban centre of the country has 76 percent of households having water piped into their dwelling units, 23 percent have rain tanks at home as the major source. In all other regions, the share of households with water piped into the residential unit is zero or close to zero. In these areas rainwater tanks at home is the major source. However, well water is also used for drinking in a considerable proportion of households especially in the South central region (25.7 percent). In North central as well as in the South central regions public tap is also mentioned as the source of drinking water in a significant proportion of households.

Well water is the major source of drinking water in 26 percent of households in the South central, 18 percent of the Northern, 17 percent of the North central and 17 percent of the Southern regions. If we compare these figures with that relating to the year 1995, it may

Table 3.9: Drinking water facility

Percent distribution of households by source of drinking water, method of drinking water purification, time taken to get drinking water, and storing facility of rain water according to region, Maldives, MICS, 2001

Characteristic	Region					Total
	Male	North	North central	South	South central	
Access to safe drinking water¹	100.0	71.4	73.4	75.6	67.8	76.5
Access to safe drinking water²	77.3	8.1	21.4	6.8	31.5	27.5
Source of drinking water						
Piped into dwelling	76.1	0.0	0.0	0.0	0.4	12.7
Public tap	0.0	8.1	21.0	7.3	31.0	14.7
Rain water tanks at home	22.7	63.3	52.0	68.8	36.3	49.0
Well	0.0	17.6	17.3	17.1	25.7	16.4
Sealed mineral water	1.1	0.0	0.0	0.0	0.0	0.2
Other	0.0	11.0	9.3	6.8	6.1	6.9
Don't know/missing	0.0	0.0	0.0	0.0	0.4	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Method of drinking water purification						
Boil	16.0	5.2	6.7	6.3	11.8	9.1
Chlorinate	0.0	0.5	0.9	0.0	10.2	2.6
Filter	4.6	8.1	6.3	5.4	5.7	6.0
Other	0.0	0.5	0.9	2.4	2.4	1.3
None	79.4	85.7	85.3	85.9	69.8	80.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	176	210	225	206	245	1062
Time taken to get drinking water						
Less than 15 minutes		75.4	83.7	74.5	59.6	71.2
15-60 minutes		24.6	16.3	25.5	40.4	28.8
Total percent		100.0	100.0	100.0	100.0	100.0
Mean time per trip (minutes)		9.1	9.0	9.8	12.8	10.7
Number of households		69	104	47	151	371
Storing facility of rain water						
Own cement tank	75.0	81.2	68.4	50.4	57.3	65.4
Government cement tank	10.0	5.3	1.7	18.4	11.2	9.4
Fiber tank public leased (HDPE)	0.0	5.3	3.4	9.2	10.1	6.3
Fiber tank brought from market (HDPE)	5.0	3.0	5.1	3.5	14.6	5.8
None	5.0	0.0	6.0	7.8	3.4	4.4
Household carrying container	2.5	3.0	0.9	2.8	2.2	2.3
Other	0.0	0.0	0.0	2.1	0.0	0.6
Don't know/missing	2.5	2.3	14.5	5.7	1.1	5.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	40	133	117	141	89	520

¹Water from piped into dwelling or public tap or rain water or sealed mineral water

²Water from piped into dwelling or public tap or sealed mineral water

be seen that only slight improvement was achieved during the past 5 to 6 years in this front. However, the data for 1995 and the current one are not strictly comparable since the earlier data was classified into only two categories: rain, and well. In how many cases public tap or

private piped water connection was available in 1995 is not available for comparing the safety in terms of water purification.

The present survey results indicate that in more than four-fifth of the households water available from the different sources is used for drinking without any attempt to further purify it. Though it is a possibility that water from public taps or private water connections could be purified to a certain extent, rain water directly collected by the households and well water obviously requires to be purified before drinking. While nine percent use boiled water, six percent use filtration for purifying. Less than 3 percent of the households reported that chlorination is used for purifying the water. In the urban centre of Male also the percentage of households not making any attempt to purify the water is close to 80 percent. While the Northern, North central and the Southern regions show a higher share as compared to the national average in the percentage of households using water for drinking as it is; in the South central region only 70 percent falls into this category. In the remaining 30 percent in this region the methods employed for purifying are boiling, chlorination or filtering in that order.

The time taken to fetch drinking water if the source was outside the residential premises shows that in a majority of cases (71 percent) they could cover the distance (to and fro) in less than 15 minutes, the mean time taken per trip being about 11 minutes. However, it may be noted that about 35 percent (371 out of 1062) of households have to travel to fetch drinking water. Also important is the fact that 30 percent among them have to travel for more than 15 minutes to bring water. The mean travel time is higher in the South central region while Male has no sample households, which depend on sources outside their premises.

A majority of the households utilise safe measures for storing rain water. In 95 percent of cases some kind of storing facility is available with 2 percent of households uses containers available at the households to store rain water. Most commonly people use their own private cement tank and in fewer cases (9 percent) they use government cement tank.

The interventions to educate the masses on environmental health have been underway in the country for quite some time. That the outreach is substantial could be observed from Table 3.10. This table attempts to portray the information on the source of knowledge related to water, sanitation, and hygiene education. There were multiple responses to the question (the total does not add up to 100 percent) indicating that different media have influenced the environmental health knowledge of the people.

Table3.10: Source of water, sanitation, and hygiene education
 Percent of women get information about water, sanitation and hygiene education by source, Maldives, MICS, 2001

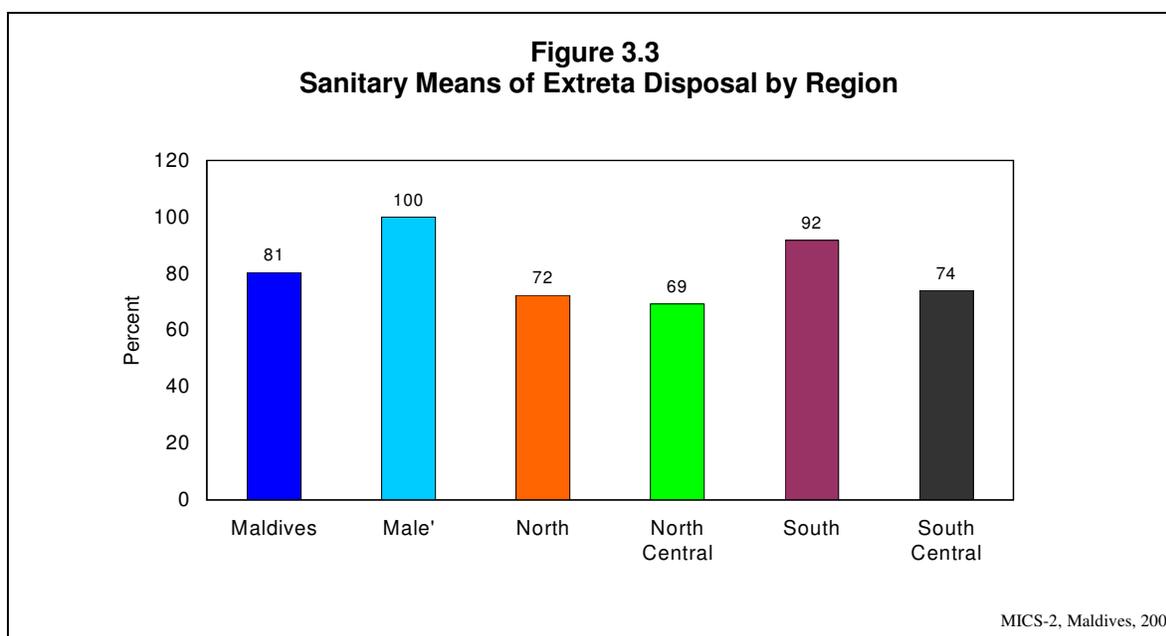
Source	Percent
Television (TV)	61.0
Radio	70.2
News paper	22.4
School	12.9
Booklet	12.1
Health Facility/health centre	11.1
Health worker	6.6
Family/relative/friends	1.6
Seminar/conference/ workshop	0.5
Island chief/island authorities	1.0
Awareness programmes	0.1
Health administration	0.6
Others	1.2
Number of women	1949

Radio (70 percent) and TV (61 percent) are found to be the most popular media from which people get information about sanitation. Though to a lesser extent, newspaper, school, and health facilities/functionaries are also important sources of information. Intensification of the awareness campaign through these media would help in further improving the environmental health awareness among the people.

Another important aspect of environmental health on which data was gathered was the means of excreta disposal (Table 3.11 and Figure 3.3). It may be seen that in about 81 percent of the cases, proper sanitary means of excreta disposal is being used. The most commonly used facility is flush to pit (55 percent) followed by flush to sewage system/septic tank (23 percent) and Beach (19 percent). As compared to the situation in 1995, the present scene indicates a marked improvement in toilet facility in the country. In 1995, it was reported that 55 percent had modern toilets, 24 percent used beach and 18 percent used gifili. Regional differences in then availability of sanitary toilet facility are considerable. While Male records 100 percent and Southern region records 92 percent, the share of households with proper facility is only about 70 percent in the other regions. It may also be noted that while in Male the extent of households having modern toilets is 99.4 percent, in other regions the most commonly used facility is flush to pit.

Table 3.11: Toilet facility						
Percent of households using the latrine or toilet facility by region, Maldives, MICS, 2001						
Type of latrine/ toilet facility	Region					Total
	Male'	North	North central	South	South central	
Pit latrine	0.0	4.8	0.4	8.8	2.1	3.2
Flush to sewage system or septic tank	99.4	11.4	6.7	9.3	3.3	22.8
Flush to pit	0.6	56.2	62.2	73.7	68.7	54.5
Beach	0.0	26.2	30.2	8.3	23.5	18.6
Other	0.0	1.4	0.4	0.0	2.5	0.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Sanitary means of excreta disposal	100.0	72.4	69.3	91.8	74.1	80.5
Number of households	176	210	225	205	243	1059

Universally, people are more concerned about the health of children than their own



health. Thus, information on the method used for the disposal of excreta of children could be used as an effective indicator to assess the behaviour related to environmental health. More importantly, this could be considered as a proxy indicator to assess the extent of awareness among the population regarding environmental as well as child health.

Information from the present survey indicates the use of improper methods in a considerable proportion of the households (Table 3.12). Only in 35 percent of cases safe methods are being practised. In other cases, mostly the stool is either disposed to the beach (39 percent) or buried in the yard (23 percent).

Table 3.12: Disposal of stool of young children (0-3 years)

Percent distribution of households with young children (0-3 years) when they don't use latrine or toilet facility by the manner in which children's stool is disposed, according to region, Maldives, MICS, 2001

Region	Manner in which children's stools are disposed							Total percent	Number of households
	Children use toilet/latrine	Thrown into toilet/latrine	Thrown outside the yard	Buried in the yard	Use disposable diaper	Thrown into the beach	Thrown in valu		
Male	(14.6)	(31.3)	(2.1)	(0.0)	(45.8)	(4.2)	(2.1)	100.0	48
North	12.1	17.4	4.0	34.9	0.0	28.9	2.7	100.0	149
North central	8.3	13.4	0.0	19.7	1.3	57.3	0.0	100.0	157
South	8.6	14.9	0.0	17.7	2.9	56.0	0.0	100.0	74
South central	21.6	27.0	1.4	33.8	12.2	4.1	0.0	100.0	175
Total	11.4	17.9	1.3	23.1	6.3	39.1	0.8	100.0	603

Note: Based on households having a child of age 0-3 years.

() Based on 25-49 cases.

3.5 Summary

Summarising the implications of the observations on sample profile and the environmental health, the following points deserve special attention of both researchers and policy makers. First, past high fertility that has resulted in a high proportion of women in the reproductive age group would result in a slightly increasing or stagnating birth rate in the absence of significant fertility decline. Efforts at reducing fertility should gain momentum to offset the effect of the young age structure. Second, the facts that the percentage of households having at least one child aged below 5 years and those having at least one woman in the reproductive age group is very high, have telling implications for health planning. Not only that the share of public expenditure on health has to be enhanced, it becomes essential that maternal and child health interventions should receive special attention. Third, though the nation is yet to experience ageing of its population, the enhanced life expectancies and the higher divorce rates imply that social support for the widowed and divorced females should become a concern of the government. This situation would worsen in the near future as it could be expected that the gap between female and male life expectancies would widen in the future.

Fourth, it is evident from the data on educational attainment among the population that government interventions have succeeded to an extent in improving the educational situation of the inhabitants of the country. Further achievements in both educational and more importantly in the economic front would depend to a large extent on the success in reducing the drop out rates. Also, introduction in the near future, of vocational courses to an increasing extent would help in producing skilled work force for the country's economy. Probably, the intervention could start at an early age by enhancing the facilities for early childhood education in the nation and by spreading awareness about the need for improved educational status for the country and even families. That the educational status is higher among females suggests the possibility of faster achievements in this respect if conscious and focused efforts are aimed at.

Fifth, in a country that largely depends on rain and advises the people for increased utilisation of rain water has to make sure that the water so gathered is purified before used for drinking purpose. This applies to the use of well water also, the use of which is still high though has shown a tendency to decline. Awareness programmes aimed at improving environmental health have to be enhanced in the coming years. Extent of proper sanitary toilet facilities in the country and particularly the disposal of excreta of children show the influence of culture on maintaining healthy practices; only intensified and culture specific interventions could be expected to change this situation.

CHAPTER IV

MATERNAL AND CHILD HEALTH CARE

In Maldives, improvement of the health status of its population and particularly that of women and children has received deserving concern in the recent health plans. Thus efforts have been underway by using various well-tested strategies to influence the health situation, focusing on selected indicators. In an effort to understand the health situation of children and women, this chapter examines the immunisation status, birth weight, morbidity and its treatment and care taken prior to and during delivery. Findings from this chapter could be considered as the base for further analysis carried out in the next chapter.

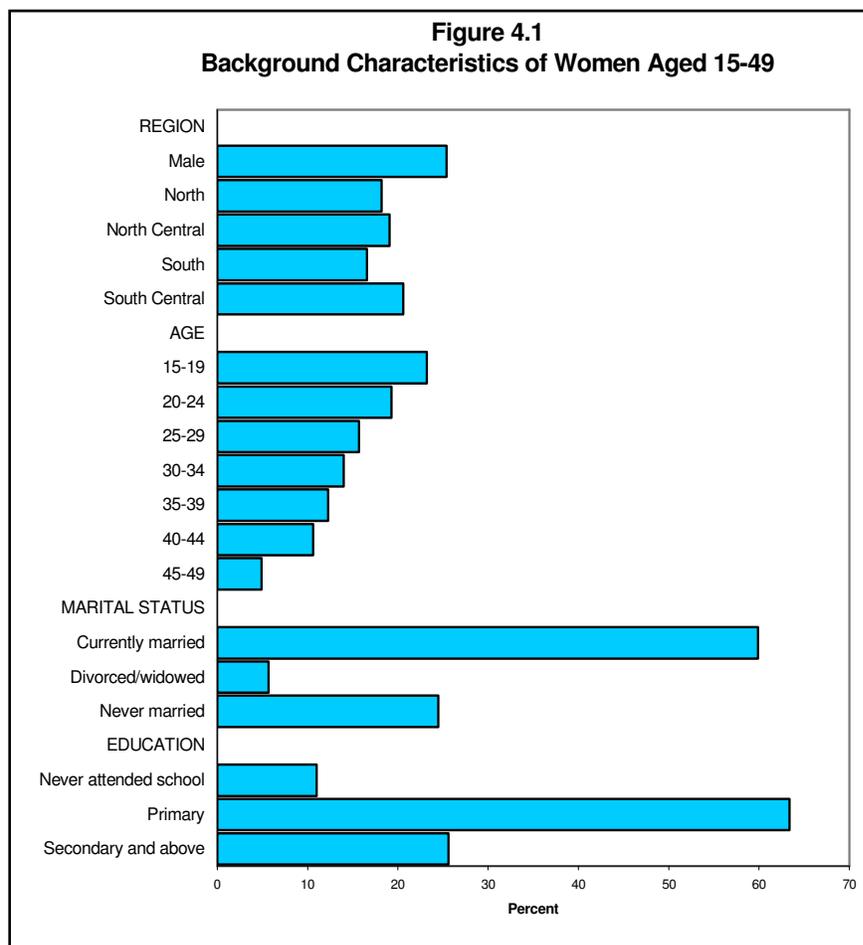
4.1 Background Characteristics of Women and Children

Selected background information of the women aged 15-49 interviewed is presented in Table 4.1 and Figure 4.1. The total sample of 1949 women is fairly distributed among the five regions with Male having a higher share (25 percent) and the Southern region having a slightly lower share (17 percent). Age composition of women shows that a large proportion is in the prime reproductive age group of 15-29 years (58 percent). A high proportion is in the adolescent age group of 15-19 years (23 percent) while only 16 percent accounts for the older age group of 40-49 years.

Table 4.1: Background characteristics of women

Percent distribution of women aged 15-49 by background characteristics, Maldives, MICS, 2001

Characteristic	Percent	Number
Region		
Male	25.4	496
North	18.2	355
North central	19.1	373
South	16.6	323
South central	20.6	402
Age		
15-19	23.2	453
20-24	19.3	376
25-29	15.7	306
30-34	14.0	272
35-39	12.3	240
40-44	10.6	207
45-49	4.9	95
Marital status		
Currently married	59.9	1189
Divorced/widowed	5.7	114
Never married	24.5	487
Education		
Never attended school	11.0	214
Primary	63.4	1236
Secondary and above	25.6	499
Number of women	100.0	1949



Most of the women are married at the time of interview and another 6 percent are widowed/divorced. A quarter of the women interviewed had never married. While 11 percent of the women have never attended school, 26 percent had completed secondary level education and another 63 percent completed primary education.

Age and region-wise distributions of the sample children under 5 years for whom health related information was collected are shown in Table 4.2. Regional differences in the number of children in the sample appear to be substantial and point to the possibility of regional variations in fertility. The share is particularly low in Male (12 percent) and the Southern region (17 percent). Thus, sample size of children is more or less adequate for making accurate estimates by region. Age distribution shows that one-fifth of the sample children are aged below one year, with a comparable proportion in the remaining one-year age groups.

Table 4.2: Background characteristics of children

Percent distribution of children under age 5 by background characteristics, Maldives, MICS, 2001

Characteristic	Percent	Number
Region		
Male	12.4	106
North	21.9	187
North central	21.8	186
South	17.2	147
South central	26.7	228
Age		
< 6 months	10.8	92
6-11 months	9.8	84
12-23 months	20.0	171
24-35 months	21.7	185
36-47 months	19.6	167
48-59 months	18.1	155
Number of children	100.0	854

4.2 Immunisation Status

The efforts at improving the immunisation status of the children has paid off, as can be seen from Table 4.3 which shows that about 85 percent of the children aged 12-23 months are fully immunised (one dose of BCG, 3 doses of DPT, 4 doses of Polio, and one dose of Measles). This figure is close to that observed in the 1995 MICS. It could be seen from the table that the percentage of children aged 12-23 months who have taken BCG vaccine is 96 percent in the present survey as compared to the 86 percent observed in 1995. Similarly, the share of children given OPV 3 (93 percent in the present survey against 89 percent in 1995), given DPT 3 (92 percent against 87 percent in 1995) and Measles (92 percent against 82 percent in 1995).

Above observations clearly show a marked improvement in the immunisation status of children during the past five years. Further, the recent drive to vaccinate children against Hepatitis B has also succeeded as can be seen from the fact that 93 percent of children aged 12-23 months were given the third dose. With the caution that the sample size is relatively small, it may be observed that the immunisation status is better among girls compared to boys.

Table 4.3: Immunization by sex of the child

Percentage of children aged 12-23 months currently vaccinated against childhood diseases, according to sex, Maldives, MICS, 2001

Sex of the child	Percentage of children who received:														Number of children
	Polio				Hepatitis B			DPT			Meas-les	Fully immuniz-ed	None		
	BCG	0	1	2	3	1	2	3	1	2				3	
Male	96.4	95.2	92.9	92.9	90.5	95.2	91.7	91.7	94.0	91.7	89.3	91.7	83.3	1.2	84
Female	94.6	94.6	97.3	97.3	95.9	94.6	95.9	94.6	97.3	95.9	91.9	93.2	87.8	1.4	74
Total	95.6	94.9	94.9	94.9	93.0	94.9	93.7	93.0	95.6	93.7	90.5	92.4	85.4	1.3	158

Whether the interviewer has actually seen the immunisation cards or has relied on the statements of the respondents in assessing immunisation status of the children, could be seen from Table 4.4. Of the 854 children aged under 5 years, in 91 percent of the cases the immunisation status was ascertained by seeing the immunisation card. Only in 6 percent of the cases, the interviewers relied on respondent's statement that the child was immunised. Also a small proportion of children was informed as not having the immunisation card (3 percent).

Table 4.4: Source of information on immunisation
Percent distribution of children aged 0-59 months by source of information on immunization and place of residence, Maldives, MICS, 2001

Residence	Source of information on immunization			Total percent	Number of children
	Yes, card seen	Yes, card not seen	No		
Male	91.4	5.7	2.9	100.0	106
North	93.6	4.3	2.1	100.0	187
North central	93.0	4.3	2.7	100.0	186
South	83.4	11.0	5.5	100.0	147
South central	90.7	5.7	3.5	100.0	228
Total	90.7	6.0	3.3	100.0	854

There are no considerable regional differences in the extent of immunisation. Only in the Southern region it is found that the extent of not at all immunised is more than 5 percent (6 percent). Also, with the exception of this region, in four regions, the immunisation card was seen to ascertain the immunisation status at least in 94 percent of the cases. In the Southern region, however, in 11 percent of the cases, the interviewer had to rely on respondent's statement that the child was immunised.

4.3 Birth Weight

An important factor that determines the immunity power and morbidity during childhood is the weight at birth. Internationally it is accepted that a child should weigh at least 2500gms at birth. Overall in 87 percent of the births occurred during the 12 months prior to the survey, the birth weight of the baby was taken (See Table 4.5). Of them, 18 percent weighed below 2500 gms. This proportion is quite high and has implications for morbidity later in their life, could contribute to a higher infant and child mortality, and also could result in a slower growth. Further, since baby's weight at birth depends largely on the maternal characteristics and care, these observations have implications for prenatal care services.

Table 4.5: Birth weight
Percentage of live birth sin the last 12 months with birth weight below 2500 grams, according to region, Maldives, MICS, 2001

Region	Percent of live births:		Number of live births
	Below 2500 grams	Weighed at birth	
Male	21.7*	78.3*	23
North	(13.2)	(92.1)	38
North central	(5.7)	(85.7)	35
South	(25.9)	(77.8)	27
South central	23.2	91.1	56
Total	17.9	86.6	179

() Based on 25-49 cases

* Bases on < 25 cases

The number of live births when distributed across regions, it shows that regional variations exist in the proportion of babies who were weighed at birth. In Male and in the Southern regions only 78 percent of the babies born last year were weighed while in North (92 percent) and in the South central (91 percent) this percentage is higher than national average. In three of the five regions the proportion of births weighing less than 2500 gms is higher than the national average with the Southern region registering the highest proportion (26 percent) of low birth weight babies. However, the observations relating regional variations are to be treated with care since the sample of births based on which the percentages are calculated is small.

4.4 Morbidity Among Children

Illness during a certain reporting period is generally used to examine the morbidity pattern in the general population as well as among children. Taking the reporting period as two weeks prior to the interview date, the MICS explored the incidence of diarrhoea, cough, fever, or any other health problems experienced by children below five years (Table 4.6 and Figure 4.2). Among the 854 children aged under 5 years, 4.4 percent had diarrhoea during the two weeks prior to the interview. More than a quarter (26 percent) reported as having had illnesses other than diarrhoea. A little more than one fifth had illness with a cough and 11 percent had illness with a cough along with abnormal breathing. Difficult/fast breathing was mostly due to blocked nose (58 percent of those experienced fast/difficult breathing) followed by problem in the chest (30 percent of the cases). A comparison with the survey results of 1995 MICS shows that there has been considerable decline the proportion of children reporting as having had diarrhoea. In the 1995 survey 82 out of 1029 children aged 0-4 years (or 8 percent) reported to have had diarrhoea within the two weeks prior to interview as compared to 4.4 percent in the present survey.

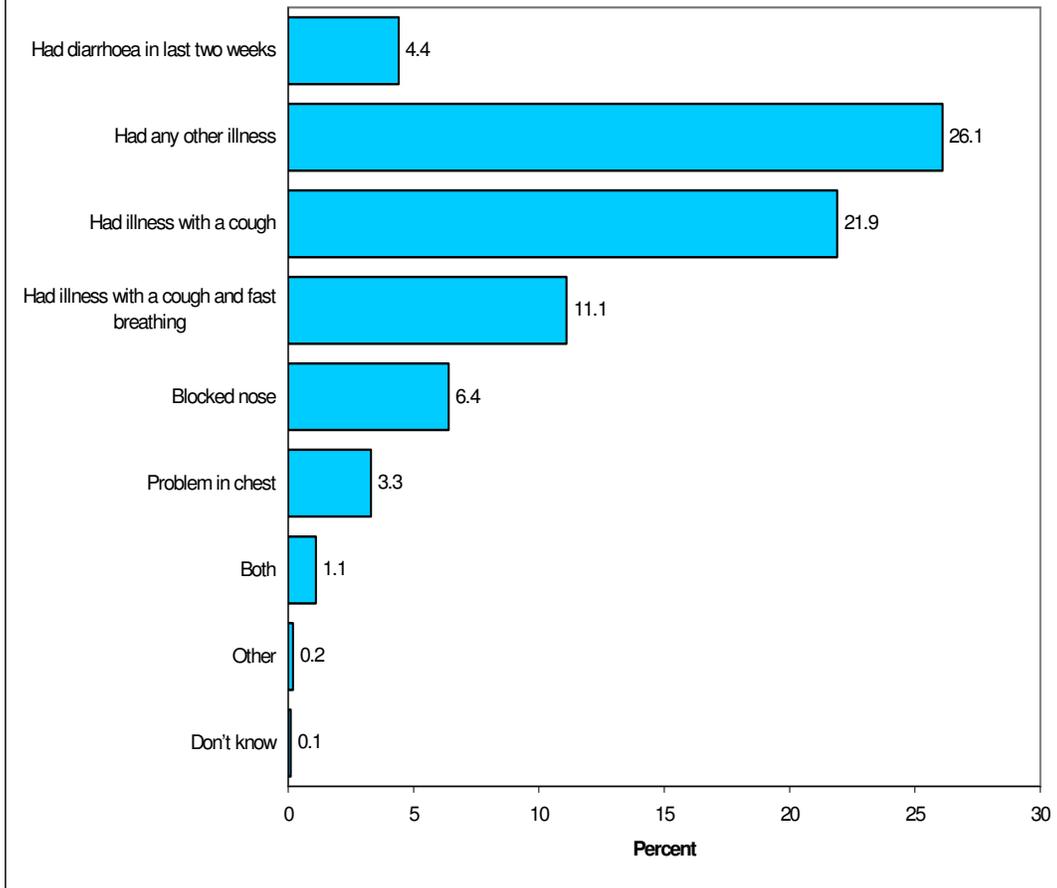
Table 4.6: Prevalence of diarrhoea, cough, fever, and any other health problem

Percent of children under age 5 years who had diarrhoea, cough, fever or any other health problem, Maldives, MICS, 2001

	Percent
Had diarrhoea in last two weeks	4.4
Had any other illness, such as cough or fever or any other health problem	26.1
Had illness with a cough	21.9
Had illness with a cough and fast breathing than usual or quick breathing or difficulty breathing:	11.1
Fast/difficult breathing due to	
Blocked nose	6.4
Problem in chest	3.3
Both	1.1
Other	0.2
Don't know	0.1
Number of children	854

Cultural practices and general ignorance of mothers regarding care of children during illness have a significant role in worsening the illness situation further. In order to

Figure 4.2
Prevalence of Diarrhoea, Cough, Fever, and Any Other Health Problem



ascertain the existence of these factors and to examine their relevance to health situation of children, a series of questions were asked regarding the feeding practices when children had diarrhoea (results are shown in Table 4.7). Breast milk was given only in 45 percent of the cases when the child had diarrhoea, thus denying the child breast milk possibly on the ground that giving breast milk would worsen child's health. ORS packet solution was given in 55 percent of the cases, while in 30 percent of the cases locally defined acceptable fluids like coconut water and lime juice were given. These results are very similar to those observed in the 1995 survey.

More importantly in three-quarters of the diarrhoea cases the child was given only water, in another 3 percent of cases child was not given anything to drink/eat while having diarrhoea. This is an unhealthy practice and could have great implications even for infant/child mortality in the country. In other words, the multiple responses like given breast milk, gruel, water with feeding etc have been reported only in 25 percent of the cases having had diarrhoea.

In a large proportion of the cases the child was given much less than normal to drink (any of the liquids/breast milk usually given). While in 37 percent cases the child was given more than normal to drink, in another 13 percent about the same as normal quality was given during diarrhoea. In about 5 percent of cases nothing was given to eat and in another 45 percent the quantity given was far less than normal while in 11 percent

somewhat less quantity than normal was given to eat. Only in 32 percent of the cases the child was given food in more or less adequate quantities.

Table 4.7: Diarrhoea in the past two weeks

Percent of children under age 5 who had diarrhoea in the last two weeks, percentage of children who received various types of feeding, percentage distribution by quantity given to drink during diarrhoea, and percentage distribution by quantity given to eat during diarrhoea, Maldives, MICS, 2001

	Percent
Had diarrhoea in last two weeks	4.4
Percentage of children who received¹	
Breast milk	(44.7)
Gruel	(26.3)
Locally- defined accept-able home fluid (coconut water/lime juice/ home fluid)	(28.9)
ORS packet solution	(55.3)
Other milk/infant formula	(52.6)
Water with feeding	(78.9)
Only water	(73.7)
Unacceptable fluid like Coco Cola	(7.9)
Nothing	(2.6)
Quantity given to drink¹	
Much less or none	(42.1)
About the same (or somewhat less)	(13.2)
More	(36.8)
Don't know/missing	(7.9)
Total percent	100.0
Quantity given to eat¹	
None	(5.3)
Much less	(44.7)
Somewhat less	(10.5)
About the same	(18.4)
More	(13.2)
Don't know/missing	(7.9)
Total percent	100.0
Number of children	854

¹Based on children who had diarrhoea in last 2 weeks preceding the survey.

() Based on 25-49 cases

Another frequent illness children experience is acute respiratory infection (ARI). Overall, 22 percent of the children below 5 years experienced acute respiratory infection during the two weeks prior to the survey (Table 4.8). This proportion is significantly lower than reported in the 1995 MICS survey where it was found that 70 percent of children had at least one episode of ARI. As in the case of most of the other health indicators, the proportion experienced was slightly higher among males (24 percent) compared to females. Of those who had experienced ARI, only 22 percent had sought advice or treatment. Gender difference in seeking advice/treatment regarding ARI is negligible. The most preferred source for health

care for children appears to be health centre or hospital. Island health worker, dispensary, and traditional healer are visited only in a few cases. In no cases MCH clinic or private physician was consulted to obtain advice or treatment for acute respiratory infection.

Table 4.8: Acute respiratory infection (ARI) and health source

Percentage of children under age 5 who had acute respiratory infection in the last two weeks, whether sought advice or treatment, and treatment by health source, according to sex, Maldives, MICS, 2001

Sex of the child	Had acute respiratory infection (ARI)	Seek advice or treatment	Children with ARI who were taken to :								Number of children
			Hospital	Health centre	Dispensary	Island health worker	MCH clinic	Private physician	Traditional healer	other	
Male	23.5	22.5	7.2	10.8	0.9	3.6	0.0	0.0	0.0	0.0	437
Female	19.9	22.4	9.2	6.6	0.0	3.9	0.0	0.0	1.3	1.3	381
Total	21.8	22.4	8.0	9.1	0.5	3.7	0.0	0.0	0.5	0.5	854

With an objective to assess the knowledge about child health care, an attempt was made to find out what percentage of the women know at least two right signs for seeking immediate medical care. Overall, only 21 percent of mothers/caretakers knew at least two right signs when immediate medical care should be sought (Table 4.9). In most of the cases child developing a fever is reported as a sign that requires immediate medical attention, followed by cold/cough. Many other signs like not able to drink/breastfeed, fast/difficult breathing, has blood in stool etc are, in general, not considered as signs requiring immediate medical attention. These results, however, differ considerably from that observed in the 1995 survey.

Table 4.9: Signs of serious illness

Percentage of caretakers of children under age 5 who know at least two signs for seeking care immediately, Maldives, MICS, 2001

Knows child should be taken to health care facility if child	Percent
Is not able to drink/ breastfeed	1.8
Becomes sicker	11.0
Develops a fever	77.3
Has fast breathing	2.0
Has difficult breathing	7.1
Has blood in stool	8.1
Is drinking poorly	1.2
Is not able to eat	1.6
Has lose motion	8.4
Has tummy pain/vomitting	9.0
Has cold/cough	20.3
Shows other signs	7.3
Percent of mothers/caretakers who know at least two signs for seeking care immediately	20.5

4.5 Pre-natal and Care During Delivery

Prenatal and care during delivery are two important aspects that have considerable influence on child health. Tetanus toxoid (TT) injection was given to 65 percent of mothers who have had a live birth during the 12 months prior to the survey while 33 percent reported that they did not receive (Table 4.10). Whereas in 45 percent cases the status was ascertained after seeing the card, in 19 cases the mother reported that she was protected against TT. Overall, 47.5 percent of mothers had at least two doses of TT during the last pregnancy.

Table 4.10: Tetanus toxoid (TT)

Percent of mothers having a live birth in the last 12 months, protected against tetanus toxoid, Maldives, MICS, 2001

	Percent
Source of information on immunization:	
Yes, card seen	44.7
Yes, card not seen	19.0
No	33.0
Don't know /missing	3.4
Total	100.0
Percent of mothers with a live birth in the last 12 months who received:	
At least 2 doses during last pregnancy	47.5
At least 2 doses at any time before last pregnancy, including during a previous pregnancy or between pregnancies	20.8
At least 2 doses during life time	42.9
Number of women	179

Table 4.11: Delivery characteristics	
Percent distribution of women aged 15-49 who had a live birth during the year preceding the survey by delivery characteristics, Maldives, MICS, 2000	
Delivery characteristics	Percent
Conducted the antenatal check-up¹	
Doctor	76.5
Nurse	4.5
Family health worker	10.6
Community health worker	12.3
Trained traditional birth attendant	8.9
Untrained traditional birth attendant	0.0
Other	4.5
None	2.2
Assistance at delivery¹	
Doctor	48.0
ANM/Nurse	22.3
Family health worker	1.7
Community health worker	3.9
Trained traditional birth attendant	44.7
Untrained traditional birth attendant	1.1
Relatives	0.0
Other	1.1
None	0.6
Number of deliveries	179

¹The percentages may add up to more than 100 due to multiple responses.

It appears that prenatal care and seeking medical advice is very common in the country. Among the women who have had a live birth during one year prior to the survey, a doctor examined 77 percent of them during antenatal period. It can be seen that trained professionals at the grass root level are also involved to a considerable extent in providing prenatal care. In about 2 percent of cases no antenatal check up was done.

Mostly doctors (48 percent), trained traditional birth attendant (45 percent) or

ANM/Nurse (22 percent) conduct delivery in the country. Thus in most of the cases (97 percent) trained medical attendance at delivery is available in the country.

4.6 Summary

It appears from the above analysis that the health situation of children in the country has been improving notably in recent years. This is further evident from the comparisons made with the information available from the 1995 survey. A marked improvement in immunisation status of children could be observed during the past five years. However, it may be noted that while immunisation coverage for specific diseases is very high, full immunisation is only 85 percent. Also, regional variations in the extent of immunisation need attention in future

interventions. Another important finding relates to birth weight; about one-fifth of the new born child in Maldives has low birth weight (less than 2500 gms). Whether the regional differences observed are real or are due to the low sample size, requires confirmation through further investigations.

The incidence of diarrhoea has reduced by about 50 percent during 1995-2000, with a little above 4 percent of children having suffered during the two weeks period prior to the interview. However, the dietary pattern during the episodes of diarrhoea shows that ignorance and cultural practices tend to result in inadequate food quantities and improper feeding practices.

There has been considerable decline in the incidence of acute respiratory infection during the past five years (from 70 to 22 percent). In this case, proportion where medical advice/treatment was sought only in 22 percent of the cases, the preferred sources of treatment/advice being health centre or hospital. An important fact is that more than four-fifth of the mothers/caretakers did not know at least two signs of illness, which should prompt immediate medical attention. In more than three-fourth of antenatal cases, the woman was examined by a doctor. In most of the cases (97 percent) trained medical attendance at delivery is available.

In short, there has been remarkable improvements in child health care in the country in recent years. However, the facts that 18 percent of children are low birth weight babies, dietary pattern during diarrhoea is far from desirable levels, the lower extent of medical advice/treatment during acute respiratory infection, the possibility of further improvements in overall immunisation status, and the regional differences observed, require further research and focussed interventions in the coming years.

CHAPTER V

NUTRITION

In December 1992, the Republic of Maldives participated in the International Conference on Nutrition (ICN) organized by WHO and FAO of the UN along with 159 countries and unanimously adopted a world declaration that a Plan of Action for Nutrition would be formulated by every country for eliminating hunger and reducing any form of malnutrition. The National Plan of Action for Nutrition, 1997-2000 for the Republic of Maldives formulated based on the guidelines given in the ICN-declaration 1992 was linked to the National Development plan of 1994-96 of the republic of Maldives, which guarantees health as a basic right of every Maldivian. National Nutritional goals for the Republic of Maldives are access to food security, development of a comprehensive nutritional package, prevention and control of micronutrient deficiency diseases, promotion of universal exclusive breastfeeding, promotion of healthy weaning practices and nutritional supplementation and improvement of health and nutritional status of mothers (National Plan of Action for Nutrition, 1997-2000). In MICS-2, data was gathered on the types of food consumed, exclusive feeding practices, height and weight for all women aged 15-49 as well as young children under age 5 years, anaemia among women, vitamin A (night blindness and DBS biochemical test) for women and young children and the usage of iodized salt. Trained clinician(s) attached to each interviewing team conducted the height and weight measurements, anaemia testing, and DBS test. DBS samples collected from children and mothers were sent to WHO Geneva office for laboratory analysis and results are awaited at the time of preparing this report.

5.1 Children's Food Consumption

Consumption of sufficient quantity of nutritious foods is essential for children's health. A well-balanced diet includes adequate amount of protein, fat, carbohydrates, vitamins, and minerals. Meat, fish, eggs, and milk, as well as pulses and nuts, are rich in protein. Green, leafy vegetables are rich sources of iron, folic acid, vitamin C, carotene, riboflavin, and calcium. Many fruits are also good sources of vitamin C. Bananas are rich in carbohydrates. Papayas, mangoes, and other yellow fruits contain carotene, which is converted to vitamin A. Vitamin A is also present in milk and milk products, as well as egg yolks (Gopalan et al., 1996).

Malnutrition problem among children and women in Maldives is mainly due to lack of balanced diet. MICS-2 asked mothers/caretakers of children under age 5 'how many times did the child consume various types of food (less than 2 times, 3 or more times, or not given) during the one week preceding the survey. Table 5.1 shows frequency of consumption of specific food items among children under 5 years. In Maldives, more than one-half of the children eat fish (56 percent) and milk (59 percent) and one-fifth (22 percent) of children eat green leafy vegetables at least three times a week. Forty-four percent of children eat ripe fruits and 28 percent children eat eggs. Another one-fifth children eat green leafy vegetables, cassava, ripe fruits, and eggs once a week. Liver (of any animal) is not an important part of the diet for the majority of children.

Table 5.1: Children's food consumption

Percent distribution of children under 5 years by frequency of consumption specific foods, according to region, Maldives, MICS, 2001

Type of food	Frequency of consumption during past week:				Total percent
	< 2 times	3 or more time	Not given	Don't know/missing	
MALDIVES					
Green leafy vegetables	21.4	22.0	43.3	13.4	100.0
Cassava	25.1	18.2	43.3	13.4	100.0
Ripe fruits	28.4	44.4	14.1	13.1	100.0
Meat	21.3	13.1	51.9	13.7	100.0
Eggs	27.8	27.6	30.8	13.7	100.0
Orange vegetables	16.6	14.6	54.7	14.1	100.0
Liver (of any animal)	4.7	3.5	77.2	14.6	100.0
Milk	15.3	58.7	13.7	12.3	100.0
Fish	18.7	56.3	12.5	12.4	100.0
MALE'					
Green leafy vegetables	17.3	16.5	59.3	6.9	100.0
Cassava	25.1	21.2	47.6	6.1	100.0
Ripe fruits	13.9	74.5	6.1	5.6	100.0
Meat	40.3	27.3	26.4	6.1	100.0
Eggs	30.7	42.0	20.3	6.9	100.0
Orange vegetables	23.4	42.9	27.3	6.5	100.0
Liver (of any animal)	4.8	5.2	83.5	6.5	100.0
Milk	9.1	85.3	1.3	4.3	100.0
Fish	26.8	59.3	8.7	5.2	100.0
NORTH					
Green leafy vegetables	25.7	29.7	38.9	5.7	100.0
Cassava	27.7	25.0	41.2	6.1	100.0
Ripe fruits	34.8	42.9	16.6	5.7	100.0
Meat	19.3	11.1	63.9	5.7	100.0
Eggs	27.0	32.1	34.5	6.4	100.0
Orange vegetables	15.9	10.8	67.2	6.1	100.0
Liver (of any animal)	7.4	2.7	83.8	6.1	100.0
Milk	21.3	54.7	18.2	5.7	100.0
Fish	19.3	59.8	14.5	6.4	100.0

Contd...

Table 5.1 also shows regional variation in food consumption of children. There is no region where children consistently consume more of all the types of food. More than three-fourth of children under 5 years eat fish and milk at least once, in all regions. Children in Male' (the only urban area) are most likely than children in other regions to consume ripe fruits, milk, eggs, and meat at least three times a week. Children in the North region are more likely to eat green leafy vegetables than children in other regions. Children from the South region are less likely to eat all food items (vegetables, meat, fish) even once a week. This regional disparity may be due to non-availability of other food items (green leafy vegetables, cassava, ripe fruits, meat, eggs and orange vegetables) except fish and milk. Three out of four children in Male' eat meat at least once in a week whereas in other regions just reverse one out of four children eat meat once in a week. This wide differences may be due to non availability of animals in islands and export meat from outside country directly benefited the capital city Male'.

Table 5.1: Children's food consumption (Contd.)

Percent distribution of children under 5 years by frequency of consumption specific foods, according to region, Maldives, MICS, 2001

Type of food	Frequency of consumption during past week:				Total percent
	< 2 times	3 or more times	Not given	Don't know/missing	
NORTH CENTRAL					
Green leafy vegetables	24.1	23.6	50.9	1.4	100.0
Cassava	25.0	22.3	51.4	1.4	100.0
Ripe fruits	42.3	35.5	20.9	1.4	100.0
Meat	13.6	15.5	69.5	1.4	100.0
Eggs	37.3	22.7	38.6	1.4	100.0
Orange vegetables	21.8	10.0	66.4	1.8	100.0
Liver (of any animal)	2.3	3.2	92.7	1.8	100.0
Milk	14.1	64.5	18.6	2.7	100.0
Fish	20.5	63.2	15.0	1.4	100.0
SOUTH					
Green leafy vegetables	16.4	12.8	19.6	51.2	100.0
Cassava	20.4	6.4	21.2	52.0	100.0
Ripe fruits	25.6	15.2	8.8	50.4	100.0
Meat	17.6	6.4	22.4	53.6	100.0
Eggs	24.0	12.8	10.8	52.4	100.0
Orange vegetables	14.0	6.0	25.6	54.4	100.0
Liver (of any animal)	4.0	4.4	34.4	57.2	100.0
Milk	24.4	18.8	10.0	46.8	100.0

Fish	25.2	20.0	7.6	47.2	100.0
SOUTH CENTRAL					
Green leafy vegetables	22.4	24.9	49.2	3.5	100.0
Cassava	26.5	16.0	54.0	3.5	100.0
Ripe fruits	25.6	53.4	17.3	3.8	100.0
Meat	17.6	8.0	70.6	3.8	100.0
Eggs	22.7	28.1	45.7	3.5	100.0
Orange vegetables	10.9	7.3	78.0	3.8	100.0
Liver (of any animal)	4.5	2.6	89.5	3.5	100.0
Milk	8.0	70.6	17.9	3.5	100.0
Fish	5.8	75.1	15.7	3.5	100.0

5.2 Breastfeeding Practice

Infant feeding practices have significant effects on both child survival and fertility. Mother's milk is most safe, clean, hygienic and is an antibody, not only provides appropriate important nutrients to meet all requirements of the infant in the early age of life but also protects the child against infection. Proper infant feeding, starting from the time of birth, is important for the physical and mental development of the child. Breast feeding improves the nutritional status of young children and reduces morbidity and mortality. The timing and type of supplementary foods introduced in an infant's diet also have significant effects on the child's nutritional status. Duration and intensity of breast feeding practices by mothers suppress ovulation, lengthen the period of postpartum infertility, and hence could influence fertility levels by increasing the length of birth intervals.

The United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) recommend that infants should be given exclusively breast milk during the first six months of their life without any other foods or liquids. Adequate and appropriate complementary foods should be added to the infant's diet in order to provide sufficient nutrients for optimal growth, by the seventh month. Further, it is also recommended that breastfeeding should continue, along with complementary foods, up to 2 years or more and that the use of feeding bottle with a nipple should be avoided in order to prevent infections.

Table 5.2: Breastfeeding status

Percent of children under age 5 years ever breastfed, currently breastfed, and the mean duration of exclusive breastfeeding by sex of the child, Maldives, MICS, 2001

	Ever breastfed	Currently Breastfed	Mean duration of exclusive breastfeeding (in months)	Number of children
Sex of the child				
Male	96.0	44.0	3.9	473
Female	97.1	51.2	4.0	381
Total	96.5	47.2	3.9	854

MICS collected information on breast feeding and complementary feeding for all children under age 5 years. Table 5.2 shows the percentage of children ever breastfed and currently feeding, by gender. It also gives mean duration of exclusive breastfeeding. In Maldives, breastfeeding is universal with 97 percent children under age 5 years ever having breastfed and 47 percent are currently breastfed. The sex differentials in ever breastfed are not substantial whereas more female children (51 percent) are currently breast fed than male children (44 percent). Children who received nothing but breast milk are defined as being *exclusively breastfed*. Mothers of children under age 5 years were asked how long was the child breastfed exclusively. Results are shown in Tables 5.2 and 5.3. The mean length of exclusive breastfeeding is 3.9 months. The mean durations are about the same for both male and female children. In Maldives, only 42 percent of children are exclusively breastfed for 4-6 months, of which 10 percent for entire 6 months.

Table 5.3: Exclusive breastfeeding

Percent distribution of children exclusive breastfed, by completed age (in months), Maldives, MICS, 2001

Completed breastfeeding (in month)	Percent
1	5.7
2	10.7
3	14.1
4	27.3
5	4.7
6	10.4
Number of children	389

Mothers and caretakers of children under 5 years were asked if the child had been given vitamin/mineral/medicine supplement, plain water, sweetened water or juice, ORS, Tinned/powdered/fresh milk or infant formula, other liquids, or solid or mushy food at any time during the day or the night before the interview; the results are shown in Table 5.4. The proportion of children who received solid or mushy food increases from 16 percent for children age 0–3 months to 76 percent for children age 4–6 months and 85 percent or more for children age 7 months or more where as the proportion of children who received tinned/powdered/fresh milk or infant formula increases from 27 percent for children age 0–3 months to 51 percent for children age 4–6 months and 80 percent or more for children age 12 months or more. Other liquids, such as sweetened water or juice, are given more often than tinned/powdered/fresh milk or infant formula to children after 7 months. Only 29 percent of children received vitamin/mineral/ medicine supplement. The introduction of complementary food at the right age is critical for meeting the protein, energy, and micronutrient needs of children. Eighty-five percent of children aged 7–11 months received solid or mushy food, as recommended.

Table 5.4 Type of liquid/solid food received by children

Percentage of children under age 5 years who received specific types of liquid/solid food the day or night before the interview and percentage using a bottle with a nipple, by child's age in months, Maldives, MICS, 2001

Age in months	Type of food received:							Using bottle with a nipple	Number of living children
	Vitamin/mineral/medicine supplement	Plain water	Sweetened water or juice	ORS	Tinned/powdered/fresh milk or infant formula	Any other liquid	Solid or mushy food		
0-3	23.6	40.0	16.4	0.0	27.3	9.1	16.4	23.6	55
4-6	26.4	73.6	45.3	5.7	50.9	5.7	75.5	24.5	53
7-11	30.9	92.6	72.1	5.9	57.4	16.2	85.3	26.5	68
12-23	33.9	91.8	86.5	6.4	81.9	28.7	88.3	34.5	171
24-35	28.6	97.3	91.9	5.4	86.5	38.4	91.9	21.6	185
36-47	30.5	93.4	86.2	4.2	85.0	29.3	94.0	14.4	167
48-59	26.5	93.5	91.0	4.5	83.9	30.3	95.5	7.1	155
0-59	29.4	89.2	80.2	4.9	76.5	27.5	85.8	20.8	854

It is often difficult to sterilize the nipple properly, the use of bottles with nipples also exposes children to an increased risk of getting diarrhoea and other diseases. In Maldives, 21 percent of children under age 5 years feed from a bottle with a nipple during the day or the night before the interview date. The use of a bottle with a nipple is much more common for children who are aged 12-23 months.

5.3 Nutritional Status of Children

Nutritional status is a major determinant of the health and well-being of children. Inadequate or unbalanced diet and chronic illnesses are associated with poor nutrition among children. In MICS, all children under age 5 years were weighed using a solar-powered digital scale with an accuracy of ± 100 grams. Their height was measured using an adjustable wooden measuring board to provide accurate measurements (to the nearest 0.1 cm). Children under two years of age were measured lying down and older children were measured standing up. To assess nutritional status of children, three summary indices: weight-for-age, height-for-age, and weight-for-height are calculated using weight and height data. The values of three indices for sample children are then compared with the nutritional status of an international reference population, recommended by the World Health Organization (Dibley et al., 1987a; 1987b). The three indices of nutritional status are expressed in standard deviation units (z-scores) from the median for the international reference population. Children who are more than two standard deviations below the reference median on any of the indices are considered to be *undernourished*, and children who fall more than three standard deviations below the reference median are considered to be *severely undernourished*.

Each of these indices provides somewhat different information about the nutritional status of children. Weight-for-age is a composite measure that takes into account both chronic and acute undernutrition. Children who are more than two standard deviations below the reference median on this index are considered to be *underweight*. The height-for-age index measures linear growth retardation. Children who are more than two standard deviations below the median of the reference population in terms of height-for-age are considered short for their age or *stunted*. The percentage in this category indicates the prevalence of chronic undernutrition, which often results from a failure to receive adequate nutrition over a long period of time or from chronic or recurrent diarrhoea. Height-for-age, therefore, does not vary appreciably by the season in which data are collected.

The weight-for-height index examines body mass in relation to body length. Children who are more than two standard deviations below the median of the reference population in terms of weight-for-height are considered too thin or *wasted*. The percentage in this category indicates the prevalence of acute under nutrition. Wasting is associated with a failure to receive adequate nutrition in the period immediately before the survey and may also be the result of seasonal variations in food supply or recent episodes of illness.

In Maldives, MICS-2 could not measure 9 percent of children under age five (see Table 2.2 in Chapter 2) because either children refused themselves or cried so much that clinicians could not measure weighed and height. Children whose month and year of birth were not known are excluded from the analysis. Table 5.5 shows the percentage of children classified as undernourished by sex of the child. Thirty percent of the children under age five in Maldives are underweight and 25 percent of children are stunted. The proportion of children who are severely undernourished is 9 percent according to weight-for-age and a similar percentage according to height-for-age. Wasting is also evident in Maldives, affecting 13 percent of children under five years of age. The proportion of children under five years of age who are underweight decreased from 43 percent in MICS-1 to 30 percent in MICS-2, whereas the proportion severely stunted decreased from 30 percent in MICS-1 to 25 percent in MICS-2. The proportion wasted decreased from 17 percent to 13 percent during same period.

The proportion of children who are undernourished increases rapidly with the child's age through age 6–11 months, where it peaks at 17 percent for wasting and 36 percent for stunting and 38 percent for underweight. Even during the first six months of life, when most babies are breastfed, 2–6 percent of children are undernourished according to the three nutritional indices. It is noticed that at age 12–23 months, when most children have been weaned from breast milk, 9 percent of children are severely stunted and severely underweight.

Table 5.5 Nutritional status of children

Percentage of children under age 5 years classified as undernourished on three anthropometric indices of nutritional status, according to age and sex, Maldives, MICS, 2001

Age (in months)	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below –3 SD	Percentage below –2 SD ¹	Percentage below –3 SD	Percentage below –2 SD ¹	Percentage below –3 SD	Percentage below –2 SD ¹	
MALE							
< 6	(0.0)	(0.0)	(2.9)	(5.7)	(0.0)	(2.9)	37
6-11	(0.0)	(13.4)	(0.0)	(16.7)	(0.0)	(8.3)	38
12-23	8.4	38.6	20.0	33.3	5.3	19.7	83
24-35	7.3	38.5	13.3	31.1	1.1	15.3	96
36-47	10.2	34.1	7.1	28.2	1.2	11.9	88
48-59	5.3	32.9	15.8	23.7	1.3	12.0	76
0-59	6.5	30.9	11.6	25.9	1.8	13.1	418
FEMALE							
< 6	(0.0)	(3.1)	(0.0)	(6.7)	(0.0)	(3.2)	32
6-11	(0.0)	(15.2)	(3.0)	(9.1)	(0.0)	(6.1)	33
12-23	9.2	32.9	14.1	39.4	0.0	15.5	76
24-35	6.7	30.7	5.4	16.2	2.7	13.5	75
36-47	10.5	35.1	7.3	18.2	0.0	14.6	57
48-59	19.2	44.2	19.6	35.3	2.0	19.6	52
0-59	8.6	29.9	9.2	23.3	1.0	13.3	325
TOTAL							

< 6	0.0	1.5	0.0	6.2	0.0	3.1	69
6-11	0.0	14.1	3.0	13.0	0.0	7.3	71
12-23	9.2	35.9	14.1	36.3	0.0	17.7	159
24-35	6.7	35.1	5.4	24.4	2.7	14.6	171
36-47	10.5	34.5	7.3	24.3	0.0	13.0	145
48-59	19.2	37.5	19.6	28.4	2.0	15.1	128
0-59	8.6	30.4	9.2	24.8	1.0	13.2	712

Note: Each index is expressed in standard deviation units (SD) from the median of the International Reference Population.

¹Includes children who are below -3 SD from the International Reference Population median

Overall, girls and boys are about equally undernourished, but boys are slightly more likely than girls to be underweight and stunted.

5.4 Vitamin A

Vitamin A is known as a critical factor in child health and survival in addition to the essential role it plays for vision and eye health. All countries attending the World Summit for Children (New York, 1990), the Policy Conference on Ending Hidden Hunger (Montreal, 1991), and the International Conference on Nutrition (Rome, 1992) pledged to virtually eliminate vitamin A deficiency and all its consequences, including blindness. The National Plan of Action for Nutrition for the Republic of Maldives 1997-2000 recommended for control of Vitamin A deficiency, Vitamin B deficiency and Vitamin C deficiency and to conduct cross sectional surveys to assess the situation.

Vitamin A Supplementation

MICS-2 asked mothers/caretakers of children under age 5 whether their children ever received a vitamin supplement within the 24 hours prior to the interview and also whether their children received a dose of Vitamin supplement within the last 4-6 months preceding the survey. Table 5.6 shows the results according to selected background characteristics. In Maldives, 51 percent of children under age 5 years received one dose of vitamin A within the last 4-6 months, but only 15 percent received any vitamin supplement within the last 24 hours. This indicates that over all half of children in Maldives have not received vitamin A supplementation at all. The percent of children received vitamin A supplementation vary from the lowest 30 percent in Male' to the highest of 67 percent in the South region. In all other regions, more than 47 percent of children received vitamin A supplementation within the last 4-6 months prior to survey. Similarly the percent of children received any vitamin supplement within the last 24 hours vary from lowest 10 percent in South central region to the highest of 24 percent in Male'.

Table 5.6: Vitamin A supplementation

Percentage distribution of children under age 5 years who received Vitamin supplement in the last 24 hours and who received a high dose Vitamin A supplement within the last 4-6 months prior to the survey, according to selected background characteristics, Maldives, MICS, 2001

Characteristic	Percent of children who received vitamin within the last 24 hour:		Percent of children who received vitamin A within the last 4-6 months:			Number of children
	Received	Not received	Received	Not received	Don't know	
<i>Region</i>						
Male	23.6	76.4	29.7	67.1	3.2	231
North	13.9	86.1	57.4	41.5	1.1	296
North central	12.4	87.6	47.2	51.9	0.9	220
South	16.8	83.2	66.7	32.6	0.7	250
South central	10.3	89.7	54.4	41.4	4.2	313
<i>Age</i>						
0-11 months	13.9	86.1	30.1	68.4	1.6	214
12-23 months	14.6	85.4	56.5	42.4	1.1	188
24-35 months	14.1	85.9	54.7	43.3	2.0	256
36-47 months	17.5	82.5	58.1	39.3	2.6	272
48-59 months	13.7	86.3	50.4	46.3	3.4	277
Total	14.9	85.1	50.6	47.2	2.2	1310

Vitamin A Deficiency Among Children

Vitamin A deficiency (VAD) is one of the most common nutritional deficiency disorders among the children in the world. More than 250 million children are affected worldwide (Bloem et al., 1997). According to the Micronutrient Deficiency Information System (MDIS) databank updated by WHO on prevalence of VAD, the republic of Maldives is under category where no data is available but could be a problem area. MICS-2 administered a Vitamin A module to find out prevalence of VAD in Maldives and to provide a baseline for monitoring the changes in Vitamin A status over time. Subclinical biological indicators (Functional and Biochemical) of Vitamin A are measured for children age 24-36 months. Biological indicators of vitamin A deficiency defined a public health problem as mild (< 0.0

-1.0 %), moderate (>1.0 % - < 5.0 %), or severe (> 5.0 %) depend on prevalence levels (VAD functional classification for children aged 24-71 months) (WHO/UNICEF consultation report, 1992).

Table 5.7 shows the percentage of children aged 24-59 months who have difficulty seeing in daylight or at dusk or recognizing people at dusk. Over all in Maldives, 2.4 percent of children have difficulty with his/her vision during the daylight and 1.2 percent of children have difficulty with vision at dusk. Another 1.9 percent of children find difficulty in recognizing people at dusk. Thus, in country more than 5 percent children have reported vision difficulty and are suffering from vitamin A deficiency. This indicates that Maldives has severe vitamin A deficiency among children (under functional classification). Though Table 5.7 also shows vitamin A deficiency by region, the sample size was designed to estimate prevalence rate at national level. The information by region shown in the table to give an idea about the possible need to have further regional level studies to identify high-risk areas/population for intervention.

Table 5.7: Vitamin A deficiency among children

Percentage of children of age 24-59 months having difficulty seeing in daylight or at dusk or in recognizing people at dusk by region, Maldives, MICS, 2001

Type of vision difficulty	Region					Total
	Male'	North	North central	South	South central	
Difficulty seeing in daylight	3.6	1.7	2.0	5.1	1.1	2.4
Difficulty seeing at dusk	3.0	0.6	0.0	2.6	0.6	1.2
Difficulty recognizing people at dusk	3.0	0.0	2.0	6.4	0.6	1.9
Number of children	169	173	147	78	181	748

Vitamin A Deficiency Among Women

MICS-2 collected information on Vitamin A deficiency from women who have a child under age 5 years or have given a live birth during the one year preceding the survey. Night blindness, or difficulty in seeing at dusk, is the result of chronic vitamin a deficiency and is often seen among pregnant women in an area where vitamin A deficiency is epidemic. Women were asked about their difficulty seeing in daylight and if they suffered from night blindness. In addition, the survey asked whether she had difficulty seeing in day light or suffered night blindness, during last pregnancy. Results from each of these questions shown in Table 5.8. In Maldives, 11 percent women have difficulty seeing in daylight and another 6 percent of women suffer night blindness. During last pregnancy five percent of women had difficulty seeing in daylight and same percent of women suffered night blindness. Again though Table 5.8 shows vitamin A deficiency among women by region, this should be

considered cautiously because the sample design doesn't allow to assess prevalence of VAD among women, by region.

Table 5.8: Vitamin A deficiency among women

Percentage of women who have difficulty seeing in daylight, suffered night blindness, who have difficulty seeing in daylight during last pregnancy, and suffered night blindness during last pregnancy, by region, Maldives, MICS, 2001

Type of difficulty	Region					Total
	Male	North	North central	South	South central	
Difficulty seeing in daylight	16.0	7.6	13.2	1.5	14.1	11.0
Night blindness	11.1	3.6	8.6	0.5	6.9	6.4
Difficulty seeing in daylight during last pregnancy	9.8	3.2	5.6	1.0	4.5	5.0
Night blindness during last pregnancy	7.4	2.5	6.9	1.0	4.5	4.6
Number of women	244	277	303	199	290	1313

Note: Table based on women who have a child under age 5 years or given a live birth during last one year preceding the survey

5.5 Nutritional Status of Women

In MICS-2, all women aged 15-49 were weighed and measured with the same type of scales and measuring boards used for children, to assess nutritional status. The weight and height data were used to calculate several indicators of women's nutritional status as shown in Table 5.9. The height of an adult is an outcome of several factors including nutrition during childhood and adolescence. A woman's height can be used to identify women at risk of having a difficult delivery, since small stature is often related to small pelvic size. The risk of having a baby with a low birth weight is also higher for mothers who are short.

The cutoff point for height, below which a woman can be identified as nutritionally at risk, varies among populations, but it is usually considered to be in the range of 140–150 centimetres (cm). MICS-2 found a mean height for women in Maldives of 150 cm. The mean height varies between 146 and 151 cm for women in different population groups, as shown in Table 5.9. Seventeen percent of women in Maldives are under 145 cm in height. Differentials are small by age but are more substantial by region. In Male' has only 10 percent of women are below 145 cm, whereas the South region has 36 percent. The proportion of women below 145 cm is 11 percent among women aged 15-24 compared with 26 percent for women aged 40-49.

Table 5.9 also shows an index that relates a woman's weight to her height. The Body Mass Index (BMI) is defined as the weight in kilograms divided by the height in metres squared (kg/m^2). In calculating the value of this index women who were pregnant at the time of the survey are excluded. The mean BMI for women in Maldives is 23.5. Chronic energy deficiency is usually indicated by a BMI of less than 18.5. More than one-fifth (23 percent) of women in Maldives have a BMI below 18.5, indicating a high prevalence of nutritional deficiency. Differentials by region are negligible. The proportion of women with a BMI below 18.5 is higher among women in the age groups 15-19 and 20-24.

Table 5.9 Nutritional status of women

Mean height, percentage with height below 145 cm, mean body mass index (BMI), and percentage with BMI below $18.5 \text{ kg}/\text{m}^2$ of women aged 15-49, by selected background characteristics, Maldives, MICS, 2001

Characteristic	Height			Weight-for-height ¹		
	Mean height (cm)	Percentage below 145 cm	Number of women for height	Mean body mass index (BMI)	Percentage with BMI below $18.5 \text{ kg}/\text{m}^2$	Number of women for BMI
<i>Region</i>						
Male	150.9	9.7	351	24.3	22.5	253
North	150.6	12.5	328	22.7	24.8	258
North Central	149.3	16.0	363	22.0	23.9	305
South	146.0	36.4	214	25.5	17.7	164
South Central	149.3	17.3	394	23.8	22.5	306
<i>Age</i>						
15-19	150.5	11.4	359	19.4	49.6	141
20-24	150.6	11.1	315	20.9	32.9	255
25-29	150.1	15.6	263	21.9	24.1	232
30-34	148.8	18.9	238	23.9	12.2	213
35-40	148.6	22.6	208	24.7	12.5	192
40-49	147.4	26.2	267	28.4	12.6	253
Total	149.5	16.9	1650	23.5	22.7	1286

¹Excludes women who are pregnant. The body mass index (BMI) is the ratio of the weight in kilograms to the square of the height in metres (kg/m^2).

5.6 Anaemia Among Women

Iron deficiency anaemia is an outcome of nutritional deficiency of iron, folate, vitamin B₁₂, or some other nutrients. This is one of the world's leading health problems among growing children as well as menstruating and pregnant women. Anaemia may have detrimental effects on the health of women and children, and may become an underlying cause of maternal

mortality and perinatal mortality. Anaemia results in an increased risk of premature delivery and low birth weight (Seshadri, 1997). Early detection of anaemia can help to prevent complications related to pregnancy and delivery as well as child-development problems. Information on the prevalence of anaemia can be useful for the development of health-intervention programmes designed to prevent anaemia, such as iron-fortification programmes.

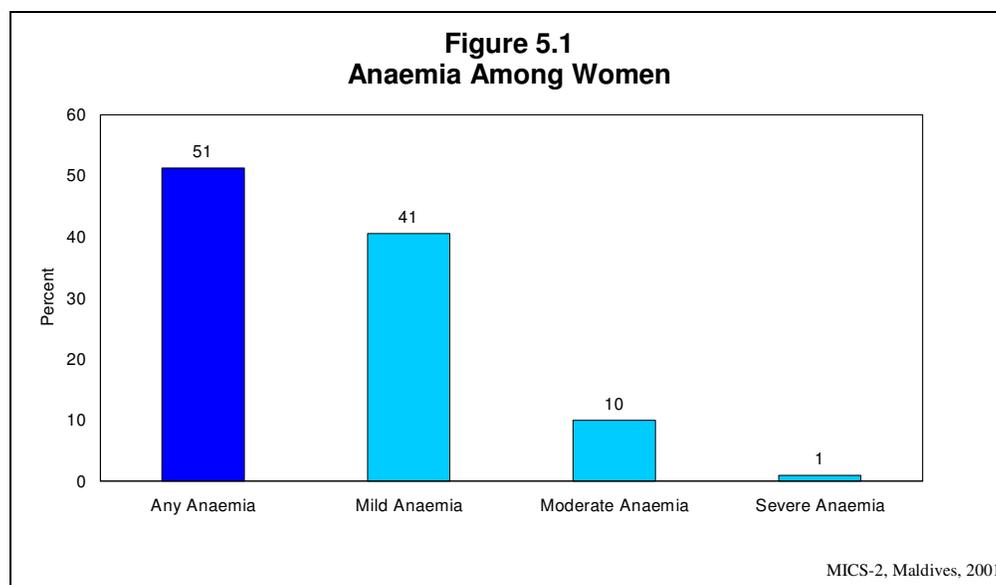
The haemoglobin levels of all women aged 15-49 was measured in the field using the HemoCue system, which is used in DHS and other surveys. This system uses a single drop of blood, from a finger prick, which is drawn into a cuvette and then inserted into a portable battery-operated instrument. In less than one minute, the haemoglobin concentration is indicated on a digital read-out.

Table 5.10 and Figure 5.1 show anaemia levels for women aged 15–49. Severity of anaemia is classified as mild anaemia (10.0–10.9 g/dl for pregnant women and 10.0–11.9 g/dl for nonpregnant women), moderate anaemia (7.0–9.9 g/dl), and severe anaemia (less than 7.0 g/dl) (Centres for Disease Control and Prevention, 1998).

Table 5.10 Anaemia among women

Percentage of women classified as having iron-deficiency anaemia by degree of anaemia, according to selected background characteristics, Maldives, MICS, 2001

Background characteristic	Percentage of women with any anaemia	Percentage of women with:			Number of women
		Mild anaemia ¹	Moderate anaemia ²	Severe anaemia ³	
<i>Region</i>					
Male	52.4	49.3	2.6	0.6	349
North	64.0	46.3	17.7	0.0	328
North central	49.0	35.5	11.8	1.7	363
South	59.1	41.4	14.8	3.0	203
South central	37.9	31.8	5.9	0.3	393
<i>Age</i>					
15–19	57.2	43.6	13.0	0.6	353
20–24	51.1	42.8	8.0	0.3	313
25–29	45.0	38.1	5.8	1.2	260
30–34	51.5	39.7	11.8	0.0	237
35–40	51.7	38.2	11.1	2.4	207
40–49	49.6	38.3	9.8	1.5	266
<i>Height</i>					
< 145 cm	53.6	39.5	11.6	2.5	276
≥ 145 cm	50.8	40.7	9.6	0.6	1359
Weight					
< 18.5 kg/m ²	55.6	42.7	11.5	1.4	426
≥ 18.5 kg/m ²	49.4	39.5	9.1	0.8	1191



Pregnancy status

Pregnant	55.4	31.1	23.0	1.4	74
Not pregnant	49.6	39.6	9.1	0.9	1287
Total	51.3	40.5	10.0	0.9	1636

¹Mild anaemia (10.0-10.9 grams per decilitre(g/dl) for pregnant women and 10.0-11.9 g/dl for non pregnant women).

²Moderate anaemia (7.0-9.9 grams per decilitre(g/dl) for all women).

³Severe anaemia (less than 7.0 grams per decilitre(g/dl) for all women).

Haemoglobin levels were tested for 85 percent of women in Maldives. More than one-half (51 percent) of women are anaemic to some degree. Forty-one percent of women are mildly anaemic, 10 percent moderately anaemic, and 1 percent severely anaemic. Differences in the prevalence of anaemia are substantial by background characteristics.

By region, prevalence of anaemia among women ranges from 38 percent in the South region to 64 percent in North region. It is to be noted that three percent of women from South region are severely anaemic. Almost one-half of women are anaemic in all age groups. The percentage is higher in the youngest of age group of 15-19 (57 percent), it is the lowest in the age group 25-29 (45 percent). Anaemic is more prevalent among shorter women (less than 145 cm) and women with a low body mass index (BMI).

More pregnant women (56 percent) than nonpregnant (50 percent) are found to be anaemic. Also, pregnant women are much more likely to have moderate anaemia (23 percent) than nonpregnant women (9 percent). Pregnant women are less likely than other women to have mild anaemia.

5.7 Use of Iodized Salt

Iodine is an essential micronutrient required for the normal mental and physical health of human beings. Iodine Deficiency Disorders (IDD) is the single most preventable cause of mental retardation and poor educability of children worldwide. According to the World

Health Organization, iodine deficiency can cause miscarriages, brain disorders, cretinism, and retarded psychomotor development. Children living in iodine sufficient areas have 13 points higher intelligence quotient (I.Q.) than children living in iodine deficiency areas. Every day our body require around 150 micrograms of iodine (for less than a teaspoonful 5 gm) over a life span of 70 years. The most common method of iodine supplementation is iodised salt.

In 1995 the Republic of Maldives conducted Iodine deficiency disorder survey. A total of 30 schools and 2,834 children were surveyed and it was found that total Goitre rate is 23.6 percent, out of which 22.5 percent is grade 1 Goitre. Three hundred and sixteen children were examined for iodine content in urine. Sixty-six percent of children had urinary iodine levels below 10 microgram per deciliter ($\mu\text{g}/\text{dl}$). It is concluded that Iodine deficiency disorder is a public health problem in Maldives.

Iodine levels in salt can be measured in the laboratory using a standard titration test or in the field using a rapid-test kit. In MICS-2, enumerators measured the iodine content of cooking salt in each interviewed household using a rapid-test kit. The test kit consists of ampoules of a stabilized starch solution and of a weak acid-based solution. The interviewer squeezes one drop of the starch solution onto a sample of cooking salt obtained from the household. If the colour changes (from light blue through dark violet), the interviewer matches the colour of the salt as closely as possible to a colour chart on the test kit and records the iodine level as 7, 15, or 30 parts per million (ppm). If the initial test is negative (no change in colour), the interviewer is required to conduct a second confirmatory test on a new salt sample, using the acid-based solution in addition to the starch solution. This test is necessary because the starch solution will not show any colour change even on iodized salt if the salt is alkaline or is mixed with alkaline free-flow agents. If the colour of the salt does not change even after the confirmatory test, the salt is not iodized. Because of the uncertainties and subjective judgement in the matching process, the rapid test should not be considered as giving an exact quantitative estimate of salt iodization, but it does provide useful information on whether or not salt is iodized, as well as an approximation of the extent of iodization.

Table 5.11 and Figure 5.2 show the extent of salt iodization at the household level. In all, 93 percent of households were tested for salt idolization and 7 percent of households were not tested. Only 44 percent of households in Maldives use cooking salt that is iodized at the recommended level of 15 ppm or more. About 46 percent of households use salt that is not iodized at all and 3 percent use salt that is minimally iodized (less than 15 ppm).

Table 5.11: Iodization of salt

Percent distribution of households by type of salt used for cooking, according to region, Maldives, MICS, 2001

Region	Iodized		Not iodized	No salt at home	Salt not tested	Total percent	Number of households
	< 15 PPM	15+ PPM					
Male	5.7	68.7	19.7	1.1	5.7	100.0	176
North	2.4	30.5	63.3	1.9	1.9	100.0	210
North central	2.2	36.6	58.0	0.9	2.2	100.0	224
South	1.5	58.3	26.7	6.3	7.3	100.0	206

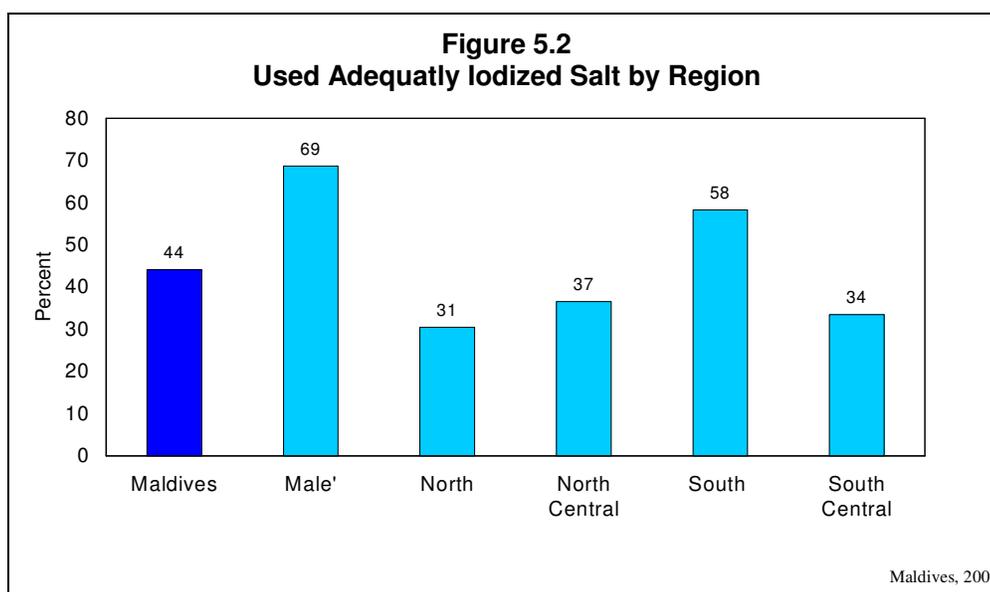


Table 5.11: Iodization of salt

Percent distribution of households by type of salt used for cooking, according to region, Maldives, MICS, 2001

Region	Iodized		Not iodized	No salt at home	Salt not tested	Total percent	Number of households
	< 15 PPM	15+ PPM					
South central	2.4	33.5	54.3	4.5	5.3	100.0	245
Total	2.7	44.1	45.7	3.0	4.4	100.0	1061

The widest differentials in salt iodization are observed by region. Over two-third (69 percent) of households in Male' use adequately iodized salt, compared with 58 percent of households in South region, 37 percent of households in North central, 34 percent of households South central and 31 percent of households in North region. More than one-half of the households in North, North central, and south central regions use salt that is not iodized at all. About 20 percent of household use non-iodized salt in capital city of Male'.

5.8 Summary

While the dietary pattern exhibits considerable regional variations, an examination of frequency of intake of different types of food shows the possibility of inadequate intake of certain types of food. While children are exclusively breastfed for about 4 months, it remains to understand the adequacy of supplementary food provided. One-fifth of the children are fed from a bottle with a nipple, bottle feeding being greater among children aged 12-23 months.

In Maldives, on an average, considering the different indicators, more than a quarter of the children could be categorised as ‘undernourished’. Severe malnutrition prevails in more than 10 percent of the babies.

Overall, more than 5 percent of children and 17 percent of women suffer from vision disabilities indicating that the country experiences severe vitamin A deficiency problem.

Chronic energy deficiency is observed among more than one-fifth of women. Also, more than half of the women are found to be anaemic. Regional differences in the prevalence of anaemia are substantial, and requires further confirmatory and explanatory studies.

Less than half of the households use properly iodized salt, with large amount of regional variations.

In short, while some of the indicators considered in this chapter show significant improvements in the health of children and women, the extent of malnutrition, vitamin A deficiency, prevalence of anaemia, and use of iodized salt remain important areas where intensive government interventions are urgently required.

CHAPTER VI

OTHER CHILD RIGHTS INDICATORS

This chapter discusses three indicators of child rights, namely birth registration, orphan hood and living arrangement of children, and child labour force. MICS-2 collected information for children under age 5 years on birth registration, reasons for non-registration, knowledge of how to register child's birth, whether child's birth was registered within seven days, and did she pay fine for late registering; the orphan hood and living with natural parents for children under 15 years of age; and economically productive child labour among children age 5-14 years. This chapter examines how far Maldives has fared in these respects.

6.1 Birth Registration

In many developing countries birth registration is incomplete. But, extent of birth registration is considered as a child rights indicator. Registration of birth provides legal proof of identity and civilian status such as nationality, age, and dependency on which a variety of rights depend. It also helps in computing vital rates, which is helpful for national as well as regional planning. In Republic of Maldives, registration of births is mandatory within 7 days after birth.

In MICS, mothers/caretakers of children aged under 5 years were asked whether the birth of a child was registered or not, knowledge regarding registration of birth, and if the birth was registered, whether certificate was available for verification. Reasons for non-registration were also asked. Results are shown in Table 6.1. Seventy-three percent of the births during last five years preceding the survey have been registered, out of which 53 percent cases the enumerator(s) saw the birth certificate. The registration is lower for female children (69 percent) as compared to male children (76 percent). Registration of births is the highest in South central and South regions (80 percent) and North central (73 percent). It is lowest in Male' (61 percent) as compared to other regions. Extent of registration of birth is found to vary with age of child. It is relatively higher in younger age group as compared to higher age group. Birth registration is 91 percent for children aged 0-11 months, 75 percent for 12-13 months and 63 percent for children aged 48-59 months. This indicates that registration of birth is high in recent years as compared to previous years.

Reasons for Non-registration of Births

The various reasons reported for not registering births were: long distance to travel/difficult to go, late and did not want to pay fine, not known where to register, not yet completed seven days, birth took place outside home island, postponed for school enrolment, and others. This question was asked primarily to know whether the accessibility, knowledge regarding registration and law regarding birth registration are the hurdles in registering the birth of a child. Table 6.1 also gives reasons for non-registration of birth, for the country and by region. Surprisingly, none of the above factors were found to be the main reason for non-registration of birth. Rather 24 percent of mothers reported 'other reason' as the main reason for non-

registration. Only 1.4 percent of mothers reported that birth registration was postponed for school enrolment, 0.9 percent said that they did not know where to register, and less than one percent of the mothers reported long distance to travel or difficult to go (0.4 percent) and birth took place outside home island (0.2 percent). Reason for non-registration of births by region also shows a similar trend. 'other reasons' is reported as the main reason followed by postponed for school enrolment in all regions of the country. It is important to note that awareness and accessibility are not the main reasons for non-registration of births in the Republic of Maldives.

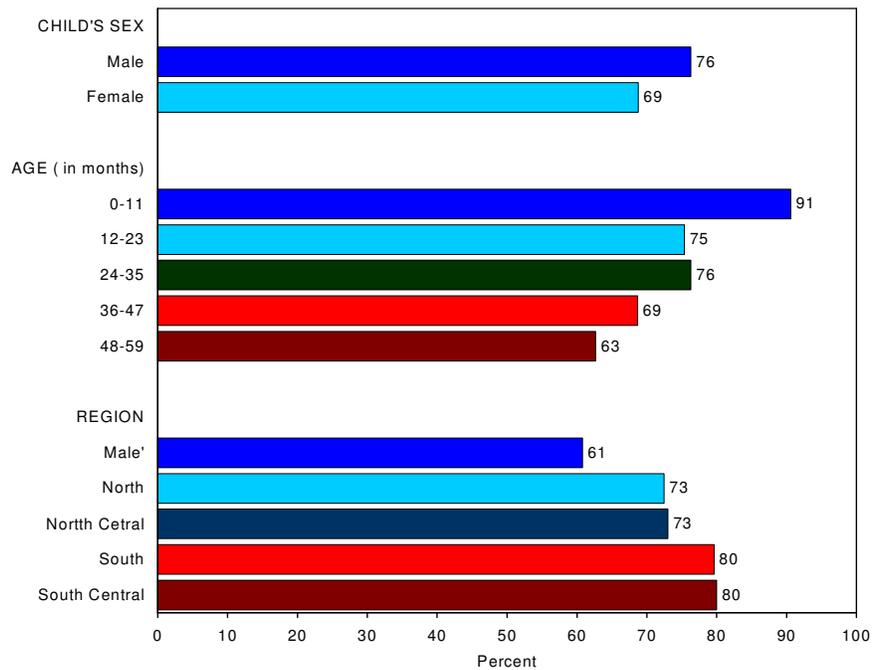
Even though it is mandatory to register birth within seven days of child's birth, only 54 percent mothers/caretakers reported to have registered their births within seven days. To the question that if they paid (in case of non-registration) fine, 4 percent of mothers reported that they paid fine.

Table 6.1: Extend of birth registration and reasons for non-registration

Percent of children aged 0-59 months by whether birth is registered and reasons for non-registration, according to selected background characteristics, Maldives, MICS, 2001

Characteristics	Birth is registered	Reason for non registration:							Number of children
		Long distance to travel/ difficult to go	Late, and did not want pay fine	Not know where to register	Not seven days yet	Birth took place outside home island	Post-poned for school enrolment	Other	
Sex of the child									
Male	76.3	0.2	0.2	1.1	0.0	0.2	1.3	20.7	473
Female	68.8	0.5	0.0	0.8	0.3	0.3	1.6	27.8	381
Region									
Male	60.8	0.0	0.6	0.6	0.6	0.0	0.0	37.5	176
North	72.5	0.6	0.0	0.6	0.0	0.6	1.8	24.0	171
North central	73.0	0.5	0.0	2.2	0.0	0.5	1.6	22.2	185
South	79.6	0.6	0.0	0.0	0.0	0.0	1.8	18.0	167
South central	80.0	0.0	0.0	1.3	0.0	0.0	1.9	16.8	155
Age									
0-11 months	90.6	0.0	0.0	0.0	0.0	0.0	0.0	9.4	106
12-23 months	75.4	0.0	0.0	0.5	0.5	0.0	0.0	23.5	187
24-35 months	76.3	0.5	0.5	0.5	0.0	0.0	3.2	18.8	186
36-47 months	68.7	1.4	0.0	0.0	0.0	0.7	1.4	27.9	147
48-59 months	62.7	0.0	0.0	2.6	0.0	0.4	1.8	32.5	228
Total	73.0	0.4	0.1	0.9	0.1	0.2	1.4	23.9	854

Figure 6.1
Birth Registration of Children by Sex, Age, and Region



MICS-2, Maldives, 2001

6.2 Orphan hood and Living Arrangement of Children

Orphan hood and living arrangement for children under 15 years of age may also be taken as child rights indicators. MICS-2 collected information for all children under 15 years of age whether natural father or mother or both are alive and, if alive, whether the child(ren) is(are) living with them. Table 6.2 shows the percentage distribution of children age 0-14 years by living status with natural parents. Over all, 78 percent children aged 0-14 are living with both parents, 15 percent are living with mother, 5 percent live with neither parents and 2 percent live with father.

Table 6.2: Children living with natural parent

Percent of children aged 0-14 years by living status with natural parents, according to sex and age, Maldives, MICS, 2001

Living status of parents	Sex		Age			Total
	Male	Female	0-4	5-9	10-14	
Living with both parents	77.8	78.8	83.6	81.6	71.6	78.3
Living with neither of parent	4.8	5.3	1.2	2.7	9.8	5.0
Father only alive	0.3	0.3	0.2	0.0	0.7	0.3
Mother only alive	0.4	0.5	0.0	0.3	0.9	0.5
Both are alive	3.4	4.0	0.9	2.0	7.1	3.7
Both are dead	0.6	0.3	0.0	0.1	1.0	0.4
Don't know	0.1	0.2	0.0	0.3	0.1	0.1
Living with mother only	15.3	13.9	14.1	14.2	15.3	14.6
Father alive	13.2	11.9	13.3	12.7	12.0	12.6
Father dead	1.6	1.8	0.4	1.4	2.8	1.7
Don't know	0.5	0.3	0.5	0.2	0.5	0.4
Living with father only	1.7	1.5	0.7	1.4	2.4	1.6
Mother alive	0.7	0.5	0.2	0.6	0.8	0.6
Mother dead	0.9	1.0	0.4	0.8	1.6	1.0
Don't know	0.1	0.0	0.1	0.0	0.0	0.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Not living with a natural parent	5.0	5.5	1.2	2.8	10.1	5.2
One or both parents dead	0.6	0.3	0.0	0.1	1.0	0.4
Number of children	1950	1483	852	1027	1194	3073

Living status of children varies marginally by sex. Living status of children with natural parents also differs by age of the child. About 84 percent of children aged 0-4 live with both parents as compared to 82 percent in 5-9 age group and 72 percent in 10-14 age group.

In all, 5 percent of children are not living with a natural parent in the country. Slightly more female children are not living with their natural parents as compared to male children. On the other hand the percentage of children not living with a natural parent increases from 1 percent in the 0-4 age group to 3 percent in the 5-9 age group and 10 percent in age group 10-14. Similar is the trend in living with neither of parents, which increases from 1 percent in 0-4 age group to 10 percent in 10-14 age group, even though in large number of cases parents are surviving.

Among those children living with mother only, a large proportion has their father alive (13 percent for male children and 12 percent for female children). In the absence of any parents, large proportion children are living with mother as compared to father. Over all, less than one percent (0.4 percent) children had lost one or both their parents.

6.3 Child Labour

Children's participation in economically productive labour force is not a healthy trend for any country. Participation of children in labour force deprive them of better education, health and even childhood.

In MICS-2, the information was gathered on whether children aged 5-14 years are working for someone who is not a member of their household, and whether they are paid or unpaid during the one week prior to the survey. Also data on child's involvement in housekeeping chores such as cooking, shopping, cleaning, washing, clothing, fetching water, or caring for younger children on a regular basis and engaging in other family work (for example on the farm, fishing, or in a business) were collected. The number of hours he/she spent doing these work during the one week preceding the survey was also obtained. Here, currently working (economically productive work) is defined as any child who is working for someone who is not a family member (whether paid or unpaid) or doing household chores for more than 4 hours a day or working in a family farm or business during the one week preceding the survey.

Table 6.3 shows the percentage distribution of children aged 5-14 years engaged in economically productive work, by selected background characteristics. Over all, 26 percent children are currently working (33 percent female and 20 percent male children) in the country. This clearly indicates work participation among female children is higher than male children. Further, those children working for someone who is not a member of their households, 2.4 percent are in paid work as compared to 4.3 percent in unpaid. Higher proportion of female children (2.8 percent paid and 4.9 percent unpaid) is currently working for someone who is not a family member as compared to male children (2.1 percent paid and 3.8 percent unpaid).

Difference in work participation of children in both paid and unpaid is substantial by region, with the lowest in Male' (less than 1 percent unpaid) and the highest in North central region (5 percent paid and 7 percent unpaid). More than one-fourth of children are currently working in all regions except Male' (12 percent).

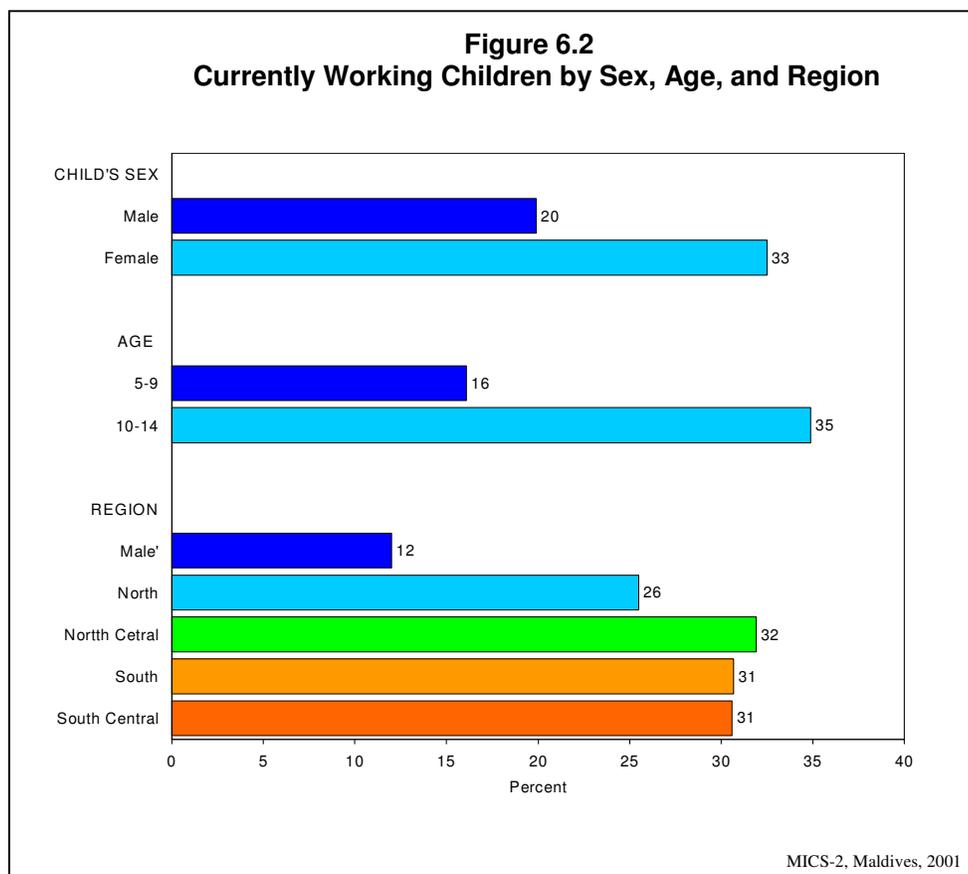
Further, the distribution of children in domestic work showed that 51 percent children worked less than 4 hours a day and 18 percent worked 4 hours or more a day. More female children are involved in domestic work (more than 4 hours a day) as compared to male children (12 percent for male children and 25 percent for female children). Over all, female children are working at a higher proportion in household chore, paid and unpaid work, and other family farm/business compared to male children.

Table 6.3: Children in economically productive labour

Percentage distribution of children aged 5-14 years working in economically productive work by selected background characteristics, Maldives, MICS, 2001

Background characteristic	Working for someone who is not a member of this household:		Domestic work			Currently working	Number of children
	Paid work	Unpaid	< 4 hours/day	4 or more hours/day	Other family farm/business		
Sex							
Male	2.1	3.8	52.4	11.5	7.0	19.9	1143
Female	2.8	4.9	49.2	24.9	8.7	32.5	1116
Age							
5-9 years	1.6	2.3	51.7	11.1	4.4	16.1	1046
10-14 years	3.1	6.1	50.0	24.2	10.8	34.9	1213
Region							
Male	0.0	0.6	40.8	10.8	1.6	12.0	316
North	2.6	3.2	56.3	17.2	7.4	25.5	499
North central	5.1	7.2	36.5	18.1	11.8	31.9	414
South	1.7	6.7	66.2	20.8	10.8	30.7	462
South central	2.8	3.8	38.6	23.6	7.0	30.6	399
Total	2.4	4.3	50.8	18.1	7.8	26.2	2259

**Figure 6.2
Currently Working Children by Sex, Age, and Region**



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