



INDEPTH Training and Research
Centres of Excellence (INTREC)



Bangladesh Country Report

October, 2012

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The INTREC Bangladesh Country Report

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Executive Summary

Introduction

The WHO's Commission on Social Determinants of Health argued in 2008 that the dramatic differences in health status that exist between and within countries are intimately linked with degrees of social disadvantage. These differences are unjust and avoidable, and it is the responsibility of governments, researchers, and civil society to work to reduce them. Part of this work requires the production of setting-specific, timely, and relevant evidence on the relationship between social determinants of health and health outcomes, and yet this information is limited, especially in low- and middle-income countries (LMICs). Thus there is a strong need for the development capacity-building activities to enable such research.

INTREC has been established with this concern in mind. Its dual aims include (i) providing SDH-related training for INDEPTH researchers (including from Matlab Health and Demographic Surveillance System), thereby allowing the production of evidence on associations between SDH and health outcomes; and (ii) enabling the sharing of this information through facilitating links between researchers and decision makers, and by ensuring that research findings are presented to decision makers in an actionable, policy-relevant manner.

This Bangladesh country report provides the baseline situation analysis for the Bangladeshi component of INTREC. Specifically, the report addresses three primary areas of concern:

1. SDH-related training in Bangladesh, as a baseline for INTREC to build on
2. The core SDH issues of concern in the country
3. Ongoing SDH-related work in Bangladesh, both in terms of government policies and in terms of the efforts made non-governmental organizations

The report ends with a series of recommendations for action, directed at government and NGOs, as well as at INTREC itself.

Methods

a) Bangladesh country context

Relevant databases pertaining to Bangladesh were identified via the internet. The internet search for data and material included keywords or acronyms, such as “Bangladesh”, “fact sheet”, “country information”, “World Bank”, “WHO” (World Health Organization). More specific key words or acronyms were employed for different sub-sections, including “demography”, “geography”, “MDGs” (Millennium Development Goals), “NCDs” (non-communicable diseases), “HIV/AIDS”, “tobacco”, etc. The data were then presented along with a commentary on the statistical patterns and public health challenges that the country faces.

b) *Curricular review*

A list of universities in Bangladesh was developed, and their websites were then visited to see which post-graduate, SDH-related programmes were offered. The details of these programmes were then sought either via the internet or by direct contact with the respective departments and institutes.

c) *Literature Review*

Web searches were used with key terms such as ‘Social Determinants of Health’, ‘Health Inequalities’, ‘Health Inequities’, ‘Health Determinants’, ‘Determinants of Disease’, and ‘Health disparity’. Attention was also paid to the daily news during the research period. As each of the issues, organisations, and policies were identified, the relevant information was placed into a pre-formatted table, and an accompanying narrative text was then written.

Results

The main findings in this report include the following:

- 1) *A huge population*: Around 161 million people live in Bangladesh, and in spite of a solid record of economic development over the last 15 years, 47 million (29%) of these people continue to live below the poverty line.
- 2) *Demographic and epidemiological transition*: The on-going demographic changes in the country – with an aging population – are bringing about a double burden of disease, in the form of increasing prevalence of non-communicable diseases alongside sustained and unacceptably high levels of infectious disease.
- 3) *Other major SDH concerns* in the country include:
 - *Gender inequity*: gender inequity has serious consequences for the country, with women in all socioeconomic levels facing severe discrimination in education, health care, employment, and social status.
 - *Human resources for health*: Bangladesh has a much lower proportion of health care professionals per head of population than the other major South Asian nations, such as India, Sri Lanka, and Pakistan. Opportunities for health care are also limited in most rural areas of the country, largely due to understaffing.
 - *Climate change*: The country’s low-lying geography, and its vulnerability to severe storms places tens of millions of people at annual risk of natural disasters, in the form of cyclones and flooding. The scale and severity of these natural disasters is likely to grow in the short to medium term as climate change takes hold. As many as 30 million Bangladeshis are predicted to ‘lose everything’ as a result of climate change.
 - *Arsenic*: Arsenic contamination of drinking water is very common in the country. There are more than 8,000 villages where 80 per cent of tube wells

are contaminated, with severe health effects experienced by as many as 7 million people.

- 4) *Millennium Development Goals*: Good progress has been made with several of the MDGs, including falls in child and maternal mortality, increases in primary school enrollment, and improved management of tuberculosis and malaria.
- 5) *SDH training (un)availability*: There are 18 university departments in the country that offer courses on issues somehow to do with social determinants of health, most of these as components of a Masters degree programme. SDH-related courses are also offered by some of the larger NGOs working in the country. However, none of the courses are explicitly SDH-oriented, and the term ‘social determinants of health’ rarely if ever appears in course literature.
- 6) *Civil society and SDH*: Literally thousands of NGOs work in the SDH field in Bangladesh, and some have initiated internationally groundbreaking work – perhaps most notably in the field of microfinance. The range of issues and population groups that these groups work with is enormous, and the organisations range in size from very small to major international organisations.
- 7) *SDH-related policies*: a raft of good, SDH-related policies exists, focusing on the full range of issues, from health, nutrition, agriculture, water, forestry, and poverty mitigation. However, a widespread lack of effective implementation has significantly reduced the impact of these policies. This has been caused by such issues as corruption (Bangladesh is ranked 120th most corrupt out of 183 countries, by Transparency International), poor infrastructure, mismanagement, and political opposition.

Recommendations

For policy makers

- 1) *Implement SDH-related policies that are already in place*. There are many good policies in place in Bangladesh, but these have not been implemented fully for a variety of reasons. The specific reasons need to be investigated on a case-by-case basis, and, where action is deemed to be feasible and there is seen to be a chance of success, the situation must be rectified and the policy implemented.
- 2) *Address corruption*. The health sector is one of the most corrupt in Bangladesh. A culture needs to be instilled within the health service which firmly discourages corruption. This could be effected by laying criminal charges against those engaging in corrupt practices, and by ensuring that health workers are properly remunerated, thereby making them less inclined towards corrupt behaviours.
- 3) *Address the Human Resources for Health crisis*. This will include training and appointing more qualified health professionals, ensuring that they are distributed more evenly across the country, motivating them properly through proper pay and

conditions, and providing them with adequate supplies for their work. This needs to be focused specifically in the currently underserved rural, and poor urban areas.

For INTREC

- 1) *Run an SDH-specific course:* There are many university departments which run courses on SDH-related issues, but the courses are not run explicitly through an SDH lens, either conceptually or practically. INTREC can contribute to conveying the meaning and importance of SDH within the context of Bangladesh by running an SDH-specific course.
- 2) *Promote research* on specific SDH issues that are relevant within Bangladesh, including: gender, NCDs, rural poverty, slum life, mental health, ageing, arsenic contamination, tobacco, and natural disasters.
- 3) *Collaborate with and learn from pre-existing SDH-related courses:* These should include both those taught at universities and those run by NGOs. Examples of these are the ICDDR,B course on “*Epidemiology, Clinical Management and Prevention of Diarrhoeal Diseases and Malnutrition*”; and the “*Introductory Course on Healthcare Financing*” run by the James P Grant School of Public Health at BRAC University.
- 4) *Instigate an exchange programme between INDEPTH sites:* Offering INDEPTH scientists the opportunity to spend periods of time in other South Asian HDSS centres would allow for the development of an understanding of specific social determinants – for example, gender – as experienced within somewhat different cultural contexts. Through this, collaboration over the main SDH issues affecting the region as a whole would be fostered.

1. Introduction

The WHO's Commission on Social Determinants of Health was concerned with the dramatic differences in health status that exist between and within countries (CSDH, 2008). It compared, for example, the lifetime risk of maternal death in Afghanistan (1 in 8), to the lifetime risk in Sweden (1 in 17,400) (WHO et al., 2007). It also highlighted the fact that maternal mortality is three to four times higher among the poor compared to the rich in Indonesia (Graham et al., 2004). The Commission argued that these disparities, and innumerable similar ones across the globe, are intimately linked with social disadvantage, and that they are both unjust and preventable.

Addressing health inequities is therefore a moral imperative, but it is also essential for reasons of global self-interest: a more inequitable society is inherently a less stable one. But the Commission recognised the challenges that face steps to strengthen health equity, and, critically, that it requires going beyond the current prevailing focus on the immediate causes of disease. Rather, it is necessary to identify and act upon the 'causes of the causes': *"the fundamental global and national structures of social hierarchy and the socially determined conditions that these create, and in which people grow, live, work, and age"* (CSDH, 2008:42).

To this end, three broad Principles of Action on these social determinants of health (SDH) were identified in the Commission Report, that together could, it was argued, 'close the gap' of health inequities within a generation (CSDH, 2008:2). These Principles of Action were:

1. Improve the conditions of daily life – the circumstances in which people are born, grow, live, work, and age.
2. Tackle the inequitable distribution of power, money, and resources – the structural drivers of those conditions of daily life – globally, nationally, and locally.
3. Measure the problem, evaluate action, expand the knowledge base, develop a workforce that is trained in the social determinants of health, and raise public awareness about the social determinants of health.

A wide range of actors is required if these Principles are to be effectively implemented. The Commission identified the core actors as the multi-lateral agencies (especially WHO), national and local governments, civil society, the private sector, and research institutions.

This report is concerned with the third of the three Principles of Action – the production of a strong SDH evidence base – and also with the people who are going to produce and then use that evidence base: those working in research institutions, and those with decision-making authority in governments. Current capacity to produce setting-specific, timely, and actionable evidence on the relationship between SDH and health outcomes is limited, and especially so in low- and middle-income countries (LMICs). Likewise, with limited awareness

of SDH among decision makers, and a general global culture that under-utilises evidence within the policy process, there is an urgent need for capacity-building activities to promote informed decision-making that aims at reducing health inequities. As the Report points out, *“Knowledge – of what the health situation is, globally, regionally, nationally, and locally; of what can be done about that situation; and of what works effectively to alter health inequity through the social determinants of health – is at the heart of the Commission and underpins all its recommendations”* (CSDH, 2008:45).

INTREC (INDEPTH Training and Research Centres of Excellence) was established with precisely this concern in mind. INTREC’s two main aims are (i) providing SDH-related training for INDEPTH researchers in Africa and Asia, thereby allowing the production of evidence on associations between SDH and health outcomes; and (ii) enabling the sharing of this information through facilitating links between researchers and decision makers in these countries, and by ensuring that research findings are presented to decision makers in an actionable, policy-relevant manner.

The INTREC consortium consists of six institutions. The one around which most of the work revolves is INDEPTH – the International Network for the Demographic Evaluation of Populations and Their Health in Low- and Middle-Income Countries. With its secretariat in Accra, Ghana, INDEPTH is an expanding global network, currently with 44 Health and Demographic Surveillance Systems (HDSSs) from 20 countries in Africa, Asia and Oceania. Each HDSS conducts longitudinal health and demographic evaluation of rural and/or urban populations. INDEPTH aims to strengthen the capacity of HDSSs, and to mount multi-site research to guide health priorities and policies in LMICs, based on up-to-date evidence (Sankoh and Byass, 2012). The other five members of the INTREC consortium are all universities, which bring their own respective technical expertise to particular components of the work. These universities are Umeå University in Sweden; Gadjah Mada University in Indonesia; Heidelberg University in Germany; the University of Amsterdam in the Netherlands; and Harvard University in the USA.

The work of INTREC will build on the pre-existing INDEPTH network, and is primarily focused on seven countries. In Africa, these include Ghana, Tanzania, and South Africa; and in Asia, Indonesia, India, Vietnam, and Bangladesh are taking part. Starting in 2013, each continent will be served respectively by regional training centres in Ghana and Indonesia. These centres will act as focal points for research and training on SDH for the INTREC countries and, in due course, other low- and middle-income countries. See www.intrec.info for more details.

This report constitutes the very first step in the work of INTREC in Bangladesh, by providing a situation analysis, conducted by an in-country social scientist and with the support of members of the consortium, that addresses three areas of concern:

4. Current SDH-related training in Bangladesh, and gaps identified, as a baseline for INTREC to build on;
5. The core SDH issues of concern in the country;
6. Ongoing SDH-related work in Bangladesh, both in terms of government policies and programmes, and in terms of efforts made by non-governmental organizations.

The report ends with a series of recommendations for action, directed at decision makers, programme implementers, as well as at INTREC itself. Based on the comprehensive, empirical background material included in the report, these recommendations will prove to be an invaluable guide for the future development of INTREC, as the programme works towards reducing health inequities in Bangladesh, and also in other low- and middle-income countries.

3. Methods

a) Bangladesh country context

Relevant databases pertaining to Bangladesh were identified via the internet. Criteria for selection included the likely reliability of a given database (e.g. WHO was considered as highly reliable), and the degree to which the information given was up to date. Databases such as Wikipedia, and unofficial or private websites were not referenced in this report.

The internet search for data and material included keywords or acronyms, such as “Bangladesh”, “fact sheet”, “country information”, “World Bank”, “WHO” (World Health Organization). More specific key words or acronyms were employed for different sub-sections, including “demography”, “geography”, “MDGs” (Millennium Development Goals), “NCDs” (non-communicable diseases), “HIV/AIDS”, “tobacco”, etc.

Cross-references were made where more than one database was available, to synthesize a comprehensive description of the situation. In some instances, WHO databases were the primary sources of information; in others, relevant journal articles were sought to give greater depth to an issue. The data were then presented along with a commentary on the statistical patterns and public health challenges that the country faces.

b) Curricular review

Most education in Bangladesh is programme-based, with just a very few free-standing short courses on offer. Thus it was necessary to establish the programmes that were being run that could include SDH-related material, as well as the departments that were running them. A list of universities in Bangladesh was therefore developed, and their websites were then visited to see which programmes were offered. Those that were potentially SDH-related were identified during this search, and they included Masters programmes such as the following:

- Masters in Public Health
- Masters in Development Studies
- Executive Master in Public Health
- Master of Population Sciences
- Master of Population, Reproductive Health, Gender and Development
- Master in Disaster Management

The details of these programmes were then sought via the internet – seven of the programmes have their course outlines available online, though mostly without very much detail – or by direct contact with the respective departments and institutes. Most of the departments where SDH issues are taught are situated inside Dhaka, with only two institutes outside the city. Five institutes in Dhaka city were visited in person, of which four were

willing to share and discuss their course curricula. Other institutes were contacted by telephone, though neither of the two institutes from outside Dhaka could be reached.

c) Literature Review

The literature review aimed to develop an understanding of the SDH country needs, ongoing activities, and policies in Bangladesh.

Web searches were used with key terms such as ‘Social Determinants of Health’, ‘Health Inequalities’, ‘Health Inequities’, ‘Health Determinants’, ‘Determinants of Disease’, and ‘Health disparity’.

Attention was also paid to the daily news during the research period, which assisted in identifying SDH-related issues in the country, such as malnutrition, poverty, climate change, gender, road traffic accidents, smoking, and slum problems. These topics were then investigated further on the internet within the context of Bangladesh.

With respect to ongoing work on SDH in the country, there are many organisations working in this field, but information about the work of a number of national and local level NGOs is not always available on the web. Therefore, this literature review has some bias towards the activities of the international NGOs.

As each of the issues, organisations, and policies were identified, the relevant information was placed into a pre-formatted table, and an accompanying narrative text was then written.

4. Bangladesh country context

Formerly East Pakistan, Bangladesh gained independence in the year 1971 to become one of the most densely-populated countries in the world today. Over the last ten years, the country has grown quickly in economy and human development, lifting at least 15 million people above the poverty line. Despite this, 47 million people still live in poverty and many are at risk of falling back into poverty if they are struck by unemployment, illness, or natural disasters. The country aims to become a middle-income country by 2021 (World Bank, Bangladesh). Bangladesh is in its early stages of a demographic transition as birth rates fall and life expectancy extends. Aging population, environmental, lifestyle and other factors have led to the emergence of Non-Communicable Diseases (NCDs). In addition to NCDs, communicable diseases such as HIV/AIDS and Tuberculosis, malnutrition, maternal and neonatal health are major public health concerns for the country (WHO, Bangladesh).

Geography

Bangladesh is located between Burma, India, and the shores of the Bay of Bengal. About 95% of Bangladesh's land boundaries are shared with India. The total area of Bangladesh is 143 998 square kilometers, and the land terrain is largely alluvial plain with hills in the Southeast. The Ganges River flows from the West Himalayas to meet the Jamuna River and the Meghna River, before it empties into the Bay of Bengal. Much of Bangladesh's land rests on the banks and deltas of large rivers, 55% of which is used as arable land (CIA World Fact Book). The volume of water that flows through the river system is second only to that of the Amazon. Flooding is a regular phenomenon and life has become well-adapted to it (British Foreign Office).



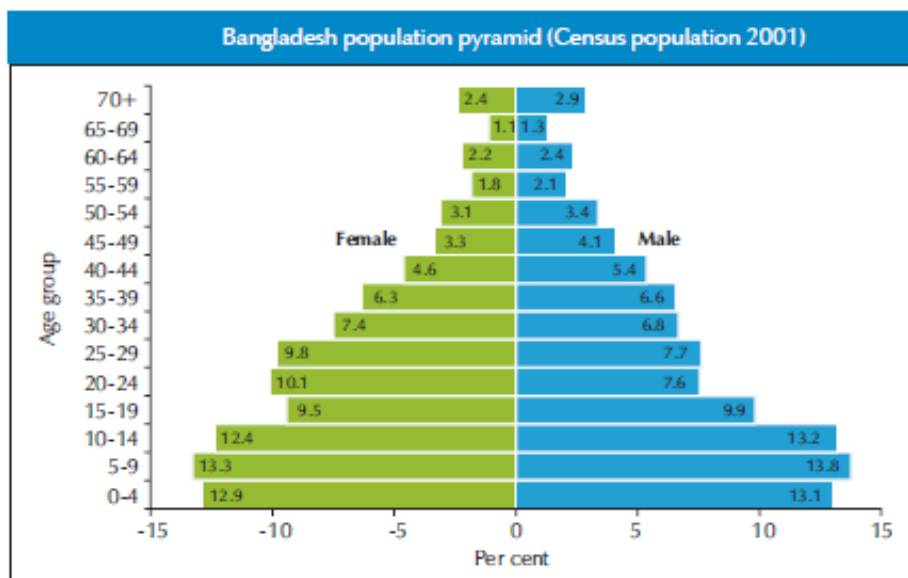
Figure 1: Bangladesh and its bordering countries [Source: CIA World Fact Book]

The climate is tropical with a warm humid summer and a mild dry winter. The monsoon period, between June and October, can bring very heavy rainfall, with frequent cyclonic storms. Bangladesh is highly susceptible to natural disasters and the impact of climate change. Excessive flooding has caused large scale destruction and mortality in 1988, 1998 and 2004 (British Foreign Office). Meanwhile, water tables decline in Northern and Central Bangladesh, causing sporadic water shortages. The high population density places a high demand on natural resources, and forces people to subsist on flood-prone land. This exposes the inhabitants to waterborne diseases and also exposes the river water to pesticides run-off from agricultural activity (CIA World Fact Book).

Demography

As of July 2012, there were about 161 million people living in Bangladesh. Life expectancy in the country is 70 years; the average woman lives to 72 years old, almost 4 years longer than the average man. The population growth rate is about 1.6% per year, with a fertility rate of 2.55 children born to every woman. The birth rate compared to mortality rate is 22.5 births to 5.7 deaths per 1000 population. The maternal mortality rate is 240 deaths per 100 000 live births (2010), and the infant mortality rate is 49 deaths per 1000 live births; male infant mortality rate is 10% higher than that for female infants. About 41% of children under five years of age are underweight (CIA World Fact Book).

The age structure of the population is: 34.3% are between 0-14 years old; 61.1% are between 15-64 years old; 4.7% are 65 years or older (2011). The estimated median age of the population is young, at 23.6 years (CIA World Fact Book).



Source: National Population Census 2001.

Figure 2: Bangladesh population pyramid based on National Population Census 2001. [Source: WHO, Bangladesh]

According to the population pyramid in Figure 2, the population is ageing in Bangladesh as birth rates decline and life expectancy extends. The low dependency ratio and young median age of the demography can transform to economic potential for Bangladesh.

Literacy rate is not equally-distributed between genders: 61% of men are literate while 52% of women are literate. Likewise, more female youths (13.6%) are unemployed than male youths (8%); the overall unemployment rate of youths (aged 15-24 years) is 9.3% (2006). The rate of urbanization in Bangladesh is estimated at a 3.1% annual increase from 2010 to 2015. About 28% of the population lived in cities in 2010, with 14 million people in the capital city Dhaka, nearly 5 million in Chittagong and 1.6 million in Khulna (CIA World Fact Book).

The majority of Bangladeshis are of Bengali ethnicity (1998); the prevalent religions are Islam (89.5%) and Hinduism (9.6%) (2004). The official language of Bangladesh is Bangla or Bengali, but English is also widely-spoken by the educated (CIA World Fact Book).

Socio-economic and political context

India and Pakistan gained independence from Britain colonial rule to become sovereign nations in 1947. Pakistan was made up of two territorial areas – West Pakistan and East Bengal (later renamed East Pakistan in 1955) – that were 1,600km apart. However, people in East Pakistan were angry with the fact that the West received more money per capita from the budget, and the West was also politically dominant. Further, there was great resentment over West Pakistan's insistence that people in the East should speak Urdu as opposed to their own Bengali language. East Pakistan declared independence as the state of Bangladesh on 26 March 1971, and after a brutal war, in which they were supported by India, victory was achieved on 16 December 1971.

The political history of Bangladesh had been tumultuous ever since, involving the assassination of political leaders, opposition agitations, and large scale demonstrations. Two women have acted as Prime Minister of the country for most of the last 21 years: Begum Khaleda Zia of the Bangladesh Nationalist Party served from 1991 to 1996, and again from 2001 to 2006; while Sheikh Hasina of the Awami League served from 1996 to 2001, and again from 2009 to the present day.

Since 1996 the Gross Domestic Product (GDP) of Bangladesh has managed to grow 5-6% on a yearly basis, in spite of political unrest, corruption, sluggish economic reforms, and a lack of infrastructure and energy supplies. The country's economy remained resilient during the recent global recession, and the estimated GDP for 2011 stands at US\$285.8 billion purchasing power parity (PPP). Bangladesh's service sector contributes more than half of the country's GDP and employs only a quarter of its workforce. The agricultural sector, in

contrast, contributes to less than 20% of GDP, but employs 45% of its labor force. The public debt of Bangladesh is estimated at 35.2% of its GDP (CIA World Fact Book).

GDP per capita is US\$ 1,700 (PPP). Although the official unemployment rate is 5%, about 40% of the total population is underemployed and lowly-paid; 31.5% of people live below the poverty line (2010). The inflation rate increased from 8% in 2010 to more than 10% in 2011. Inequity in Bangladesh is high: distribution of family income according to GINI index is 33.2 (2005); the poorest 10% of the population account for 4% of total consumption while the wealthiest 10% consume 27% (CIA World Fact Book).

The young and growing workforce in Bangladesh can help to bolster the nation's productivity and economic growth. To harness this potential, Bangladesh needs to create more job opportunities and better manage both the urban-migration process and the impact of climate change on public health (World Bank, Bangladesh)

Health and Development

In recent decades, the health of Bangladesh has in general has made marked improvements, though some problems persist and more challenges lie ahead.

The country is undergoing a demographic transition towards an ageing population. Globalization, poorly-planned urbanization, unhealthy environment and lifestyle, and an ageing population have led to a rising prevalence in Non-Communicable Diseases (NCDs). The prevalence of communicable diseases as a whole is declining but their control and prevention remains vital. Communicable and non-communicable diseases will continue to compete for attention and resources within the health system (WHO, Bangladesh).

The infant and under-five mortality rates in Bangladesh have declined but they are still high. Maternal mortality is high as well, due to high prevalence of malnutrition and anemia among pregnant women; further, only 13.4% of deliveries are assisted by trained midwives. Malnourishment among children and teenagers persists, particularly among girls. Unsafe sexual behavior is also prevalent among young people (WHO, Bangladesh).

Bangladesh has made great efforts to provide safe drinking water and proper sanitation for the people. Early warning systems and the establishment of cyclone shelters in coastal regions have also helped to prepare Bangladesh for natural disasters and have resulted in lower disaster-related mortality (WHO, Bangladesh).

Health expenditure in Bangladesh is 3.4% of its GDP in 2009, which is relatively low for the South Asia region. The physician and hospital bed density ratios are also low: there are 0.295 physicians and 0.4 hospital beds for every 1000 people (CIA World Fact Book). Meanwhile, the health system is slowly shifting emphasis from the traditional and charge-free public

healthcare system to profit-driven private healthcare. There is, however, a greater focus on providing healthcare to the less well-off and to increasing equity in access. Greater stewardship is required to further equity and efficiency in healthcare; the government needs to invest a higher proportion of the GDP to scale-up public health interventions, and to develop and distribute the health workforce (WHO, Bangladesh).

Millennium Development Goals

According to the Millennium Development Goals (MDGs) progress report 2011, Bangladesh has significantly reduced the proportion of people living in poverty to 31.5%, as well as the poverty gap ratio. At the current rate of poverty decline, Bangladesh is likely to reach this MDG target by 2015. However, it remains a challenge to widen access to safe drinking water and proper sanitation in rural regions (UNDP MDGs Bangladesh).

Primary school enrolment has reached 95%, but the proportion of children who complete education is low; adult literacy has increased to 58% but that is still far from its target of 100% literacy by 2015 (UNDP MDGs Bangladesh). There are at least as many girls as boys who enroll in primary and secondary schools. Gender disparity persists at tertiary level, however, with only 39 females enrolled for every 100 males. The share of women in wage employment in the non-agricultural sector has increased to nearly 20%, but needs to increase 2.5-fold to equal that for men. Fifty seats are now reserved for women in Parliament, and this has contributed to an increase in the proportion of seats held by women, from 12.7% to 19.7% in 2010, with a target of 33% by 2015 (UNDP MDG3).

Child mortality is steadily declining as a result of large reductions in the under-five mortality rate and infant mortality rate, as well as a surge in the proportion of one year-old children who have been administered with the measles vaccine (UNDP MDGs Bangladesh). Maternal mortality has fallen significantly, but more deliveries need to be attended by trained health workers, and both antenatal care coverage and family planning also need to increase. The number of pregnant adolescents has markedly increased from 77 (in 1990/1991) to 105 births (2010) per 1000 young women, which highlights the need for a public health focus on the sexual health and practices of youths (UNDP MDG5).

Bangladesh has made great progress in its management of tuberculosis (TB) and malaria cases, though more needs to be done to reduce prevalence. With regard to HIV/AIDS, only 17.7% of young adults (aged 15-24 years) have a thorough and correct understanding of the disease; and the proportion of people with advanced-stage infections who have access to antiretroviral drugs stands at only 47.7% (UNDP MDG6).

The conservation of wetlands and biodiversity remains a great challenge; but good progress has been made to widen access to telecommunications such as the internet, and mobile phones (UNDP MDGs Bangladesh).

Disease Burden

A report published by World Health Organization (WHO) in 2011 revealed that while communicable diseases, maternal, perinatal and nutritional conditions make up 39% of total mortality, NCDs account for 52% of total mortality. Cardiovascular disease (CVD) is the leading cause of death, accounting for 27% of all deaths in Bangladesh (WHO NCD).

Diarrhea is a highly-prevalent communicable disease in Bangladesh. In terms of burden by disease category, diarrhea accounts for 16 DALYs (disability-adjusted life years) per 1000 capita annually; respiratory infections account for 7.7 DALYs; and cancers, CVD and COPD account for a total of 6.9 DALYs (2004). Communicable diseases such as diarrhea and respiratory infections have a large impact on quality of life and productivity (WHO Environmental Burden).

Malaria mortality has declined significantly over the decade from 2001-2010. Between 2000-2007, the annual incidence of new AIDS cases increased from 31 cases to 333 cases, then declined to 250 cases in 2009. Annual estimated incidence of new TB cases is about 100 cases per 100 000 population (2006-2009), with impressive improvement in treatment success rates, rising from 28% (2000) to 74% (2009) (DGHS Communicable Disease).

HIV/AIDS

Since the first confirmed case of HIV/AIDS in 1989, there have been 1,745 HIV-positive cases identified as of December 2009 (DGHS Communicable Disease). However the true prevalence of HIV/AIDS in Bangladesh is unknown, since only high risk groups are under surveillance. Voluntary and confidential counseling and testing services are not commonly accessible. Furthermore, poor public understanding of the disease, insensitive attitudes, as well as social values and stigma deter many people from seeking out HIV tests. UNAIDS estimates HIV prevalence among the general population at a very low level (<0.01%, or about 12,000 cases across the whole country) (DGHS Communicable Disease).

High risk groups in Bangladesh are: injecting drug users (IDUs), sex workers and men who have sex with men. More than half of IDUs practice needle-sharing; 57% of IDUs are married; and most IDUs are also sexually active with an average of two concurrent partners. IDUs have a prevalence rate of 6.4% in the capital city, Dhaka. Most married men who have unprotected sex with sex workers or with other men, proceed to have unprotected sex with their wives. Unprotected sex, reckless behavior, and poor knowledge about HIV/AIDS transmission are common among men, women and youths. Gender inequity in Bangladesh places women at higher risk of contracting HIV, and the risk for women is four times higher than for men. Disparities in social and cultural status for women lead to less access to resources for awareness, healthcare and employment. This vicious cycle reduces their negotiating power in society and drives more women into the sex industry (UNICEF, AIDS).

The government and various multi-lateral organizations, such as UNICEF and the World Bank, have come together through the HIV/AIDS Prevention Project and the HIV/AIDS Targeted Interventions project since 2004. The projects were handed over to the government in 2009. They promote condom use, increased care for those with Sexually Transmitted Infections, discourage needle-sharing among IDUs, enhance public understanding of HIV/AIDS, and improve treatment and support for people infected by HIV/AIDS. Since then, studies have shown increased condom use among sex workers and their clients, and some change in attitude of communities towards sex workers and HIV/AIDS (UNICEF, AIDS; World Bank, AIDS).

Tuberculosis

Bangladesh has been classified by WHO as a country with high TB and multi-drug resistant TB (MDR-TB) burdens (WHO TB).

The total number of notified cases in 2010 was 158,698, of which 95% were new cases and the rest were retreatment cases. The treatment success rate of new cases was 92% in 2009. About 2% of new cases and 28% of retreatment cases were MDR-TB cases. Incidence of TB has risen since the 1990s to about 100 cases per 100,000 people in 2010, and more effort is needed to reverse this trend (WHO TB). See Table 1.

Estimates of burden, 2010	Number (thousands)	Rate (per 100 000 pop)
Mortality (excluding HIV)	64 (47–85)	43 (32–57)
Prevalence (incl HIV)	610 (280–1 000)	411 (188–671)
Incidence (incl HIV)	330 (270–400)	225 (184–269)
Incidence (HIV-positive)	0.66 (0.33–1.1)	0.45 (0.23–0.74)
Case detection, all forms (%)	46 (38–56)	

Table 1: Estimates of TB burden for Bangladesh in 2010 [Source: WHO TB]

Malaria

According to WHO's malaria profile for Bangladesh, the country is in its 'control phase', whereby insecticide-treated nets (ITNs) have been distributed to 25%-50% of the population at high risk of contracting malaria. The epidemiological profile for malaria is: 7% of the population is categorized as high transmission (1 or more case per 1000 population) and 27% as low transmission (0-1 case per 1000 population). While the incidence of confirmed cases has not changed significantly, mortality has declined by more than two-thirds since 2006 (WHO Malaria).

Most of the funding for the country’s malaria program comes from external sources, and this has reduced in recent years. More than three-quarters of intervention expenditure has been allocated to prevention through the distribution of ITNs (WHO Malaria).

Non-Communicable Diseases Overview

NCDs have been estimated to contribute to 52% of total mortality in Bangladesh. The total number of deaths due to NCDs in 2008 was estimated at 313,300 for males and 285,500 for females; about 37.5% of these men and 38.7% of the women died before the age of 60 years (WHO NCD). See Table 2.

Age-standardized death rate per 100,000 (2008)	males	females
All NCDs	747.7	648.1
Cancers	104.7	106.7
Chronic respiratory diseases	91.5	73.1
Cardiovascular diseases and diabetes	446.9	387.5

Table 2: Disease-specific age-standardized mortality rates for four main groups of NCDs, 2008 [Source: WHO NCD]

In view of an ageing demography and other lifestyle and environmental factors, the prevalence of NCDs in Bangladesh is set to increase. The country faces the parallel challenge of simultaneously addressing both communicable diseases and NCDs.

Risk Factors

WHO has compiled two lists of major risk factors associated with NCD incidence. Key behavioural risk factors are current daily tobacco smoking and lack of physical activity; key metabolic risk factors are hypertension, hyperglycemia, overweight, obesity and raised cholesterol (WHO NCD). See Tables 3 and 4.

Behavioural risk factors 2008 estimated prevalence (%)	males	females	total
Current daily tobacco smoking	40.0	2.1	21.2
Physical inactivity	2.9	6.5	4.7

Table 3: Statistics for behavioural risk factors for NCDs in Bangladesh [Source: WHO NCD]

Metabolic risk factors 2008 estimated prevalence (%)	males	females	total
Raised blood glucose	8.0	8.7	8.4
Overweight	7.4	7.8	7.6
Obesity	0.9	1.3	1.1

Table 4: Statistics for metabolic risk factors for NCDs in Bangladesh [Source: WHO NCD]

About 20 times as many men smoke tobacco daily as compared to women, while more than twice as many women are physically inactive compared to men. The prevalence of hyperglycemia and overweight in the population is less than 9%; the proportion of people who are obese is about 1 for every 100 persons. It is noteworthy that there are about 1.5 times as many obese women as obese men, which correlates with the pattern observed in physical inactivity.

Though no data is available for prevalence of hypertension and high cholesterol in 2008, statistics from preceding years indicate a trend of rising mean systolic blood pressure and declining mean total blood cholesterol in the population (WHO NCD). Existing data reveal a gender aspect for certain risk factors, and call for a need to understand the complexity behind these in order to design effective interventions.

Tobacco

According to the raw data from the Global Adult Tobacco Survey, the prevalence of current users of any smoked tobacco is 44.7% for men and 1.5% for women; the overall prevalence is 23% (2009). The data indicate overwhelmingly more men who smoke tobacco than women. The WHO age-standardized statistics furnished below shares a similar observation; see Table 5.

	% using any smoked tobacco		% smoking cigarettes	
	Current	Daily	Current	Daily
Male	46	42	28	24
Female	2	2	<1	<1
Total	24	22	14	12

Table 5: WHO age-standardized estimate of smoking prevalence among adults (aged 15+ years) in Bangladesh, 2009 [Source: WHO Tobacco]

Raw data for prevalence of smokeless tobacco-use among adults (aged 15+ years) is 26.4% for men and 27.9% for women. The statistics for smokeless tobacco reverses the gender usage pattern, whereby more women than men use smokeless tobacco (WHO Tobacco).

Bangladesh signed the WHO Framework Convention on Tobacco Control (WHO FCTC) on 16th June 2003, and ratified it in June 2004. As of 2010, measures to provide smoke-free public spaces have been very limited: only healthcare and some educational facilities have become smoke-free, and offenders are liable to a fine. However the level of compliance is low (compliance score 3/10), at least in part because enforcement measures are not in place. Support and resources for treatment of tobacco dependence are scarce. While health warnings are printed on smoked tobacco packages, none are required for smokeless tobacco packages. Taxation accounts for 68% of the retail price of the most popular brand of cigarettes, and the retail price of one pack is only US\$ 0.48 (2010). The government expenditure on tobacco control was US\$ 90 000 in 2008 (WHO, Tobacco). More attention and funding are needed to enforce interventions and curtail tobacco-use in the population.

Alcohol

No official data is available for adult alcohol consumption and types of alcohol consumed, but an estimate of the unrecorded per capita consumption by adults (aged 15+ years) is 0.2 litres of pure alcohol, between 2003-2005 (WHO Alcohol).

ABSTAINERS (15+ years) 2003	Males	Females	Total
Lifetime abstainers	87.8%	99.6%	93.6%
Abstainers over previous 12 months	93.0%	99.6%	96.2%

Table 6: Alcohol abstinence in Bangladesh, 2003 [Source: WHO Alcohol]

The proportion of abstainers, according to official data, matches the demographics of the population, as almost 90% of Bangladeshis are Muslims. See Table 6. There is zero tolerance for driving a vehicle under the influence of alcohol: any detectable blood alcohol concentration is liable for prosecution. No national legal minimum age for the sale of alcohol has been enforced (WHO Alcohol). Compared to other behavioural risk factors such as tobacco use, alcohol consumption is not a major public health concern in Bangladesh.

Physical Activity and Nutrition

A recent study in the INDEPTH network sites in Bangladesh showed that physical inactivity is more common among urban dwellers than those in rural areas; and more common among women than men. However, the mean duration of physical activity for women is shorter than that for men. Generally, people with high school or university level of education are more likely to be physically inactive than those with lower levels of education (Ng et al., 2009).

These results tie in with another analysis of NCDs risk factors and socio-demographic traits, among 2 000 people in Matlab, Bangladesh; see Table 7.

Odds ratio for overweight* (2005)	Males	Females
No education	1.00	1.00
1-5 years education	2.59	1.94
6+ years education	3.93	6.56

Table 7: Odds ratios for overweight among selected population in Matlab, Bangladesh.
[Source: Razzaque et al., 2010]

*An individual is considered overweight if body mass index ≥ 25 kg/m².

Both men and women tend to be overweight as education levels increase. Overweight increases with a rise in socio-economic status and may have positive connotations in a setting where malnutrition and poverty are still common. In general, the majority of men (88%) and women (90%) do not consume the recommended consumption of 5 servings of fruit and vegetables daily (Razzaque et al., 2010).

On the other hand, Bangladesh has one of the highest prevailing rates of malnutrition among women and children worldwide. Pregnant women who are malnourished and anaemic are more likely to give birth to underweight infants, and this may lead to neonatal mortality. Nearly half of all children suffer from some extent of malnutrition, and one-third of them suffer from stunted development. Malnutrition could be a result of poverty, but also from loss of property to floods and cyclones (WHO Bangladesh).

Country's Capacity to Address NCDs

The government has been forthcoming in the development of an NCD-related policy, but execution has been slow, due to poor delegation of responsibility, as well as a lack of funding and focus. For example, the MDGs have been prioritized above the prevention and treatment of NCDs (World Bank, NCDs); and greater stewardship and funding will be required if full implementation of the WHO's Framework Convention on Tobacco Control is to be attained (WHO Tobacco).

Treatment, support, and prevention for NCDs is severely lacking in public sector primary health care. Most people turn to private providers and informal sectors such as unlicensed pharmacies for treatment. Drugs for the treatment of NCDs are not yet listed in the national essential drug list, for procurement and use in the public healthcare system (World Bank, NCD). Treatment alternatives need to be better regulated and then made available, affordable and accessible for the public.

More health professions trained specifically for NCD prevention and management are needed in the healthcare system. Some institutes have started in this direction, by offering resources and training to develop a skilled workforce. As of February 2011, however,

Bangladesh has neither systematic nationwide surveillance of morbidity and mortality of NCDs, nor a national cancer registry. The Bangladesh Network for NCD surveillance and Prevention (BanNet) is a joint effort by the government and private medical institutions. The Matlab Health Research Center monitors 225,000 residents for NCDs-related risk factors, morbidity and mortality statistics. Sporadic surveillance is also done through periodic surveys by different groups with different agendas (World Bank, NCD).

Government expenditure on health was 3.5% of its GDP in 2008, comparatively low for the region. Out-Of-Pocket expenses at pharmacies make up a hefty 46% of total healthcare expenditure (World Bank, NCD). This implies a disproportionately heavier financial burden for the lower socio-economic groups.

5. Review of SDH teaching curricula

a) Aims

This section of the report has two aims:

1. To identify on-going 'SDH-relevant' training courses in Bangladesh; and
2. To establish gaps in SDH training in the country that INTREC can fill

b) SDH Courses in Bangladesh

According to the University Grand Commission in Bangladesh, there are 34 public universities, 18 medical colleges and 1 dental college, and 54 private universities in the country. A number of departments in these universities run post-graduate programmes that include SDH-related courses. Eighteen such departments were identified for this report, among which 11 offered *Masters in Public Health degrees*, five gave *Masters in Development Studies*, one offered a *Masters In Population Sciences*, and another offered a *Masters of Population, Reproductive Health, Gender and Development (MPRHGD)*.

Most of the programmes require more than one specialization area, which involve students taking elective courses related to their specialization area. These range from environmental sciences, to population and reproductive health, psychosocial and community health, quantitative methods in health and population management, Epidemiology, Community Nutrition, and Non communicable Diseases.

Within these Masters programmes, and in the context of student specialization areas, a variety of individual courses are given that touch, to a greater or lesser extent, on issues related to SDH. Over one hundred such courses were identified, though online details were only available on the twenty three courses given in Annex 1. These courses include, among others:

- Qualitative Research Techniques
- Quantitative Methods for Development Policy Analysis
- Epidemiology and Bio-Statistics
- Health Policy in Developing Countries
- Emerging Population and Development Issues
- Urbanisation and Migration
- Reproductive Biology and Contraception
- Integration of Population, Gender Concerns into Development Planning
- Demographic and Economic consequences of HIV/AIDS, STDs and RTIs

A number of the institutes offer evening or part-time programmes, and some have collaborations with universities abroad (e.g. USA, the Netherlands, Sweden, the United Kingdom, Germany, Japan, Norway, Switzerland, Denmark, Netherlands, Nepal and Pakistan.)

Since there are many NGOs and other agencies working with SDH issues in Bangladesh, there is considerable demand among those working in the field to be more expert by obtaining an advanced degree. Therefore, private universities (but just a very few public universities) try to meet the demand by running relevant Masters programmes. In public university the education is almost free, whereas private education is costly. The overall condition and quality of private university education is overseen on behalf of the government by the University Grand Commission.

Overall, there are three main options for taking courses related to SDH issues in Bangladesh:

- 1) Taking a Masters programme in a public or private University or Institute. These are very popular and common features in Bangladesh. Topic examples are as given above.
- 2) Taking single short courses in university. Independent universities offer these types of courses, often with the collaboration of other organization. One such university has a specialist institute called the International Centre for Climate Change and Development (ICCCAD), which offers many short courses on SDH issues. These are open for NGO staff, donors, the media, government staff, and the private sector. International participants can also take part in these courses.
- 3) Taking courses through an NGO. Organisations such as the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B); and Bangladesh Mahila Parishad provide certificate courses on several SDH topics.
 - a. ICDDR,B provides training for medical graduates working in public, private and NGOs on, for example, *“Epidemiology, Clinical Management and Prevention of Diarrhoeal Diseases and Malnutrition.”* One of the main goals of this training is to increase capacity to conduct research in the developing world, and as such, it is the sort of course that INTREC could learn from, and with which, perhaps, INTREC could collaborate. Another such course run jointly by ICDDR,B and the James P Grant School of Public Health at BRAC University is a three days training on *“An Introductory Course on Healthcare Financing”*.
 - b. Bangladesh Mahila Parishad is one of the leading NGO’s in Bangladesh, and it runs a three month Certificate course on *“Gender, Empowerment of Women and Development”*. This course is open for all. The goal of this important course is to develop an understanding of the meaning of gender within Bangladesh’s socio-cultural and philosophical context. Topics covered in the course include an Introduction to Gender; Conceptualizing Gender; Gender, Empowerment and Development; Gender and Human Rights; Gender and Economy; Gender and Culture; and Gender and Environment.

c) SDH training gaps and challenges in Bangladesh

The following points include those that would be directly relevant for INTREC, i.e. specifically for the training of INDEPTH scientists. But they also include points that would be useful for other educational institutions working, directly or indirectly with SDH topics, and that provide medical and public health training, or training for people working in social projects run by NGOs.

- i) *Keep the cost of courses manageable for students from poorer backgrounds:* It is ironic that students' financial capacity to receive training in SDH is itself socially determined. Most students in Bangladesh want to gain admission into the public universities, as the cost for this state-supported education is very low. The public institute NIPSOM, for example, charges just BDT 10,000 (equivalent to US\$130) for its MPH course. However, the competition is consequently very high, which means that many talented people do not manage to gain admission. And further, there are very few public institutions in Bangladesh offering SDH-related training. This niche has been captured mainly by private universities and courses, which, by contrast, are not cheap. One private university, for example – BRAC's James P. Grant School of Public Health – charges US\$20,000 for international students, and Bangladeshi students need to pay a subsidized fee of US\$8,000. Consequently, simply because they do not have the money, many promising students from poorer backgrounds may be denied the opportunity to study SDH-related topics. Therefore, many of the very people who understand SDH as a lived experience are unable to gain the qualifications needed to allow them to work in the SDH field at a senior level. This itself acts to undermine the efforts to effectively tackle social determinants of health in Bangladesh.
- ii) *More courses are needed for people living outside Dhaka:* Most of the courses and trainings are Dhaka-based, so it is mainly the people of Dhaka city who have the chance to receive SDH education or training. People from elsewhere in the country need to come to Dhaka for study, which means that geographical location is one of the major barriers to receiving SDH training. Courses should also be made available outside the capital.
- iii) *Produce distance learning courses on SDH:* For those who are unable to attend formal courses – which may apply especially to women – distance learning courses on SDH may be a good alternative. However, a recently conducted survey of internet access in 61 countries across the world placed Bangladesh in 55th position, indicating that the Web's political, economic and social impact, as well as internet connectivity and infrastructure in the country is currently very poor (<http://thewebindex.org/about/the-web-index/>). This is in spite of the government describing the country as “Digital Bangladesh”. Distance learning via the internet is therefore, at least for now, a distant dream, although it must be expected that infrastructure and connectivity will increase in the relatively near future. Distance

learning courses on SDH for Bangladesh will, for the time being, have to be based on a traditional paper-and-books approach.

- iv) *Run an SDH-specific course:* In Bangladesh there are many departments which run courses on SDH-related issues, but the term ‘social determinants of health’ does not appear on any of the websites associated with these courses. This means that while such issues of inequalities, gender, migration, and so on, may be taught, students do not learn about them through an SDH lens – conceptually or practically. INTREC can contribute to conveying the meaning and importance of SDH within the context of Bangladesh by running an SDH-specific course.
- v) *Intern and exchange programmes:* In Bangladesh there are many opportunities to work in the SDH field, so it would be beneficial for all concerned if SDH-related programmes initiated internship programmes for their students to work within NGOs who are working with SDH issues. These could run both in Bangladesh, and – as a means of helping students to understand the same issues but in different contexts, and also of fostering collaboration over the main SDH issues affecting the region as a whole – in other South Asian countries, such as India, Nepal, Pakistan, or Sri Lanka.
- vi) *Promote the importance of mental health.* There is very little attention given to mental health issues in Bangladesh, in spite of the serious impact it has on the millions of people who are affected by poverty and natural disasters in the country. INTREC can work to provide more focus on mental health issues in Bangladesh.

6. Literature Review

a) Introduction

Bangladesh has developed significantly since Independence in 1971. Positive trends include declines in the birth rate, alongside increases in gross domestic product per capita. The proportion of the population living below the national poverty line has also fallen, and maternal mortality has declined by 40% in less than 10 Years. Good progress has been made in education and in the health sector (USAID, 2011). But still many problems remain in the country. Tens of millions of people continue to live below the poverty line, and inequality within and across regions is increasing. Vast numbers of people face a constant struggle to meet their basic needs, and many are under increasing threat as the effects of climate change on this low-lying country continue to grow.

This section aims to present a brief overview of some of the main SDH-related issues in Bangladesh. Specifically, it will outline the core social determinants of health that confront the country; some of the organisations, and their activities, that work to address these SDH; and a few of the major SDH policies that have been developed by the government. The social determinants of health are such a huge issue in Bangladesh that this review cannot claim to be in any way comprehensive. Therefore only a few of the most important issues are touched on here.

b) Social Determinants of Health in Bangladesh

Nine broad SDH topics are introduced and discussed in this section.

- i) *Climate change*. Due to its low-lying geography, Bangladesh is extremely vulnerable to the effects of climate change. These will include increasingly frequent and severe tropical cyclones, heavier and more erratic rainfall happens, sea level rises, storm surges, and droughts. Collectively, these could result in the displacement of tens of millions of people as 'environmental refugees' (Ministry of Environment and Forests, 2008).

UNDP identifies Bangladesh as the most susceptible country in the world to tropical cyclones and the sixth most susceptible country to floods. Many sectors will be affected as the frequency and severity of these disasters increases, including water resources, agriculture and food security (60% of the people grow at least some of their own food), ecosystems and biodiversity, as well as human health. The World Bank points out that a range of severe environmental and developmental problems will emerge as a result of climate change, with harvests failing, and a very high risk for chronic, widespread hunger. These problems will strike hardest at the poorest people and those who live in coastal area, but all sectors of the economy will be affected (World Bank, 2008).

Atiq Rahman, director of the Bangladesh Centre for Advanced Studies, stated that “more than 30 million Bangladeshis are liable to lose everything from climate change in the next 30 to 50 years.” He also suggested that “Bangladesh is ground zero for climate change” (National Resource Centre, 2012).

- ii) *Maternal and Child Nutrition.* Food and nutrition issues are intimately related to a number of sectors, including agriculture, the environment, and food manufacture. UNICEF has stated that the prevalence of malnutrition in Bangladesh is the highest of all countries in the world. Survey data suggest that 32% of Bangladeshi mothers are suffering from chronic energy deficiency; and, due to maternal malnutrition, children are suffering from low birth weight, stunting, underweight, vitamin A deficiency, iodine deficiency disorders and anemia. Of all childhood deaths, around 50% are estimated to be the result of nutrition problems (Unicef, 2012).

The U.S. Agency for International Development (USAID) and the Government of Bangladesh jointly published a report on the malnutrition that is responsible for the deaths of thousands of mothers and children. It showed that malnutrition is a major barrier to education for the young; and it calculated that malnutrition costs Bangladesh the equivalent of US\$1 billion every year in lost economic productivity. It is estimated that effective interventions could save the lives of more than 200,000 children during the period 2011-2021, at a cost of about US \$130 to \$170 million equivalent. This investment would in turn bring about increased economic productivity to the tune of US\$10 billion by 2021 (Embassy of the United States of America, June 25, 2012).

- iii) *Arsenic.* WHO standards permit a level of arsenic in drinking water of 10 Parts Per Billion (0.01microgramme per litre of drinking water), but, for practical purposes, the officially accepted level in Bangladesh is five times higher, at 50 parts per billion (PPB) or 0.05 microgrammes per litre. The reason for this is the extremely high rates of arsenic groundwater contamination across the country, which some experts have described as the worst mass poisoning of a population in history. Of 4.7 million tube wells across the country screened for arsenic in 2002 and 2003, 1.4 (30%) were found to contain arsenic above the Government drinking water standard. There are more than 8,000 villages in Bangladesh where 80 per cent of tube wells are contaminated (Unicef Bangladesh, 2010).

Out of 64 districts in Bangladesh, 61 districts have arsenic contamination of groundwater which is above 0.05 mg/L. The worst affected areas are in the south and east parts of Bangladesh. More than 80 million people are at risk of arsenic poisoning, and around 6.8 million people suffer from arsenical skin lesions or other

conditions such as melanosis (hyper pigmentation), leuco-melanosis, keratosis and hyperkeratosis (Safiuddin et al., 2011).

Social stigma is a big issue for those who suffer from arsenic-related problems. Many people incorrectly believe that arsenic disease is contagious, such that it spreads from one person to another. Relatives, neighbors, and friends therefore avoid the arsenic-affected person, and they also find it very difficult to get a job. If an unmarried girl has the problem, it is not easy for her to get married; while married women with arsenic problems are seen as a burden for the family, so the husband may send her back to her parents. Most people who have arsenic-related problems find themselves withdrawing from society and from their social networks.

- iv) *Gender.* Although the current Prime Minister of Bangladesh, Sheikh Hasina, is a woman, gender inequality is a major issue in Bangladesh. Women face a huge amount of discrimination solely due to their gender identity, whether in education, politics, labour, social position, or health. The situation has improved for women development over recent years, but still there are disparities between men and women. For example, in 1993/94, male child mortality was 46.7 per thousand live births as compared to female child mortality, which stood at 62.3 per thousand live births. This rate has decreased slowly for both sexes, and in 2007 the rate of mortality among boys was 16 and among girls it was 20 per thousand live births (Ferdaush and Rahman, 2011).

Another important indicator of gender inequity is early marriage for girls. The legal age of marriage in Bangladesh is 18 years for women and 21 for men; but in spite of this law, 48% of girls get married between 15 and 19 years of age (SIGI Social Institution and Gender Index, 2012).

- v) *Health system.* Access to the public health system is not equally shared in Bangladesh, with gender, cost, and geographical location all playing a significant role in determining who receives services and who does not. Rural poor women are the least likely of all people to have good access to health services. Further disparities are created by the existence of a large, expensive private sector health system (Rahman et al., 2005). In order to access private care (which many people trust more than the public sector), there have been numerous cases of people selling their land to cover medical costs, and thereby they and their families have fallen into poverty, further increasing their risk of ill health.

Another major concern is the severe Human Resource for health (HRH) crisis faced by the country: Bangladesh has been identified as one of 57 'risk countries', which do not have enough health service providers. A national survey found that the density of

formally qualified health care professionals (i.e. doctors, nurses and dentists), at 7.7 per 10,000 population, is lower than that found in other south Asian countries (e.g. 21.9 in Sri Lanka, 14.6 in India, and 12.5 in Pakistan), and it also falls far short of the estimate projected by WHO (23.0 per 10,000 population) which would be needed for achieving the MDG targets. Not only is there a shortage of qualified providers, but there is also an inappropriate skills-mix, and there are also serious imbalances in the rural-urban ratio of health workers, since qualified professionals generally prefer to work in urban settings where they can earn more money and have access to better career development options (Syed et al., 2011).

There are huge pressures on the health system from the many migrants who have moved from the village to the city, often into slum areas, and these present major challenges to providing effective health care in urban areas. Meanwhile, in the rural areas, the formal health care system is inadequate, and often inaccessible to people. Further, specialized services are generally only available at the larger health facilities, which are only to be found in the cities, and this means that there are no specialized services for most rural people.

Finally, Transparency International found the health sector to be the second most corrupt sector in Bangladesh, after the police sector, which further undermines efficiency, effectiveness, and public trust in the system (Rahman M.R, 2006)

- vi) *Non-communicable diseases.* WHO identifies four behaviours that constitute the main risk factors for NCDs: tobacco use, physical inactivity, unhealthy diet, and the harmful use of alcohol. An NCD risk factor survey conducted in Bangladesh in 2010 showed that 99% of the study population has at least one of these risk factors, while 77% had two risk factors, and 28.3% had 3 or more risk factors. This report said that women are more vulnerable to NCDs as compared to men, but no significant difference in risk factors was identified between people of different socio economic status (Bangladesh NCD Network, 2011).

NCDs have been described by Eminence, an important Bangladeshi NGO working on SDH issues, as an “impending disaster” for the country. The NCD mortality burden is expected to increase as the country continues its demographic and epidemiological transition (<http://www.eminence-bd.org>).

- vii) *Mental Health:* In Bangladesh, mental health is not seen as a priority concern, even though there have been reports that as many as 14.5 million Bangladeshis are in need of treatment for their mental health problems. The country currently has only 134 psychiatrists to treat this huge number of possible patients, and rural people

suffer even more from the lack of mental health care than urban people (IRIN, August, 2011).

Many of the people who endure natural disasters in Bangladesh suffer from conditions such as post-traumatic stress disorder, but there is no focus on mental health issues in disaster mitigation programmes. For example, the Climate Change and Health Promotion Unit (CCHPU) under the Ministry of Health and Family Welfare has many activities, and they also talk about comprehensive psycho-social support, but there is no clear vision or activity about this.

viii) *Tobacco use*. One of the most common tobacco products in Bangladesh is the 'Bidi', a hand-rolled cigarette made up of unrefined tobacco, which accounts for 75% of the cigarettes sold in the country. Due to their cheap price, bidi are especially appealing for the poor. Each year in Bangladesh, about 57,000 people die from tobacco-related diseases, and a further 1.2 million people suffer from some sort of tobacco-attributable disease. About 16% of all deaths among people age 30 years and above are attributable to tobacco use. The indirect cost of tobacco use (which includes loss of income from death or disability due to tobacco-related illnesses) is approximately US\$650 million (Bangladesh: Tobacco burden facts, April, 2010).

ix) *Road traffic accidents*. In Bangladesh, an average of 52 people die in road traffic accidents every day, and around 1000 people are injured (Tale of Endurance (October-December, 2011). Of all the accident victims, about 50% are pedestrians. There are many reasons for these accidents, including speeding, overloading, and dangerous overtaking. Another important reason is that in Bangladesh there is no separate route for bicycles or rickshaws. The rural poor bear the brunt of the burden (Ministry Of Communications, 05/10/11). Road traffic accidents can be avoided by proper legislative provision, enforcement of the laws, good road and vehicle conditions, and adequate emergency health care.

c) **On-going work on SDH**

There are literally thousands of National and International NGOs working alongside the government of Bangladesh on different aspects of the social determinants of health. The focal areas of this work are many and varied, ranging from social enterprise, education, community empowerment, legal empowerment, microfinance, road safety, gender justice, infectious diseases and vaccinations, reproductive health, nutrition, HIV/AIDS, water and sanitation, agriculture and livestock development, housing and environmental development, poverty eradication, sustainable development, humanitarian assistance in disasters, and climate adaptation.

The organisations given below represent some of the larger groups; this is not in any way, however, a comprehensive list, either of the organisations, or of the issues.

- i) *Microfinance*: BRAC is a major NGO that was established in Bangladesh in 1972, and which has become an international development agency working in 10 countries. Most of its work is connected to SDH issues, with one of the largest programmes being microfinance. Started in 1974, this programme covers the whole country, helping the landless poor, marginal farmers and vulnerable small entrepreneurs, and with a particular focus on women (BRAC, 2011).

The Grameen Bank is another major microfinance organisation, for which its founder Dr. Muhammad Yunus received the Nobel Peace Prize in 2006. This programme has had a huge impact on poverty, by giving loans to the poor without any collateral – a total different approach from conventional banks. With 2,565 branches throughout the country, Grameen Bank serves mainly women, who constitute 97% of all their borrowers. The bank gives loans to groups of women, consisting of at least five members, so they can work together and support the repayments to the bank. If one member cannot afford to pay back then the other members help her, thereby ensuring a mutual support network that benefits everyone involved (Grameen Bank; October, 2011).

- ii) *Malnutrition*: CARE and USAID work to reduce malnutrition among children in Bangladesh. The program SHOUHARDO aims to empower women to reduce child stunting. SHOUHARDO was the largest non-emergency USAID food security program in the world (News room- CARE, 2012).
- iii) *Disaster management*: The government of Bangladesh has a Disaster Management Bureau under the Ministry of Food and Disaster Management. Disasters, such as droughts, flood or cyclone, are major social determinants of health in Bangladesh, with particular geographical areas being especially vulnerable, and certain groups of people within these areas more likely to be seriously affected. The Bureau works with thirteen ministries and agencies in planning and responding to disasters, in several phases: (i) Normal Phase, when there is no immediate threat, but long-term actions are required in anticipation of the impact, at some unknown time in the future, of known hazards; (ii) Alert and Warning Phase, when the population is made aware of an imminent disaster threat by issuing alerts and public warnings; (iii) Disaster Phase, which is the period when disaster strikes; and (iv) Recovery Phase, which focuses on rehabilitation and recovery from the effect of disaster (Government of People's Republic of Bangladesh, accessed 10 October, 2012).

BRAC also works during the emergency phase of natural disasters by quick responses. They provide relief and arrange for rehabilitation of affected populations. BRAC training teams also deliver training on hazards and risk reduction, with the aim of damage limitation when disasters strike (BRAC, 2011).

The Swiss Agency for Development and Cooperation SDC is another actor working for disaster risk reduction, through public awareness and preparedness, and also capacity development (The Swiss Agency for Development and Cooperation, accessed 9th September, 2012).

- iv) *Gender*: In Bangladesh, gender status is a major social determinant of health. One of the pioneer organizations for women in Bangladesh is *Bangladesh Mahila Parishad* (BMP), which means ‘Bangladesh Society for Women’. BMP works to eradicate all sorts of discrimination against women, and to empower women at local and national levels. Their working areas are to eliminate violence against women; to encourage political empowerment for women; to secure women’s human rights, and their development and equality (for example, equal pay for equal work); and to accelerate the women’s rights movement through intensified networking regionally, nationally and globally.

BMP focuses on the poor and vulnerable, on such issues as desertion, divorce, dowry, and polygamy. They file cases for criminal activities like rape, murder and trafficking, and seek to bring the culprits to justice. As part of this work, they have a temporary shelter and rehabilitation centre for those women and girls who suffer due to violence. They also help women with clinical and legal issues (Bangladesh Mahila Parishad (BMP), accessed date October, 2012)

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) claims to be the first organization that addresses gender discrimination in the context of childhood mortality, child nutrition, intra-household food distribution, and health-seeking behaviour. Through their action research agenda, they have also expanded their work into the fields of violence against women, and women's empowerment more broadly. They work with various different sectors, including health providers, legal service providers, and community mobilisers (ICDDR,B, accessed September, 2012).

- v) *Health sector*: Recently, a Multi-Donor Trust Fund Grant Agreement has been signed between Bangladesh and a group of donors led by the World Bank, aimed at developing the country’s health sector. The donors include the Australian Agency for International Development (AusAID); the Department for International Development (DFID), the Swedish International Development Agency (Sida), the U.S. Agency for

International Development (USAID), the Canadian International Development Agency (CIDA); the Federal Republic of Germany through KfW; and the Embassy of the Kingdom of the Netherlands (EKN).

This programme will be on-going for next five years. Its objective is to improve the health status of the population, especially women, children, the poor and the marginalized. It will cover mainly emergency obstetric and newborn care services, as well as the nutritional status of pregnant mothers and their children. It will also focus on strengthening health sector planning, resource management, human resources development, management of pharmaceuticals, health information systems, and the maintenance of health care facilities. (World Bank, September 12, 2012)

d) SDH-related policies in Bangladesh

Effective national policies are critically important if low-income countries like Bangladesh are to address their SDH challenges. In Bangladesh, in spite of the many problems and wide-scale suffering that people face, they are often not aware of their rights, or of the fact that their poor situation could, given the right help, be improved. Due to a general lack of self-efficacy or control, they often passively accept their situation.

Since SDH issues by definition impose the greatest burdens on the poor, disadvantaged, and marginalized people, and since these people are often unable to comprehensively improve their own life situation, it is the responsibility of government to help them to secure their fundamental human rights, as well as their rights as citizens. In Bangladesh there are many policies that are related directly or indirectly to SDH issues. These range from issues of health, nutrition, agriculture, water, forestry, and poverty mitigation; though climate-related policy increasingly also covers all these topics and more.

It is not possible to include all the SDH-related policies in this report, so a sample of the SDH-related policies that have been produced in Bangladesh is given below.

i) Health Policy (2011)

This policy focuses on:

- Primary health care and emergency health care for all
- Spreading and increasing the availability of publicly-funded health care on the basis of equality
- Prevention, treatment, and mitigation of diseases.

Bangladesh has made many improvements in the health sector, but much more needs to be done. The national Health Policy aims to address these issues, with support from the Strategic Plan for Surveillance and Prevention of Non-Communicable Diseases in Bangladesh 2011-2015, and the Sixth Five Year Plan (2011-2015),

In Bangladesh there is currently no policy for mental health, although there are reports of moves towards tabling a Mental Health Act in parliament. WHO has suggested that Bangladesh allocates 5% of the health budget to mental health, whereas currently only 0.44% of the health budget is given over to mental health issues.

ii) National Policy For Arsenic Mitigation (2004)

In Bangladesh most of the people depend on ground water for drinking purposes, but in many areas of the country, the water has been contaminated by arsenic. There is a great deal of suffering associated with arsenic poisoning, including some who go on to develop cancer. Only way to avoid arsenic is to supply arsenic-free drinking water. Arsenic mitigation mainly focuses on:

- Public Awareness
- Alternative Arsenic-Safe Water Supplies
- Diagnoses and Management of Patients
- Capacity Building

To mitigate the problem, this policy stresses the coordination of activities of government ministries and other agencies. The National Policy for Arsenic Mitigation was implemented by the Arsenic Policy Support Unit (APSU) and a National Committee for the Implementation Plan for Arsenic Mitigation (IPAM). However, today the APSU no longer exists and the committee is inactive. Policies for the three different sectors affected by arsenic contamination in the ground water, namely the National Agriculture Policy, National Water Policy and National Health Policy, do not include provision for arsenic mitigation. (UNICEF Bangladesh, 11 March, 2010)

iii) Bangladesh Population Policy

In the 1970s, population growth was identified as the “number one problem” of the country. This policy was outlined during that time, and it has, among many others, the following objectives:

- To attain Net Reproductive Rate (NRR) equal to one by the year 2010 in order to stabilize the population size by 2060
- To address the causes of maternal mortality
- To reduce child mortality, disability and blindness
- To ensure population development linkages and participation of different ministries in implementing population related activities
- To encourage and motivate adolescent girls who have gone through early marriages in implementing population related activities;
- To encourage and motivate adolescent married girls not to conceive before the age of 20 years

- To ensure people’s right of free access to information relating to reproductive health education and associated facilities
- To ensure gender equity and empowerment of women.

iv) Health Population And Nutrition Sector Development Program (HPNSDP), 2011-16

The government of Bangladesh has been implementing HPNSDP for July 2011 to June 2016 after the successful HPSP (1998-2003) and HNPSP (2003-2011) programs. This policy is being implemented by MOHFW, DGHS, DGFP and other agencies through 32 operational plans. The total estimated cost of the Program over the five years is US\$ 7.7 billion.

v) National Food Policy Plan Of Action (2008-2015)

This policy provides strategic guidance to achieve food security, in terms of food supply and availability; physical, social and economic access to food; and also nutrition /utilization of food. This policy has three major areas, including:

- Adequate and stable supply of safe and nutritious food.* This objective concerns the efficient and sustainable increase of food availability, and control over the food market efficiency. It focuses on agricultural issues like technological development, fertilizer, pest management, crop management, insurance, harvest management and so on. It also tries to secure the water management during harvest time, to reduce irrigation costs, and to work towards effective warning systems.
- Increased purchasing power and access to food of the people.* This objective concentrates on several issues related to disaster management (for example in relation to cyclones and associated floods) and agriculture, emergency food coverage, and food security.
- Adequate nutrition for all individuals, especially women and children.* This objective aims to make a healthy nation by providing adequate, balanced food over the long term.

vi) Bangladesh Climate Change Strategy And Action Plan (2008)

Climate change is already having a drastic effect on the lives of many Bangladeshis. To minimize this impact, there are numerous projects, and action has been taken by government as well as national and international NGOs. According to the Honourable Prime Minister of Bangladesh, Sheikh Hasina, a series of action plans have been undertaken by the government to mitigate the problems related to climate change (Hard talk, BBC). These build on the than \$10 billion that have been invested over the last 35 years by the government and other development partner to minimize the impact of natural disasters, such as cyclones, floods, storm surges and so on. The current strategy looks ahead for the next 20 to 25 years, with six main pillars of action:

- a) *Food security, social protection and health*. This pillar focuses especially on protecting the most vulnerable in the society from the effects of climate change. The programs stress the need of food security, housing, employment and access to basic services and health.
- b) *Comprehensive disaster management*. This works to prepare the country to face the frequent and severe effects of natural disasters.
- c) *Infrastructure development*. This pillar of action looks after the infrastructural development in coastal areas, ensures that adequate river embankments are built, and that cyclone shelters and urban drainage are developed and maintained.
- d) *Research and knowledge management*. The focus here is on all the ongoing research and predictions about the climate impacts. The country runs a national knowledge networking with links to other regional governments and groups, so as to keep up to date with the latest scientific work on climate change. The idea is to develop a ‘climate-proof’ national development plan.
- e) *Mitigation and low-carbon development*. Bangladesh does not produce that much greenhouse gas, but still the country wants to control emissions. There is a strategic energy plan, which includes expanding and supporting the social forestry program.
- f) *Capacity building and institutional development*. The work here aims to enhance capacity for climate issues in government ministries, civil society, and in the NGO sector.

vii) National Road Safety Strategic Action Plan, 2011 – 2013

This Action Plan aims to ensure that road accident fatalities are decreased by 50% within next 10 years, and that the number of road accidents will fall by 30%. The Plan includes nine road safety issues, as follows:

- Planning, management and co-ordination of road safety
- Establishing a road traffic accident data system
- Road safety engineering
- Road and traffic legislation
- Traffic enforcement
- Driver training and testing
- Vehicle safety
- Road safety education and publicity
- Medical services for road traffic accident victims

viii) National Women Development Policy (2011)

The main goal of the Women Development Policy of 2011 is to ensure that equal rights are provided for men and women. This includes giving women guarantees about their human rights, their equal and full participation in society (including issues of political and economic participation and land ownership), providing them with proper education, eradicating female

poverty, eliminating all discrimination and violence against women, and ensuring nutrition and health for women.

This policy also talks about inheritance rights for women, though this needs to be stated carefully within the context of Islamic law that also prevails in the country, since the religion has some different views about inheritance rights for women.

ix) National Strategy For Accelerated Poverty Reduction, 2009 – 11 (Revised)

This is the second Poverty Reduction Strategy Paper (PRSP), made in the light of the Election Manifesto of the ruling party (Bangladesh Awami League). In this strategy, the government focuses on five key areas, including:

- Maintenance of macroeconomic stability
- Action to eliminate corruption
- Sufficiency in power and energy
- Eliminate the poverty and inequality
- Establishment of good governance

7. Summary and Recommendations

This report has presented material on a range of SDH-related issues in Bangladesh. These have included the general country context; the post graduate training that is available; an analysis of some of the main SDH issues; details of a few organisations working on SDH; and a number of SDH policies that have been put in place by the government.

This final section summarises the main points that have emerged from this material. It also identifies a series of recommendations, both for SDH policy makers and implementers in Bangladesh, and for the INTREC SDH training programme.

a) Summary points

- 1) *A huge population*: Around 161 million people live in Bangladesh, and in spite of a solid record of economic development over the last 15 years, 47 million (29%) of these people continue to live below the poverty line.
- 2) *Demographic and epidemiological transition*: The on-going demographic changes in the country – with an aging population – are bringing about a double burden of disease, in the form of increasing prevalence of non-communicable diseases alongside sustained and unacceptably high levels of infectious disease.
- 3) *Other major SDH concerns* in the country include:
 - a. *Gender inequity*: gender inequity has serious consequences for the country, with women in all socioeconomic levels facing severe discrimination in education, health care, employment, and social status.
 - b. *Human resources for health*: Bangladesh has a much lower proportion of health care professionals per head of population than the other major South Asian nations, such as India, Sri Lanka, and Pakistan. Opportunities for health care are also limited in most rural areas of the country, largely due to understaffing.
 - c. *Climate change*: The country's low-lying geography, and its vulnerability to severe storms places tens of millions of people at annual risk of natural disasters, in the form of cyclones and flooding. The scale and severity of these natural disasters is likely to grow in the short to medium term as climate change takes hold. As many as 30 million Bangladeshis are predicted to 'lose everything' as a result of climate change.
 - d. *Arsenic*: Arsenic contamination of drinking water is very common in the country. There are more than 8,000 villages where 80 per cent of tube wells are contaminated, with severe health effects experienced by as many as 7 million people.

- 4) *Millennium Development Goals*: Good progress has been made with several of the MDGs, including falls in child and maternal mortality, increases in primary school enrollment, and improved management of tuberculosis and malaria.
- 5) *SDH training (un)availability*: There are 18 university departments in the country that offer courses on issues somehow to do with social determinants of health, most of these as components of a Masters degree programme. SDH-related courses are also offered by some of the larger NGOs working in the country. However, none of the courses are explicitly SDH-oriented, and the term ‘social determinants of health’ rarely if ever appears in course literature.
- 6) *Civil society and SDH*: Literally thousands of NGOs work in the SDH field in Bangladesh, and some have initiated internationally groundbreaking work – perhaps most notably in the field of microfinance. The range of issues and population groups that these groups work with is enormous, and the organisations range in size from very small to major international organisations.
- 7) *SDH-related policies*: a raft of good, SDH-related policies exists, focusing on the full range of issues, from health, nutrition, agriculture, water, forestry, and poverty mitigation. However, a widespread lack of effective implementation has significantly reduced the impact of these policies. This has been caused by such issues as corruption (Bangladesh is ranked 120th most corrupt out of 183 countries, by Transparency International), poor infrastructure, mismanagement, and political opposition.

b) Recommendations

For policy makers

- 1) *Implement SDH-related policies that are already in place*. There are many good policies in place in Bangladesh, but these have not been implemented fully for a variety of reasons. The specific reasons need to be investigated on a case-by-case basis, and, where action is deemed to be feasible and there is seen to be a chance of success, the situation must be rectified and the policy implemented.
- 2) *Address corruption*. The health sector is one of the most corrupt in Bangladesh. A culture needs to be instilled within the health service which firmly discourages corruption. This could be effected by laying criminal charges against those engaging in corrupt practices, and by ensuring that health workers are properly remunerated, thereby making them less inclined towards corrupt behaviours.
- 3) *Address the Human Resources for Health crisis*. This will include training and appointing more qualified health professionals, ensuring that they are distributed more evenly across the country, motivating them properly through proper pay and conditions, and providing them with adequate supplies for their work. This needs to be focused specifically in the currently underserved rural, and poor urban areas.

For INTREC

- 1) *Run an SDH-specific course:* There are many university departments which run courses on SDH-related issues, but the courses are not run explicitly through an SDH lens, either conceptually or practically. INTREC can contribute to conveying the meaning and importance of SDH within the context of Bangladesh by running an SDH-specific course.
- 2) *Promote research* on specific SDH issues that are relevant within Bangladesh, including: gender, NCDs, rural poverty, slum life, mental health, ageing, arsenic contamination, tobacco, and natural disasters.
- 3) *Collaborate with and learn from pre-existing SDH-related courses:* These should include both those taught at universities and those run by NGOs. Examples of these are the ICDDR,B course on “*Epidemiology, Clinical Management and Prevention of Diarrhoeal Diseases and Malnutrition*”; and the “*Introductory Course on Healthcare Financing*” run by the James P Grant School of Public Health at BRAC University.
- 4) *Instigate an exchange programme between INDEPTH sites:* Offering INDEPTH scientists the opportunity to spend periods of time in other South Asian HDSS centres would allow for the development of an understanding of specific social determinants – for example, gender – as experienced within somewhat different cultural contexts. Through this, collaboration over the main SDH issues affecting the region as a whole would be fostered.

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Acknowledgements

The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under the grant agreement 282605.

For administrative support, we are grateful for the services of Lena Mustonen.

Annex 1 – Table of SDH-related courses

Name of the Institute/University	Course Offered	Name and contact details of course organiser	Name of SDH-related course	Topics covered in the course	Teaching Methods	Special feature
Bangladesh Institute of Health Sciences	Master of Public Health in Community Nutrition (MPH-CN)/ Master of Public Health in Health Education and Health Promotion (MPH-HEHP)/Master of Public Health in Noncommunicable Disease (MPH-ND)/ Master of Public Health in Epidemiology and Biostatistics (MPH-Epi and Bio)	125/1, Darus Salam Mirpur Dhaka-1216, Bangladesh. Telephone: 8055312, 9010654 Fax: 880-2-8611138 E: lali@dab-bd.org	Demography and Population Dynamics	It covered population dynamics, Population of Bangladesh overtime, Population distribution, Mortality, Fertility, Migration, Population trends and policies of Bangladesh	Not mentioned	Lecture, Training, Field work (Hospital attachment, Clinical attachment)

			Community Nutrition	<p>This course includes- Concept of Community Nutrition, Fundamentals of food and nutrition, Common nutritional problems - Macronutrient Malnutrition: Micronutrient malnutrition</p> <p>Management of malnutrition at the community level, Infant and young child feeding (IYCF) , Adolescent nutrition, desirable nutritional statuses for adults</p> <p>Maternal nutrition, Assessment of nutritional status and Growth Monitoring and Promotion (GMP), Food hygiene and food safety</p> <p>Nutrition in emergency, Nutrition education , Nutrition strategies, policies and Programs, Nutrition survey.</p>		
The National Institute of Preventive and Social Medicine (NIPSOM)	MPH in Community Medicine (CM)/ Epidemiology (Epid)/ Management (HM)/ Health Promotion and Health Education (HP & HE)/ Occupational and Environmental Health (OEH)/ Nutrition (Nutri)/ Public	Mohakhali, Dhaka -1212, Bangladesh. Tel: 880-2-8821236, 880-2-9898798 Fax: 880-2-9898798 E-mail: nipsom@dhaka.net director@nipsom.org	Community medicine and Primary Health Care Health Promotion: Behavioral Sciences	<p>This course covered the following topics – Development of community medicine, Health and disease, community medicine, clinical medicine, community diagnosis, community treatment, community participation and responsibilities, community health care programme, indicators and determinants of health, primary health care, national and international organization, public health importance of smoking, drug abuse, mental disease, rational use of drug</p> <p>This course mainly stress on four topics – health promotion, health education, behavioral sciences and medical sociology</p>	Not mentioned	Lecture based

	Health Administration (PHA)/ Reproductive and Child Health (RCH)					
School of Public Health, Independent University, Bangladesh	Master of Public Health (MPH)	House # 27, Road # 12, Baridhara, Dhaka-1212 Visit us at our Web-site: www.centers.iub.edu.bd/chpd/mph Or call: Tel: 880-2-9884498, 9881917, 8852720/26/28 Ext: 223 Email: nipon04@iub.edu.bd	Introduction to Human Health and Disease Natural Hazards, Risk Assessment & Disaster Management The Psycho-social dimensions of Behavioral Health	Basic biology of major organ systems and health implications –brain heart, lungs, gastro-intestinal system, kidney, reproductive organs, skin etc. Epidemiology of major health problems from a national, regional and global context, risk factor distribution by age, gender, economic status etc and preventive approaches, epidemiological transition from acute to chronic diseases, exploration of hiv, its biology, risk factors, and socio-economic consequences. Its emphasize on the natural hazards and its impact on the life and environment which covered context and methods for risk assessment, types of data needed for risk assessment, uncertainties and institutional arrangements for risk assessment, quantitative and qualitative approaches to the identification, characterization and control of environmental hazards to life and health, case studies of cyclones, floods, famines and earthquakes. This course focused on psychosocial dimensions of behavioral health mainly for developing countries like bangladesh. Its covered - epidemiology of the major classes of behavioral health problems (mood disorders,	Not mentioned	Lecture based

				anxiety disorders, psychotic disorders etc.), socio-economic-demographic-cultural risk factors, ethical issues in psycho-social health, potential public health strategies and approaches (individual, group and family interventions), community awareness and education strategies to sensitize and de-stigmatize these conditions, critiques of community health programmes of Bangladesh and the regions, gaps, constraints and opportunities in current health and population policies.		
University of Dhaka	Development Studies	University of Dhaka, Dhaka-1000, Bangladesh Phone: +880-2-9661920, Ext-6791 Fax: +880-2-8615583 Email: developmentstudies.du@yahoo.com Website: www.devstud-udhaka.ac.bd	Politics and Development Anthropology and Sociology of Development Colloquium in Development Policies of Bangladesh	To understand the process of politics and know the change of development of the society this course offered few topics which focuses on - Development Studies, Colonialism, State, Globalization, Governance, NGOs, Political Institutions, Corruption, Public Policy Making, Democracy and Development, Peace Building, Ethnicity It focuses anthropological issues- health, population and sociology of development in third world. Which talks about the historical, political, economic, cultural, and sociological relationships that have contributed to the current world inequality. To know issues related to policy and development issues in Bangladesh -trade liberalisation and its implication on Bangladesh's poverty reduction, Millennium Development Goals, poverty reduction strategy, fiscal issues, micro credit, corruption and development, governance, and transition in development policies in Bangladesh	Aidan Foster Carter, 1985. The Sociology of Development, Causeway Press. Gardner, Katy and David Lewis. 1996. Anthropology, Development and the Post-Modern Challenge. Chicago, IL: Pluto Press.	Classroom teaching. Essay writing, workshops, teamwork, Study visits and computer - practice.

BRAC University	Master of Development Studies (MDS)	<p>66 Mohakhali Dhaka 1212 Bangladesh Telephone, Fax:</p> <p>Ph: +88 (02) 8824051-4 (PABX) (Information Desk ext. 4003), +88 (02) 9853948-9</p> <p>Fax: +88 (02) 8810383</p> <p>info@bracu.ac.bd (General information) registrar@bracu.ac.bd (Registrar)</p>	<p>Poverty Concept, Measurement and Policy</p> <p>Gender and Development</p>	<p>The objective of this course is two-fold: (a) to apprise the students of the conceptual framework underlying the current discussions on poverty, and to (b) introduce some of the issues related to its measurement</p> <p>This course situates the study of gender and development in both an academic social science context and in the context of policy-making and implementation.</p>	Not available	Not mentioned
Independent University	MSS in Development Studies	<p>Plot 16 Block B, Aftabuddin Ahmed Road Bashundhara R/A, Dhaka, Bangladesh Phone:+88-02- 8401645-53, 8402065-76 Fax: +88-02- 8401991, E-mail: info@iub.edu.bd</p>	<p>Poverty and Social Inequality (Compulsory for Poverty and Rural Dev.) –</p>	<p>This course explain the approaches and defines and assess the poverty and social inequality.</p>	No reference on web	Lecture

			Environment and Development	It's focuses on environmental issues Sustainable Development and Economic Growth; Importance of People's Participation; Conservation and Enhancement of Ecosystem; Carrying Capacity; Development and Human Health; Population pressure, Poverty and Environment; Environmental Conventions and Laws.		
			Gender Issues and Development	This course focus on the gender and policy issues where they covered- Empowerment and Conscientization of Women; Gender and Planning process; Women and Development (WAD); Women in Development (WID); Gender, Environment and Development (GED); Gender and Development (GAD); Patriarchy and Misogyny; Feminism		
East West University	Development Studies		Gender and Development	It includes how gender relations, gender roles and gendered outcomes are playing to the development process. Gender construction, empowerment, mainstreaming and the possibilities for change	Not available on web	Lecture, Internship/ Field Work
			Disaster Management	It focuses on -physical forces that result in disasters, disaster preparedness and response, delivery of health care to displaced populations, Post-disaster loss management, post-disaster needs and development of approaches and programs to speed relief, response, warning and evacuation, reconstruction		
East West University	Master of Population, Reproductive Health, Gender and	The Registrar's Office Plot No-A/2 Main Road, Jahurul Islam City	Introduction to Population Studies	This course covered - fertility, fecundity, mortality, morbidity, migration, urbanization and worlds and regional population trends and patterns.	Not mentioned	Not mentioned

	<p>Development (MPRHGD)</p>	<p>Aftabnagar Dhaka-1219 Bangladesh Tel: +880-2-8811381, +880-2-9882308 Fax: +880-2-8812336 E-mail: admission@ewubd.edu, info@ewubd.edu</p>	<p>Population and Poverty</p> <p>Population Ageing</p>	<p>It focuses relationships between population and poverty and gender dimensions of poverty. Which covered - theoretical and empirical relationship between population and economic growth, population and poverty reduction, population and savings and investment, population and human resource development at national and household level; concept and interpretation of demographic bonus/window of opportunity and relationship between demographic bonus and economic growth; role of policies and programmes in translating window of opportunity emerging fertility and morality decline into economic growth, relationship between reproductive health and poverty, poverty and mortality, paradigm shift in concept and definition of development from income consumption to autonomy and dignity, world, regional and national trend in gender and poverty and national (IPRSP/PRSP/National Development Plans) and international instruments (WSSD, MDG) on poverty reduction.</p> <p>The course covered global, regional and national trends and prospects of ageing, causes and challenges (demographic and social including health) of ageing and its implications on economy and service delivery, lessons learnt on population ageing from developed countries, changing role of the family and community in providing support and national and international policy responses to population ageing.</p>		
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Annex 2 – Selected articles from the Literature Review

Reference/ title of article	Name and contact details of first (or other main) author	Objective of study	Methods	Findings	Recommendations
Impact on arsenic exposure of a growing proportion of untested wells in Bangladesh Environmental Health 2012, 1:7 doi:10.11 86/1476- 069X-11-7 http://www.biomedcentral.com/content/pdf/1476-069X-11-7.pdf	Christine Marie George, Joseph H Graziano, Jacob L Mey and Alexander van Geen Department of Environmental Health Sciences, Mailman School of Public Health, Columbia University, New York, NY, USA. Lamont-Doherty Earth Observatory of Columbia University, Palisades, New York, USA.	The household drinking water survey was conducted to determine the status of wells used six years after a blanket testing campaign for As swept through the area.	1) a sizeable household drinking water survey paired with the collection of geographic data; and 2) testing of a subset of wells of unknown status with a field kit by trained village workers as well as laboratory measurements. The first phase of the study was a household drinking water survey conducted in 26 villages; this survey did not involve well testing. The second phase of the study was an As testing intervention in which village workers conducted field As measurements for 1000 randomly selected study households using a well of unknown status. The household drinking water survey was administered to all 6646 households in the 26 villages that could be contacted from November 2009 to January 2010	3739 respondent (56%) expressed that their well did not tested by anyone on the other side 2424 respondents (37%) respondent mentioned that their well had been tested and 483 respondent (7%) did not have any idea that their well was tested or not. The household survey shows that more than 80% of the wells installed since the national testing campaign in this area were untested. Less than 13% of the households with untested wells knew where a low-As well was located near their home. Village workers using the Hach EZ kit underestimated the As content of only 4 out of 795 wells relative to the Bangladesh standard. However, the As content of 168 wells was overestimated relative to the same threshold.	This result showed that there is an emergency needs to tested the water in arsenic affected area and trained village worker can do this.

<p>2-Bangladesh: 77m poisoned by arsenic in drinking water</p> <p>19 June 2010</p> <p>http://www.bbc.co.uk/news/10358063</p>	<p>BBC News South Asia</p>	<p>Focus on the dangerous effect of arsenic in drinking water.</p>	<p>News report</p>	<p>Nearly 90% population of Bangladesh uses ground water. Researcher expressed that up to 77 million people have been exposed to arsenic water. Within 10 years period nearly 12,000 people were assessed by researcher. Among these population 20% cuses of dying was the naturally occurring poisonous element. According to WHO the arsenic exposure is "the largest mass poisoning of a population in history" which has began in the 1970s when people has started to use ground water. Long term uses of arsenic water causes of cancer of the bladder, kidney, lung or skin.</p>	
<p>3-Arsenic exposure from drinking water and mortality in Bangladesh.</p> <p>Correspondence</p> <p>www.thelancet.com Vol 376 November 13, 2010</p>	<p>Marie Vahter, Nazmul Sohel, Kim Streatfield, Lars Åke Persson</p> <p>marie.vahter@ki.se</p> <p>Institute of Environmental Medicine, Karolinska</p> <p>Institutet, 171 77 Stockholm, Sweden (MV);</p> <p>International Centre for</p>	<p>To assess the association between arsenic in drinking water and mortality in rural Bangladesh.</p>	<p>A cohort study where 11 746 participant had chosen between 2000 and 2002 and followed up every other year.</p>	<p>The report mentioned that The Health Effects of Arsenic Longitudinal Study (HEALS) presence of arsenic increased the mortality in Bangladesh. Even low concentration of arsenic in water also increased non-accidental mortality (adjusted hazard ratio 1.16, 95% CI 1.06—1.26). Risk of cancer, and infectious diseases, cardiovascular death also increased due to arsenic in water.</p>	

	<p>Diarrhoeal Disease</p> <p>Research, Dhaka, Bangladesh (KS); and International Maternal and Child Health, Department of Women's and Children's Health, Uppsala University, Uppsala, Sweden</p>				
<p>4-Causes of Death of Adults and Elderly and Health care seeking before Death in Rural Bangladesh.</p> <p>J Health Popul Nutr, v.28(5); Oct 2010</p> <p>PMC2963775</p> <p>http://www.ncbi.nlm.nih.gov/pmc/article</p>	<p>Nurul Alam, Hafizur Rahman, Chowdhury, Monirul Alam Bhuiyan, and Peter Kim Streatfield</p> <p>Dr. Nurul Alam</p> <p>Health and Demographic Surveillance Unit Public Health Sciences Division</p>	<p>The objectives of this study were to determine the burdens of health due to major causes of death obtained from verbal autopsy of adults and the elderly and their healthcare-seeking patterns before death in a well defined rural</p>	<p>Trained interviewers interviewed close relatives of the deceased using a structured verbal-autopsy questionnaire to record signs and symptoms of diseases/ conditions that led to death and medical consultations before death. Two physicians independently assigned the underlying causes of deaths with disagreements resolved by a third physician.</p> <p>A public health physician and a medical demographer trained 3 male and 3 female field research assistants on the method of verbal autopsy. These trained research assistants took information from the closest people of the</p>	<p>3,129 deaths occurred in the HDSS area during 2003-2004 among them 19.6% were adults aged 15-59 years, and 57% were elderly aged 60+ years. Among these people 66% people died due to non communicable disease. the main non communicable disease were circulatory system (35%), neoplasms (11%), diseases of the respiratory system (10%), diseases of the digestive system (6%), and endocrine and metabolic disorders (6%). Injuri and other causes occurred 5% of the deaths. Only 31% of the adults and 25% of the elderly went to take treatment from medical doctors.</p>	

s/PMC2963775/?tool=pubmed	ICDDR,B Mohakhali, Dhaka 1212 Bangladesh Email: nalam@icddr.org Fax: 88-02-8826050	population.	deceased person by the using of VA questionnaire within 6-12 weeks after the date of death.		
5- Epidemiologic al transition in rural Bangladesh, 1986-2006 Glob Health Action. 2009; 2:10.3402/gh a.v2i0.1904. Published online 2009 June 19. doi: 10.3402/gha.v2i0.1904 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2779938/	Zunaid Ahsan Karar, Nurul Alam and Peter Kim Streatfield	To understand epidemiologi cal transition in rural Bangladesh	This study aimed to assess the condition of causes of 18,917 deaths in Matlab, Bangladesh during the year between 1986 and 2006.	The result showed the trend of death in Matlab which expressed the acute, infectious, and parasitic diseases to non-communicable, degenerative, and chronic diseases during the last 20 years. It also showed that during these 20 years the death rate was dramatically decline due to diarrhea and dysentery reduced by 86%, respiratory infections by 79%. But the tuberculosis increased by 173%. On the contrary during this time mortality due to cardiovascular and cerebrovascular diseases increased by 3,527% and malignant neoplasms by 495%. Chronic obstructive pulmonary disease and injury remained in the same condition (12-13% increase).	For the better management of NCD condition government should establish proper diagnostic facilities, referral system. It needs Strategic Investment Plan and updating the health policy. Government need to allocate more budget on health sector. Behavior change communication need to be more focused to minimize this NCD problem.

<p>6-Mini Nutritional Assessment of rural elderly people in Bangladesh: the impact of demographic, socio-economic and health factors.</p> <p>Public Health Nutrition: 9(8), 968–974.</p> <p>DOI: 10.1017/PHN 2006990</p> <p>http://journals.cambridge.org/download.php?file=%2FPHN%2FPHN9_08%2FS1368980006009906a.pdf&code=8817ec51a365285174f024857fd4885c</p>	<p>Zarina Nahar Kabir, Tamanna Ferdous, Tommy Cederholm, Masuma Akter Khanam, Kim Streatfied and Åke Wahlin</p> <p>Corresponding author: Email zarina.kabir@ki.se</p>	<p>To assess the level of malnutrition among an elderly population in rural Bangladesh.</p>	<p>Data were collected for the multidimensional cross-sectional study of elderly people aged 60 years and over in Matlab, Bangladesh. Total 850 elderly people randomly selected for the interview. Participants had given interviewed by trained interviewers at their homes and they were invited to clinic for clinical examination.</p> <p>Total 625 individuals participated in the home Interview among them 473 went for clinical examination. And result only focused to them whom completed data on nutritional status.</p>	<p>Result showed that 60% of the samples were illiterate and the literacy rate is significantly higher among men compare to women. Well nourished group took three meal perday where as undernourished group consumed one meal per day. Result showed that chronic energy deficiency was found among 50% of the population.</p> <p>By the measure of Mini Nutritional Assessment this study revealed that elderly individuals in rural Bangladesh were either undernourished or at risk of malnourishment and the prevalence of protein–energy malnutrition was 26% and 62% for risk of malnutrition. Level of education, food expenditures also directly associated with the nutritional status</p>	<p>To achieve the millennium development goal “to eradicate extreme poverty and hunger”we need to focus and recognize the necessity of elderly people specially undernourished sector.</p>
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<p>7- 31 Accidents in 4 Days 46 killed</p> <p>Thursday, November 10, 2011</p> <p>http://www.thedailystar.net/newDesign/news-details.php?id=209545</p>	<p>The Daily Star(News paper)</p>	<p>To inform the road traffic accident in Bangladesh</p>	<p>News paper report</p>	<p>At least 46 people were killed and more than 200 injured in 31 road accidents in Bangladesh within 4 days during Eid time.</p>	
<p>8- 44 schoolboys die in Bangladesh road accident</p> <p>CNN, July 11, 2011</p> <p>http://articles.cnn.com/2011-07-11/world/bangladesh.truck.accident_1_prime-minister-sheikh-hasina-schoolboys-bangladesh-</p>	<p>Farid Ahmed</p>	<p>News about an accident in Chittagong</p>	<p>News paper report</p>	<p>44 schoolboys died in an accident in Chittagong during travelling by a truck which sank on the water. The age ranges of the children were 10 to 13 years.</p>	

navy?_s=PM: WORLD					
<p>9- Road Traffic Injuries: an Emerging Problem in Bangladesh Faridpur Med. Coll. J. 2012;</p> <p>http://scholar.googleusercontent.com/scholar?q=cach e:U_b67ziYDD 0J:scholar.google.com/+Road+Traffic+Injuries:+an+Emerging+Problem+in+Bangladesh.&hl=en&as_sdt=0,5&as_vis</p>	<p>SK Biswas,</p> <p>Dr. Swapan Kumar Biswas, FCPS (Surgery), MRCS (Edin), Assistant professor, Dept. of Surgery, FMC, Faridpur. Mobile:+88-01712120828. Email: Swapan_kb@yahoo.com</p>	<p>To analyze the live and other cost due to road traffic accident</p>	<p>Journal Editorial</p>	<p>This report address the police report which mentioned during 2001 to 2010a total number of road traffic accidents was 40,927 which killed person was 32,261. In 2010 in total 3,300 people were killed due to road traffic accidents and in 2011 the number of accidents rose to 5928. one third (33%) of the hospital beds were filled by injured patients in primary and secondary level hospital. Every year the estimated cost of road accident is around 7500 crore Bangladeshi taka (1 USD=82 BDT) which is 1.5% of GDP</p>	
<p>10- Lowest motor vehicle but highest road accidents in Bangladesh- Road traffic accident caused 5932</p>	<p>Arif, A.</p>	<p>Report on Bengali news paper</p>	<p>Journal Report</p>	<p>In 2011, approximately 5932 people died due to road traffic accident and 11430 people injured moderate to severely or paralysed. 54% of the cases happened among innocent, general people. The number of vehicle is very few but the RTA is the highest in this world.</p>	

<p>death during 2011.</p> <p>Amar Desh. 2012 Jan 14; page 1, column 6</p> <p>http://www.amardeshonline.com/pages/details/2012/01/14/126829</p>					
<p>11- Prevalence and correlates of smoking among urban adult men in Bangladesh: slum versus non-slum comparison</p> <p>BMC Public Health. 2009; 9: 149.</p> <p>Published online 2009 May 22. doi: 10.1186/1471-86</p>	<p>Md Mobarak Hossain Khan, Aklimunnessa Khan, Alexander Kraemer and Mitsuru Mori</p> <p>Email: Md Mobarak Hossain Khan - mobarak.khan@uni-bielefeld.de; Aklimunnessa Khan - mbeauty106@yahoo.com;</p> <p>Alexander</p>	<p>Objective of this study is to know the prevalence's of cigarette and bidi smoking and their correlation in urban slums and non-slums in Bangladesh.</p>	<p>This study used the secondary data from Urban Health Survey-2006. The data collected from six different city corporations slum and non slum area.</p> <p>Data were collected by few steps and in 3rd step they used proportional sampling</p> <p>In total 12,155 adult men attended to this survey who are between 15–59 years. Simple frequency, bivariable and multivariable logistic regression analyses were performed using SPSS</p>	<p>Overall smoking prevalence for the total sample was 53.6% with significantly higher prevalences among men in slums (59.8%) than non-slums (46.4%). Respondents living in slums reported a significantly ($P < 0.001$) higher prevalence of smoking cigarettes (53.3%) as compared to those living in non-slums (44.6%). A similar pattern was found for bidis (slums = 11.4% and non-slums = 3.2%, $P < 0.001$).</p> <p>Multivariable logistic regression revealed significantly higher odds ratio (OR) of smoking cigarettes (OR = 1.12, 95% CI = 1.03–1.22), bidis (OR = 1.90, 95% CI = 1.58–2.29) and any of the two (OR = 1.23, 95% CI = 1.13–1.34) among men living in slums as compared to those living in non-slums</p>	

<p>2458-9-149 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2705350/</p>	<p>Kraemer - kraemer@uni-bielefeld.de; Mitsuru Mori - mitsurum@sapmed.ac.jp</p>			<p>when controlled for age, division, education, marital status, religion, birth place and types of work. Division, education and types of work were the common significant correlates for both cigarette and bidi smoking in slums and non-slums by multivariable logistic regressions. Other significant correlates of smoking cigarettes were marital status (both areas), birth place (slums), and religion (non-slums). Similarly significant factors for smoking bidis were age (both areas), marital status (slums), religion (non-slums), and birth place (both areas).</p>	
<p>12- Sociodemographic Characteristics of Tobacco Consumers in a Rural Area of Bangladesh J Health Popul Nutr. 2007 December; 25 (4):456–464. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2754020/</p>	<p>Kaneta Choudhury, S.M.A . Hanifi, Shehrin Shaila Mahmood, and Abbas Bhuiya</p>	<p>This study focus on tobacco consumption in among different sociodemographic groups and understand the impact of tobacco on health in a rural area in Bangladesh.</p>	<p>A systematic random sample of 12% of 17,608 households was selected for the survey. Data were collected from 3,448 men and 3,170 women aged over 15 years. The sociodemographic characteristics which include in this study were age; education, marital status, religion, occupations, sex and so on in individual and household level. Data were analyzed by the using of SPSS software.</p>	<p>Overall, 43.4% of the study subjects were consumers of tobacco in different form. 42.2% of the respondents mentioned that they ‘smoke’ or ‘smoke and chew’, and 2.2% respondents only chewed tobacco. Bidi was consumed by both males and females. Males were more likely to consume tobacco than females which was 9.38 times higher among men than the women. People with low education consumed tobacco 3’68 times higher than the people with more education. individuals aged between 35-44 years was the pick time to increase the amount of taking tobacco.</p>	<p>Need to focus on those factors which work to discourage smoking in the context of Bangladesh. Need to massive anti-tobacco campaigns which can influence policy and individual behavior.</p>

<p>13- Dowry and physical violence against women in Bangladesh.</p> <p>http://www.icddrb.org/media-centre/news/1993-dowry-and-physical-violence-against-women-in-bangladesh</p>	<p>News from ICDDR,B</p> <p>Dr Ruchira Tabassum Naved</p> <p>ruchira@icddrb.org</p>	<p>Report about the dowry condition and physical violence in Bangladesh</p>	<p>News</p>	<p>49% ever married women victimized by physical violence. Those who gave dowry are more likely to have experience of physical violence compare to those who did not pay dowry. Patriarchal attitudes are an indicator of wife abuse.</p>	
<p>14- BANGLADESH : Gender gap, dropout rate a challenge for schools.</p> <p>IRIN humanitarian news and analysis a service of the UN Office for the Coordination of</p>	<p>IRIN humanitarian news and analysis a service of the UN Office for the Coordination of Humanitarian Affairs</p>	<p>News report</p>	<p>News report</p>	<p>By the addressing of from the Bangladesh Bureau of Statistics this news stated that 85.6 percent of primary school girls are enrolled in school. On the contrary the slum has different picture where enrolment rates are only 61 percent, and 26 percent of primary-age girls have never enrolled in a school. Referring by the UN Girls’ Education Initiative that report mentioned that girls are not able to attend school for many reasons like- lack of trained teachers; a lack of female teachers; inadequate school materials; classroom environments not conducive to girls; families living far from schools; the</p>	

<p>Humanitarian Affairs</p> <p>http://www.irinnews.org/Report/82444/BANGLADESH-Gender-gap-dropout-rate-a-challenge-for-schools</p>				<p>social perception of girls being of less value and parents consequently having limited ambitions for them; and child trafficking.</p> <p>Due to poor quality of schooling the dropout rate for both boys and girls increased from 33 percent in 2002 to 47 percent in 2006. Another thing is a policy related limited number of text book also had a big impact on children.</p>	
<p>15- Early Marriage, Age of Menarche, and Female Schooling Attainment in Bangladesh.</p> <p>Journal of Political Economy 116(5): 881-930. 2008 Published Version</p> <p>http://dash.harvard.edu/bitstream/handle/1/3200264/ambrus_earlymarriage.pdf?sequence=2</p>	<p>Erica Field and Attila Ambrus</p>	<p>Objective of the study to prove the hypothesis that women are less attain to school because of social and financial pressure to marry young.</p>	<p>Study examine the causal effect of early marriage among a representative sample of women in Matlab, Bangladesh. It included 2,101 ever-married women between the ages of 25 and 44 years.</p>	<p>The result showed that if the marriage postponed one year between the age of 11 and 16 it increased school attainment by an average of 0.22 year. In the same way this additional one year increased the adult literacy by 5.6 percent. Delayed marriage has also an impact on health seeking behavior.</p>	

<p>16- Socioeconomic factors differentiating maternal and child health-seeking behavior in rural Bangladesh: A cross-sectional analysis</p> <p>Int J Equity Health. 2010; 9: 9.</p> <p>Published online 2010 April 3. doi: 10.1186/1475-9276-9-9</p> <p>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2859349/?tool=pmcentrez</p>	<p>Ruhul Amin, Nirali M Shah, and Stan Becker</p> <p>Correspondence: ruhulamin15@yahoo.com</p>	<p>It try to test the hypothesis that “the seeking of basic curative and preventive health care services from modern trained providers by women in rural areas would be lower among mothers of lower socioeconomic strata than among those of higher socioeconomic strata”</p>	<p>This study had 3,498 participants who were randomly selected. Participants chose from 128 villages in three division. bivariate and multivariate logistic analyses administered to know the health-seeking behaviors.</p>	<p>Mothers and fathers education are highly associated with ANC behavior. Those 76.4% of mother who has more than primary education went to ANC care on other hand only 33.7% of mothers with no schooling seeking ANC from a trained provider ($p < 0.01$). post natal care has also the same picture. Economical condition is also a determinant to seek professional help for health issue. Women whose husbands had schooling level 74.5% of husband with above primary level education sought ANC from a trained provider compared to those (35.9%) women whose husbands had no schooling ($p < 0.01$). Mothers in the highest wealth quintile were more likely to go for modern health care provider for antenatal care, birth attendance, post natal care and child health care compare to lowest quintile.</p>	<p>Specific steps needs to minimize the problem of women and children of lower socio-economic status. Microcredit can be worked as a good solution for economical crisis and also can help to make health insurance.</p>
<p>17- Assessment of</p>	<p>Nazmun Nahar</p> <p>nazmun_psy@yahoo.com</p>	<p>To understand the effect of</p>	<p>Qualitative in depth telephone interviewed administered to explore the condition of</p>	<p>This study revealed that natural disaster like cyclone has many psychological impacts on population.</p>	<p>Bangladesh need to establish a unit for Psychosocial and Mental Health Committee in National</p>

<p>Professionals' View on Managing Mental Health Problems as a Result of Exposure to Natural Disaster (Cyclone) in Bangladesh</p> <p>Masters thesis 2012 Umea International School of public Health, Umeå University</p>	<p>hoo.com</p>	<p>natural disaster (cyclone) on mental health in the settings of Bangladesh and how to deal with this problem.</p>	<p>natural disaster related mental health issues in Bangladesh. Content analysis used to analyze the data.</p>	<p>post traumatic stress disorder, anxiety, panic, acute stress reaction, sad feelings can be developed due to cyclone. Lack of awareness one of the main reason to overlook the mental health problem related to cyclone. Bangladesh does not have enough mental health professional to give the mental health service for disaster affected population. Lack of awareness, lack of knowledge is the barrier to utilize the mental health support.</p>	<p>level. The country need a strong Mental health policy to deal with natural disaster related mental health problems.</p>
<p>18- Foundations of Migration from the Disaster Consequences</p> <p>Coastal Area of Bangladesh.</p> <p>Developing Country</p>	<p>Shantanu Deb Barman, Shapan Chandra Majumder, M. Ziaur Rahaman and Subrata Sarker</p> <p>E-mail: saju2016@yahoo.</p>	<p>The study try to examine the events of natural disasters that forced the helpless community for migration from selected coastal area of</p>	<p>A questionnaire survey applied on 49 people who were randomly selected</p>	<p>Coastal area of Bangladesh always faces natural disaster related problems. Lives of the population are vulnerable in this area. It impact on the settlement of the population. This study area faces flooding of land, damage of embankments, land erosion and which makes the community refugee. Respondents expressed that they faced cyclones, flood, erosion; tornado and drought. From the 1970 this area attacked by several types of natural disaster. result of the study showed that 50% people migrate to different district, 24% people migrate to government</p>	<p>Climate change makes peoples' lives vulnerable. It increases the risk of displacement and force people to move. Now it needs to recognize these people as climate refugees international laws. Its also necessary to focus on their problem. Government need to take proper step to secure the coastal people from these extreme events of climate.</p>

<p>Studies ISSN 2224-607X (Paper) ISSN 2225-0565 (Online)</p> <p>Vol 2, No.4, 2012.</p> <p>http://www.iiste.org/Journals/index.php/DCS/article/view/1749/1702</p>	<p>com, Phone: 01195111658</p> <p>E-mail: scmajumder_71@yahoo.com, Phone: 01712181339</p> <p>E-mail of the corresponding author: : scmajumder_71@yahoo.com</p>	<p>Bangladesh.</p>		<p>owned khas land, 15% people migrate to neighbor house</p> <p>and another 15% migrate to high land of study area by buying plot. They moved to other area for livelihood activities. Cyclone and river erosion forced people to migrate. Flood also significant determinant for migration.</p>	
<p>19- Health and Social Conditions in the Dhaka Slums</p> <p>University of Ottawa, Ottawa, Ontario, Canada, Development Initiatives & Communication Network, Bangladesh Country Office, Dhaka Bangladesh,</p>	<p>Tiina Podymow , Jeff Turnbull , Mohammed Aminul Islam, Mahmud Ahmed</p>	<p>To know the slum Condition related to demographics, health status and services, income, education and security</p>	<p>Here researchers administered 115-question for survey among sample of 100 heads of household living in 3 slum areas of Dhaka. Eight surveyors were trained for the survey.</p>	<p>81% did not go to school. Respondents were talking about the migration, health, living condition, nutrition and so on.</p> <p>Respondents had 296 children among them 89 of whom died. Acute and chronic health problem were reported.</p>	<p>It is necessary to create a strategy for sustainable improvements in the quality of life in slums of Dhaka city.</p>

<p>Engender Health, Dhaka, Bangladesh</p> <p>https://docs.google.com/viewer?a=v&q=c&cache:sAeQynk2fegJ:www.isuh.org/download/dhaka.pdf&hl=en&pid=bl&srcid=ADGEESj7udVHJOIY7aqO4p22SJex8svjWEKGcKFssWA4YX5rVK2oeoptNZdORy6bic</p>					
<p>20-Prevalence of Mental Illness in the Community</p> <p>The Journal of Teachers Association, June 2006; Volume 19 Number 1</p> <p>RMC, Rajshahi</p> <p>http://www.b</p>	<p>E Karim, M F Alam, A H M Rahman, A A M Hussain, M J Uddin, A H M Firoz</p> <p>E Karim, Professor, National Institute of Mental health, Dhaka.</p>	<p>Objective of the study was to find out the prevalence of mental illness in the community.</p>	<p>It was a cross sectional and descriptive study which was administered on 327 adult participants. Here researchers used self reporting questionnaire.</p>	<p>Result showed that the prevalence of mental disorders was 12.2% (122/1000 population).The prevalence of neurotic disorders was 7.0% (70/1000 population), major depressive disorder was 4.0% (40/1000 population) and psychotic disorders was 1.2% (12/1000 population). It also mentioned that women suffered more because of the mental disorder compare to men.</p>	<p>The study suggest that a nationwide mental health programme and community based approach need to manage the mental health problem in the community.</p>

<p>anglajol.info/index.php/TAJ/article/view/3163/2662</p>					
<p>21- Food adulteration rings alarm bell STAR-RDRS roundtable told most food items adulterated, pose lethal risks to public health The Daily Star, Thursday, August 11, 2011, http://www.thedailystar.net/newDesign/news-details.php?nid=198096</p>	<p>The Daily Star News paper</p>	<p>To express the dangerous food adulteration condition in Bangladesh.</p>	<p>News Paper Report- On "Hazards of Food Contamination in National Life: Way Forward" a discussion jointly organised by The Daily Star and non-government development organisation RDRS Bangladesh.</p>	<p>On discussion speech makers Mentioned that adulterated food items on the market varied between 70 and 90 percent. Discussants also mentioned that these poisonous food impacts on children's mental and physical growth and women's fertility, cause cancer, and damage vital human organs like liver, kidney, and heart. A random survey by Public Health Laboratory of Dhaka City Corporation in 2004 showed that more than 76 percent food items were adulterated. Expert mentioned that cancer, diabetes, and kidney diseases are increasing due to food adulteration.</p>	

Annex 3 – Table of on-going work on SDH

Name of group/ Institution/Actor	Web address, and name and contact details of key person/ people	Mission of group/institution	Core area of work, and possible Alliances	Accomplishments, future aims
BRAC	Research and Evaluation Division (RED) BRAC 75 Mohakhali Dhaka 1212, Bangladesh. Tel: PABX: (880-2) 9881265-72 Fax: (880-2) 8823542, 8823614 E-mail (RED): research@brac.net	BRAC’s vision is “A world free from all forms of exploitation and discrimination where everyone has the opportunity to realize their potential.”	BRAC Social Enterprise, Education, Community Empowerment Programme, Legal Empowerment, Microfinance, Awareness campaign- Road safety, Gender Justice & Diversity.	BRAC’s mission is “to empower people and communities in situations of poverty, illiteracy, disease and social injustice. Our interventions aim to achieve large scale, positive changes through economic and social programmes that enable men and women to realise their potential.”
Proshika	I/1-Ga, Section-2, Mirpur Dhaka-1216, Bangladesh info@proshika.org 8015812, 8016015, 8016759, 8015945, 8015946, 9005797, 9005795 +88028015811 http://www.proshika.org/	Vision- “PROSHIKA envisions a society, which is economically productive and equitable, socially just, environmentally sound, and genuinely democratic. “	Microcredit Programme, PROSHIKA Savings Scheme, Economic and Social Security Programme, Universal Education Programme, Training Programme, Environmental Protection and Regeneration, Health Programme, Housing Programme, People’s Cultural Programme Development Support Communication Programme, Programme on the Liberation War	Mission-“PROSHIKA’s mission is to conduct an extensive, intensive, and participatory process of sustainable development through the empowerment of the poor.”
ICDDR,B	GPO Box 128 Dhaka 1000 Bangladesh Phone: (+88 02) 9840523-32 Fax: (+88 02) 8819133, 8823116 Executive Director	To help solve significant public health challenges facing the people of Bangladesh and beyond, especially the most vulnerable, through the	Work for child health, infectious diseases & vaccine sciences, reproductive health, nutrition, population, HIV/AIDS, safe water gender	After the establishment of ICDDR,B it is continuing many research and project work to improve the health of people in Bangladesh. They work very well for child and maternal health. They have completed many successful programme for cholera and diarrheal diseases.

	director@icddr.org General enquiries info@icddr.org	generation of knowledge and its translation into policy and practice.		
Acid Survivor's Foundation	House: 12, Road: 22, Block: k, Banani Model Town, Dhaka-1213, Bangladesh. Telephone: +88(02) 9891314, 9862774, 9880142, 9886383. Fax: +88(02) 9888439. asf@acidsurvivors.org	"Bangladesh free from violence – particularly acid and other burn violence – where all survivors of violence have access to justice and are full member of the society"	Acid survivors support those people who victimized by acid. They gives support by medical, legal, social reintegration, prevention, advocacy and lobby.	ASF has got a important position to protect acid survivors. For the supporting activities they has got recognition by nationally and internationally.
ActionAid Bangladesh	House # 08, Road # 136 Gulshan-1, Dhaka-1212, Bangladesh Telephone ++88(02) 8837796, 9894331, 8835632 Fax ++88(02)8815087 Email aab.mail@actionaid.org	"A world without poverty and injustice in which every person enjoys their right to a life with dignity"	Works for child rights, promote people's rights, work to reduce poverty.	Mission: To work with poor and excluded people to eradicate poverty and injustice.
Annesha Foundation (AF)	31/2 Senpara Parbata CCDB Plot, Mirpur-10, Dhaka-1216 Bangladesh. Tel: 9005637,Fax: 880-2-9005638 E-Mail: afdhaka@bdmail.net www.annesha-foundation.org	"To help establish human dignity of the underprivileged poor people through institution building and empowerment process. Annesha Foundation (AF) measures its success with the positive changes of the people in terms of quantity and quality"	Annesha Foundation (AF) is a national NGO which works for disadvantaged and marginal poor community people lives in the underserved and coastal areas of Bangladesh. It's works for microcredit, income generating activities, non-formal education, water & sanitation, agriculture and livestock development, housing and environmental development.	

Ain o Salish Kendra (ASK) is a national legal aid and human rights organization	7/17, Block-B, Lalmatia, Dhaka-1207, Bangladesh. Phone: 880-2-8126134, 8126137, 8126047 Fax: 880-2-8126045 E-mail : ask@citechco.net Web: http://www.askbd.org	“To establish the rule of law based on the principles of equality, democracy, human rights, justice and gender equity.”	It is a national legal aid and human rights organization which works for Advocacy Initiatives, Child Rights, Community Activism, Human Rights Awareness, Human Rights Situation Monitoring, Legal Aid, Training, Psychosocial Counseling.	
Oxfam	House#4, Road#3, Block#, Banani, Dhaka-1213, Bangladesh, oxfambd@oxfam.org.uk .	Oxfam’s vision is a just world without poverty	To work with others to end poverty and injustice, from campaigning to responding to emergencies. Oxfam work to eradicate poverty and injustice. They mainly work for rights-based sustainable development programs, public education, Fair Trade, campaigns, advocacy, and humanitarian assistance in disasters and conflicts.	
Social Development Foundation (SDF)	Plot # 04 (Four), Road # 21, Sector # 04 (Four), Uttara Model Town, Dhaka-1230, Bangladesh. Phone 8963946, 8959581, 8959368, 8961096, 06662303043, 06662303042, 06662303044. Email md@sdfbd.org , zulfiqar@sdfbd.org Website address - www.sdfbd.org	'Empowering Communities to Overcome Poverty'	Work for eradicate poverty, strengthening and empower community, work for the natural disaster	“SDF enriches and sustains the lives and livelihoods of Bangladesh’s excluded hardcore poor through an integrated program of empowerment, capacity building, finance, and investment. SDF puts communities in charge of their own development and facilitates that development according to community demands.”

SKS Foundation	SKS Foundation, College Road, Uttar Horin Singha, Gaibandha-5700, Tel: +88-0541-51408, Fax: +88-0541-51492 , Cell: +88-01713484430, E-mail: sksgaibandha@tistaonline.com , Web-site: www.sks-bd.org	“A Poverty-free Society where human rights and social justice be promoted, built local capacity, eliminated gender discrimination and climate-change-vulnerability reduced.”	Livelihood Programme, Economic Empowerment, Climate Adaptation, Gender, Poverty, Sanitation, Hygiene Education and Water	SKS works with the community for improving socio-economic status, promoting gender equality through creating enabling environment. SKS implements community driven development programs; maintains close collaboration with local government and administration, line departments, civil societies, NGOs, development partners and other stakeholders to bring positive changes in the society.
UNFPA	IDB Bhaban (15th floor) E/8-A Begum Rokeya Sharani Sher - E - Bangla Nagar, Agargaon Dhaka 1207, Bangladesh GPO Box # 224, Dhaka 1000, Bangladesh Phone: +88 02 8141143 (Auto Hunting) Fax: +88 02 9131236	promotes the right of every woman, man and child to enjoy a life of health and equal opportunity	Works for - Arsenic testing and removal, Preparing for floods, Safe water, Safe Motherhood, Gender, Youth, HIV/AIDS, Reproductive Health,	
Concern Worldwide	House: 15 (SWD), Road: 7, Gulshan-1, Dhaka-1212. Phone - +88 02 881 6923, 881 8009, 881 1469 Fax no. +88 02 8817517 bangladesh.info@concern.net Website - http://www.concern.net	“works with the world’s poorest people to transform their lives”	Work for education, poverty, health, natural disaster, gender	

<p>Safety Assistance For Emergencies</p>	<p>Home Town Apartments, Flat-6D, 87 New Eskaton Road, Banglamotor, Dhaka- 1000, Bangladesh.</p> <p>Phone-880-029342718</p> <p>Cell Phone No.- 880-01730054888</p> <p>Email: safe@safe.org.bd, safebangladesh@gmail.com</p> <p>Website: www.safe.org.bd</p>	<p>SAFE community, SAFE country , SAFE’s overall vision is to ‘Making our Bangladesh Safer’ and, eventually, to expand the model to other developing countries.</p>	<p>Awareness & advocacy, children focus program, cleanup & climate change, educational seminar and workshop, emergency response, first aid booth and event medical support, flood and post flood activities, international mission, safety training and products,</p>	<p>Save lives by preventing injuries and deaths caused by natural calamities and unsafe practices at work and home, in schools and communities, and on the roads in a sustainable way through awareness, educational campaign, emergency response, product and service development, training and advocacy.</p>
<p>Bangladesh Centre for Advanced Studies (BCAS)</p>	<p>House# 10, Road # 16/A Gulshan, Dhaka- 1212</p> <p>Bangladesh</p> <p>Phone no.</p> <p>8818124-27, 9851237, 9852904</p> <p>(88-02) 9851417 (fax)</p> <p>Email-info@bcas.net</p> <p>web@bcas.net</p>	<p>Work with national and international level for action research on policy issues , resource management, conservation of the environment, ensure people’s and community participation in planning, implementation and management of resources, collaborative research with scientists , motivate and facilitate the private sector to adopt cleaner production methods, pollution abatement techniques and ensure clean environment</p>	<p>BCAS addresses sustainable development through four interactive themes: Environment-development integration, Good governance and people’s participation, Poverty alleviation and sustainable livelihoods, Economic growth and public-private partnership</p>	

		<p>and sustainable trade, enhance the capacity of civil society, private and public sectors in the areas of environment and natural resource management and promote pathways to green economy.</p>		
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Annex 4 – Table of SDH policies and policy reviews

Responsible Ministry	Name and year of policy document	SDH-relevant components (incl. details of actions, people affected, etc)	Groups/ individuals in support of policy, and why	Groups/ individuals in opposition to policy, and why	Policy Statement
The National Food Policy Capacity Strengthening Programme, Department of Public Health Engineering, Ministry of LGRD	National Policy For Arsenic Mitigation 2004	Long-term exposure to arsenic can develop some health hazards like cancers of the skin, lungs, bladder and kidney, skin lesions. This policy will help people to get safe drinking water.	Government ministries and agencies, Local government institutions, user communities in planning and delivery of services, NGOs and the private sector	Ministry of Finance	Access to safe water for drinking and cooking shall be ensured through implementation of alternative water supply options in all arsenic affected areas. All arsenicosis cases shall be diagnosed and brought under an effective management system. Impact of arsenic on agricultural environment shall be assessed and addressed.
Ministry of Health and Family Welfare Government of the People's Republic of Bangladesh	Bangladesh Population Policy This policy outline prepared by the Government of Bangladesh in 1976	“The national population policy aims at improving the overall standard of living of the people of Bangladesh through improved reproductive health reproductive health status and reduction of population growth rate. Specific attention will be given to under-served areas and vulnerable population groups.”	Government	Weak economical structure, public, lack of awareness of population,	Main theme of this policy is to make the population stable size by the reduction of birth rate.

Ministry of Women and Children Affair	National Women Development Policy-2011 Approved on 8th March 2011	It will elimination the discrimination against women	Government's, NGOs, Public	Religious activist	Main theme of that policy is provision of equal share of women in property and their opportunities in employment and business.
Ministry of Environment and Forests Government of the People's Republic of Bangladesh	Bangladesh Climate Change Strategy and Action Plan 2008, September 2008	The Change Action Plan is built on six pillars which are: Food security, social protection and health, Comprehensive disaster management, Infrastructure, Research and knowledge management, Mitigation and low carbon development, Capacity building and institutional. These policy will help people to cope with the environment	Government, NGOs, International NGOs	Finance ministry, NGOs	“to eradicate poverty and achieve economic and social well-being for its entire people. We will achieve this through a pro-poor, climate resilient and low-carbon development Strategy, based on the four building blocks of the Bali Action Plan - adaptation to climate change, mitigation, technology transfer and adequate and timely flow of funds for investment, within a framework of food, energy, water and livelihoods security”
Ministry of Health and Family Welfare Government of the People's Republic of Bangladesh	Health Population and Nutrition Sector Development Program (HPNSDP), 2011-16	Work to progress of the health, population and nutrition (HPN) in Bangladesh	The Ministry of Health and Family Welfare (MOHFW), Government of Bangladesh (GOB), DGHS, DGFP, DPs (DFID, SIDA, USAID, CIDA, EC, AusAID, Kfw, WHO, UNICEF, UNFPA, GIZ, UNAIDS, GFATM, GAVI	Finance Ministry	“The priority of the program is to stimulate demand and improve access to and utilization of HPN services in order to reduce morbidity and mortality; reduce population growth rate and improve nutritional status, especially of women and children.”

<p>Government of the People’s Republic of Bangladesh, Ministry of Communications, Bangladesh Road Transport Authority</p>	<p>National Road Safety Strategic Action plan 2011 – 2013</p>		<ol style="list-style-type: none"> 1. National Road Safety Council 2. Accident Data System 3. Road Engineering 4. Traffic Legislation 5. Traffic Enforcement 6. Driver Training and Testing 7. Vehicle Safety 8. Education and Publicity 9. Medical Services 		<p>Reduction of road accidents and casualties by implementation of adequately resourced National and District multi sectoral road safety plans under the guidance of the National Road Safety Council.</p>
<p>Food Planning and Monitoring Unit (FPMU) Ministry of Food and Disaster Management Dhaka, Bangladesh.</p>	<p>National Food Policy Plan of Action (2008-2015) Approved in August 2006</p>	<p>It’s main target to give adequate and stable supply of safe and nutritious food, increased purchasing power and access to food of the people, adequate nutrition for all individuals, especially women and children. All of this objectives give the food security of the population</p>	<p>Government, NGOs</p>	<p>Finance, Natural hazards- arsenic contamination,</p>	<p>“Attaining food security will be possible through a coordinated implementation of the programmes of all concerned ministries and agencies as set in the plan of action framed in the light of the approved food policy with assistance from the coordinating ministries”</p> <p>National Food Policy has three objectives: Adequate and stable supply of safe and nutritious food, Increased purchasing power and access to food of the people, Adequate nutrition for all individuals, especially women and children.</p>