INDEPTH Training and Research Centres of Excellence (INTREC)

Ghana Country Report

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Sheila Addei [1]

Yulia Blomstedt [2]

Margaret Gyapong [1]

Martin Bangha [3]

Raman Preet [2]

Karen Hofman [4]

John Kinsman [2]

[1] Dodowa Health Research Centre, Dodowa, Ghana

[2] Umeå Centre for Global Health Research, Epidemiology and Global Health, Dept. of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden

[3] INDEPTH Network, Accra, Ghana

[4] MRC/Wits Rural Public Health and Health Transitions Unit, University of Witwatersrand School of Public Health, Johannesburg, South Africa

Correspondence to: sheila.addei@gmail.com and john.kinsman@epiph.umu.se

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by Sheila Addei, Yulia Blomstedt, Margaret Gyapong, Martin Bangha, Raman Preet, Karen Hofman, John Kinsman
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TABLE OF CONTENTS

List of Figures and Tables
Abbreviations
1. Executive Summary 1
2. Introduction 7
3. Methods 10
   a) Ghana country context 10
   b) Curricular review 10
   c) Literature Review 11
   d) Stakeholder interviews 12
4. Ghana country profile 14
5. Review of SDH teaching curricula 23
   a) Institutions that offer SDH-related courses . . 23
   b) Summary of the available SDH-related courses . . 24
   c) Training gaps 28
   d) Internet availability for SDH education purposes. . 29
6. SDH and health inequities in Ghana 32
7. On-going work on SDH 42
8. SDH-related policies in Ghana. 46
   a) SDH-relevant policies within the health sector . . 46
   b) SDH-relevant policies outside the health sector . . 47
   c) Forthcoming policies relevant to SDH . . . 49
9. Findings from stakeholder interviews . . . 51
10. Conclusions and Recommendations 58
References 64
Acknowledgements 69

Annex 1 – Courses related to SDH offered in Ghana . . . 70
Annex 2 – Ghana country needs for SDH 89
Annex 3 – Ongoing work on SDH in Ghana 105
Annex 4 – SDH policies and policy reviews in Ghana . . . 117

LIST OF FIGURES AND TABLES

Figure 1: Ghana and its bordering countries 14
Figure 2: Ghana population pyramid 15

Table 1: Disease specific age-standardized death rates for four main NCDs 19
Table 2: Behavioral risk factors for NVDs in Ghana 20
Table 3: Metabolic risk factors for NVDs in Ghana 20
Table 4: Alcohol abstinence in Ghana 21
Table 5: Internet capacity in Ghana 30

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CHPS	Community Based Health Planning and Services Zone
CMLE	Comprehensive medical and laboratory Examination
CRS	Catholic Relief Services
CSO	Civil Society Organization
CVD	Cardiovascular Disease
DFID	Department for International Development
DHRC	Dodowa Health Research Center
GDP	Gross domestic Product
GIMPA	Ghana Institute of Management and Public Administration
GSGDA	Ghana Shared Growth and Development Agenda
GSS	Ghana Statistical Service
INGO	International Non Governmental Organization
INTREC	INDEPTH Training and Research Centers of Excellence
ITN	Insecticide Treated Net
KHRC	Kintampo Health Research Center
KNUST	Kwame Nkrumah University of Science and Technology
LEAP	Livelihood Empowerment Against Poverty
MDA	Ministries, Departments and Agencies
MMDA	Metropolitan, Municipal and District Assemblies
MOH	Ministry of Health
NCD	Non Communicable Disease
NDPC	National Development Planning Commission
NGO	Non-Governmental Organization
NHIS	National Health Insurance Scheme
SDH	Social Determinants of Health
SPH	School of Public Health
UCC	University of Ghana
UG	University of Ghana
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WVI	World Vision International

1. 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 from 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, and by ensuring that research findings are presented to decision makers in an actionable, policy-relevant manner.

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

1. SDH-related training in Ghana, as a baseline for INTREC to build on
2. The core SDH issues of concern in the country
3. Ongoing SDH-related work in Ghana, 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

1) Ghana country context

Relevant databases pertaining to Ghana were defined via the internet. The internet search for data and material included keywords or acronyms, such as "Ghana", "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. Furthermore, this section was

complemented by the information about the epidemiologic studies conducted in Ghana by INDEPTH HDSS sites.

2) Curricular review

A list of universities in Ghana was developed and their websites were then visited to see which SDH-related courses and programmes were offered. The details of these programmes were then sought either via internet or by direct contact with the respective institutes. Additionally, information on Ghana's capacity for use of the internet in educative purposes has been assessed.

3) Literature and policy review

The literature review was done through conducting searches on Google and Google scholar search engines as well as PubMed and Hinari search engines. The search was conducted using phrases like "social determinants of health" ,"Health Inequalities", "Health Inequities" and "Determinants of Disease". This was done to obtain relevant reports and documents that could provide information on SDH country needs, ongoing work on SDH in Ghana, and SDH-related policies and forthcoming policy reviews. Documents accessed included peer reviewed literature, some book chapters, donor reports, annual reports of various organizations and published and unpublished thesis as well as newspaper reports.

In addition to this there was the opportunity to obtain further information on SDH-related policies from the Third Ghana Policy Fair, which was held at the Accra International Conference Centre from 16 to 21 April 2012. From this platform, and through interaction with officers present at the stands, policy documents and related information were obtained on relevant SDH-related policies in Ghana.

4) Interviews

A total of twelve (12) In-depth interviews were conducted with professional stakeholders whose work relates to SDH in the following sectors: government ministries and departments within and outside the health sector, local and international NGOs, and development partners. The interviews were recorded with a digital audio recorder and transcribed by a transcriber. The transcripts were analyzed thematically. Various themes were drawn up based on the issues being explored. Codes were also formulated based on the issues. The transcripts were coded using derived codes. Coded issues were organized into a matrix taking into consideration the issue being addressed and the organization addressing the issue. The report was written based on the issues identified through the coding of each interview transcript, taking into consideration the issues as addressed across varied sectors where applicable.

Results

1) In Ghana, *the term “social determinants of health”* is not widely used either in the work environment or in academic circles both within and outside the health sector. There is the need to create awareness about the term, as well as the recognition that addressing SDH will enable improvements in health equity.

2) With regards to *training in the area of SDH*, there are several SDH-related courses being offered in the School of Public health at the University of Ghana, as well in a few other institutions. Public health practitioners who are trained in these courses have a vital role to play in championing SDH approach to development, and therefore the relevance of SDH issues must be made explicit in their training. Since training in this area is currently limited, it is very important to use other modes of training to make training available to many more qualified people and to build capacity in this area. Given that internet availability is improving country wide, this can be achieved through offering online courses.

3) Within the country, there are very good *policies* as well as ongoing interventions that relate to SDH being implemented by the health sector as well as by sectors outside health. Some of these policies and programs address inequities in health care provision, and others improve the lives of the populace, particularly women and children, the vulnerable and marginalized groups. These are being implemented especially through the social protection schemes in social welfare, education, agriculture, humanitarian relief and disaster management as well as in the health sector. In addition, various departments are implementing programs that are geared towards achieving a safe, clean and healthy environment. Some of these programs have not achieved the desired impact due to inadequate funding and coverage of programs, weak institutional capacity, weak targeting mechanisms, and inadequate inter-sectoral linkages. Therefore, in spite of the efforts of government Ministries, Departments and Agencies (MDAs), and allies such as donor or development partners and international and local NGOs, some of these factors are still seen as areas which need urgent intervention.

4) Literature review revealed a number of *SDH that are crucial in addressing health equity* in Ghana. These include *education, economic conditions, water and sanitation*, *agriculture and food security, as well as various social dimensions* that determine the choices people make. These SDH require more focus and targeted interventions. For example, environmental sanitation and hygiene interventions are needed, since poor waste management has repeatedly resulted in the outbreak of diseases like cholera.

5) With Ghana's economy steadily on the rise, an *epidemiological transition* has also commenced. While infectious diseases are still more prevalent, the rates of non-communicable diseases (including cancers, obesity, and hypertension) are increasing. Nevertheless, the chronic disease prevention and control in Ghana is in very early stages, as it is in most other middle- and low-income countries. A unit has been established at the Ministry of Health that is responsible for NCDs, but no programme, policy or action plan is currently operational for the four NCDs (CVDs, cancer, chronic respiratory diseases and diabetes) or their four main risk factors (alcohol, unhealthy diet, physical inactivity and tobacco).

   Mental health care services have also been found to be woefully inadequate in Ghana. Statistics also indicate that road traffic accidents are increasingly causing deaths and disability among the population, and are taking a great economic toll on the country. These factors require further research, interventions and policies, informed by multidisciplinary and social science collaborations. More focused action and investment is needed to address these SDH, hence the need to build capacity in the area of SDH research. Research has an important part to play in identifying gaps in SDH issues that need attention and how these have to be addressed. Research must engage with stakeholders of all varieties, in order to facilitate a sense of shared ownership, and thereby enhance the likelihood of the findings being taken up into policy and practice. Further, findings must also be packaged in a way that can impact the work of stakeholders.

6) To address SDH issues effectively there must be integrated planning so that policies and programs are designed to embrace all relevant and key sectors of society. Measures must also be put in place to ensure that programs are implemented effectively to make the desired impact.

7) Currently there are a *number of policies that are SDH-related* that are being reviewed, for example the Social Protection Strategy and the Nutrition Policy. There are others like the social policy that is now being worked on. One very important policy framework that may also be reviewed within the next eighteen months is the Ghana Shared Growth and Development Agenda (GSGDA), which is a Medium-Term Development Policy Framework, and which is by the National Development Planning Commission (NDCP) in collaboration with cross-sectoral planning groups.

   The NDPC, which is the apex body for development planning in Ghana, already has the mandate to design frameworks that address the developmental needs of the country, and this role needs to be strengthened so that the NDPC can effectively carry out monitoring

activities, as well as ensuring that MDAs formulate their policies and implement programs in conformity with the framework. These developmental policies should also transcend the tenure of governments so that there is continuity of interventions in order to maximize the benefits.

8) *Generally the factors that relate to SDH are seen as politically important* however, in order to push the SDH agenda effectively, *measures must be taken to place these SDH issues on the political agenda of the nation.*

Recommendations

For the government, policy makers, and non-governmental organizations

i) Addressing social determinants of health requires strong political will. SDH must therefore be placed on the political agenda of government.
ii) Awareness must be created about social determinants of health. Programs must be instituted to educate and create awareness about SDH in MDAs and organizations whose work relates to SDH, as well as in the general populace. There must be a drive to institutionalize and promote use the phrase "Social Determinants of Health."
iii) Strengthen and finance inter-sectoral collaboration between institutions whose work impinges on SDH. Programs and projects must be planned and implemented across sectors to maximize resources and reduce duplication.
iv) Institutions that offer training in courses that relate to SDH must be expanded and supported to increase training in SDH.
v) Institutions that offer SDH-related courses must ensure that the link between the courses offered and SDH is made explicit – conceptually and practically.
vi) Institutionalize a integrated planning system to ensure that policies are formulated to cut across sectors
vii) The apex body for development planning (the NDPC) must be empowered and strengthened to enable it play an effective monitoring role, so that it can ensure that the policies emanating from various sectors conform to the requirements of the framework drawn up for development, and that they are implemented accordingly.
viii) Enforce existing laws and regulations in sectors that relate to SDH.
ix) Institutions that implement SDH-related programs should be directed and supported to formally carry out health impact assessments of their programs in order to ascertain the effect of their programs on SDH.

For INTREC

i) Build capacity in SDH research so as to enhance the evidence base on the topic.
ii) Improve access to training and education in SDH through offering online courses in SDH
iii) Involve stakeholders in any research conducted in the area of SDH through sharing information and seeking their input, thereby facilitating incorporation of the recommendations into policies and practice
iv) Furnish policy makers with relevant information from research into SDH which can influence policy.
v) Ensure that research results are formulated in a way that can be easily understood by stakeholders, and in a way that makes clear what action should be taken

2. 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 Ghana, 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:

1. Current SDH-related training in Ghana, and gaps identified, as a baseline for INTREC to build on;
2. The core SDH issues of concern in the country;
3. Ongoing SDH-related work in Ghana, 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 Ghana, and also in other low- and middle-income countries.

3. METHODS

Various methods were used to gather information for different components of this report. The report has been put together through conducting desk reviews as well as conducting In-depth interviews with professional stakeholders. The methods used for data collection are described below.

a) Ghana country context

Relevant databases pertaining to Ghana 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 “Ghana”, “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

In the search for SDH-related courses, course descriptions and topics were reviewed to determine their relevance. In the course descriptions reviewed, there were no references to, or use of the term “social determinants of health”, and only one use of the phrase “health inequalities” was observed. Courses that were included in this review as SDH-relevant are therefore those that related to and have an impact on health and disease. These had social, cultural, economic, environmental and structural aspects.

To identify courses related to SDH that are offered in institutions in Ghana, the first step was to draw up a list of universities in Ghana and to determine the kind of programs that they run. Universities that are likely to run SDH-related courses were noted.

Ghana has one School of Public Health at the University of Ghana, so the school’s website was accessed to start with, since most SDH-related courses are likely to be run at a school of public

health. Subsequently all courses modules that were listed under the various departments of the school were reviewed and SDH-related courses noted. Information accessed from the site included the format of the course, the name and contact details of the heads of department, and topics covered in the course. To obtain information on course literature, contacts were made with some current and past lecturers of some of the courses, since that information was not readily available on the website. Due to this, course literature could not be obtained for most of the courses. Some information was also obtained from students as well as from the University of Ghana graduate school hand book. In addition to the school of public health, information on other SDH-related courses was obtained from other schools and institutions of the University of Ghana through the same process.

In a similar manner, courses offered by departments of faculties in other listed universities were reviewed. For courses run in other universities, information was obtained mainly from the websites of the schools and in a few cases from current and past students and through telephone contacts.

The information gathered was organized into a matrix indicating the names of the SDH-related courses offered, the format of the courses, the topics covered, and course literature if available. This information informed the writing of the section of this report on curricular review.

c) Literature review

The literature review was done through conducting searches on Google and Google scholar search engines, as well as PubMed and Hinari search engines. The search was conducted using phrases like "social determinants of health" ,"Health Inequalities", "Health Inequities" and "Determinants of Disease". This was done to obtain relevant reports and documents that could provide information on SDH country needs, ongoing work on SDH in Ghana, and SDH-related policies and forthcoming policy reviews.

Documents accessed included peer reviewed literature, some book chapters, donor reports, annual reports of various organizations, published and unpublished theses, and newspaper reports. As these were accessed, links to other related reports and policies were followed up to obtain further information on the subject. All documents were reviewed and relevant information was categorized into ongoing work on SDH, SDH country needs, and SDH-related policies. Further searches were also conducted on the websites of donors, international agencies, international and local NGOs, and various government MDAs in order to identify the main SDH actors and institutions, and for details of their programs and programs that relate to SDH.

In addition to this, there was the opportunity to obtain further information on SDH-related policies from the Third Ghana Policy Fair which was held at the Accra International Conference Centre from 16 to 21 April 2012. Various Government Ministries, Departments and Agencies, as well as district assemblies, were present at the fair exhibiting policies, guidelines and frameworks that guide the implementation of various programs and projects within the various sectors of the country. The MDAs and assemblies were also there to showcase their services, and there were personnel present to interact closely with the public and to explain their services to them. From this platform, policy documents were obtained, and through interaction with officers present at the stands information was gathered on relevant SDH-related policies in Ghana.

The information gathered was organized into a matrix indicating ongoing work on SDH in the country, the country's SDH needs, and the policies and guidelines that relate to SDH. This matrix guided the writing of the report for the literature review.

d) Stakeholder Interviews

A total of twelve (12) In-depth interviews were conducted with professional stakeholders whose work relates to SDH. The interviews were conducted with personnel of the following sectors: government ministries and departments within and outside the health sector, local and international NGOs, and development agencies.

In all a list of 18 ministries, departments and agencies, and local and international NGOs whose work relate to SDH, was drawn up with the assistance of the Dodowa Health and Demographic Surveillance Site leader, and research officers who work within the site. Efforts were made to obtain contacts of relevant personnel who could be interviewed within the listed sectors. This was done through submitting a letter of introduction for the INTREC in-country Social Scientist (S. Addei), which explained the purpose of the study. The letter was referred to the appropriate, qualified personnel within each institution, who would be able to grant the interview, and an appointment was booked. The interview was subsequently conducted with the relevant stakeholder. Personnel with whom the interviews were conducted were directors and deputy directors of their various organizations, or heads of the departments whose work relate to SDH.

The interviews were recorded with a digital audio recorder and transcribed by a transcriber. The transcripts were checked for consistency and accuracy by the INTREC Social Scientist, by listening to the recordings while simultaneously reviewing the transcripts.

The transcripts were analyzed manually through the use of a matrix. Various themes were drawn up based on the issues being explored. Codes were also formulated based on the issues. Transcripts were grouped based on the type of interview conducted: for example, transcripts of interviews with NGOs, or personnel within the health sector were grouped together. The transcripts were coded using derived codes. Coded issues were organized into a matrix, taking into consideration the issue being addressed and the organization addressing the issue. The report was written based on the issues identified through the coding of each interview transcripts taking into consideration the issues as addressed across varied sectors where applicable.

4. GHANA COUNTRY PROFILE

Ghana was the first sub-Saharan African nation to achieve independence from British colonial power, in 1957. Currently, Ghana is one of the more stable nations in the region, with a good record of power changing hands peacefully. It is the world's second largest cocoa producer behind Ivory Coast, and Africa's biggest gold producer after South Africa. It is one of the continent's fastest growing economies, and also has recently started producing oil. The arrival of oil and gas in the fourth quarter of 2010, while providing important new revenues for the country, poses economy wide risks. Today, Ghana stands with many accomplishments under its belt, yet many new challenges ahead (WHO, 2011a).

Geography

Ghana is located on West Africa's Gulf of Guinea with a total land area of 238 533sq km and extends inland from the Gulf of Guinea from western bulge of Africa and is bordered by the Atlantic Ocean to the south, Togo to the east, Burkina Faso to the north and La Cote d'Ivoire. See Figure 1. It is home to Lake Volta, the largest artificial lake in the world by surface area. Accra is the capital and largest city of the country. The country is the world's largest exporter of cocoa (www.ghana.gov.gh).

Figure 1: Ghana and its bordering countries (Source: CIA World Fact Book)

Demography

Total population of Ghana is estimated at 23,478,000 for year 2009 and population aged 15-49 is estimated as 11 839 000. Average life expectancy at birth of Ghanaian population is estimated as 60 years, with 57 years for males and 64 years for females (WHO, 2011a; www.who.int/countries/ghana/en).

According to the UN Population Division, 2007, 49% of the population lives in urban areas. The total fertility rate per woman is 4.0, and the crude birth rate is 29.9 births per 1000 population. Maternal mortality ratio at 560 per 100 000 live births and infant mortality rate at 76 per 1000 live births are still very high (WHO, 2011a).

Ghana's age and sex distribution is presented in Figure 2. The falling fertility is clearly noticeable as the base of the pyramid is not as wide as the years above, which reflects lower birth rates in recent years.

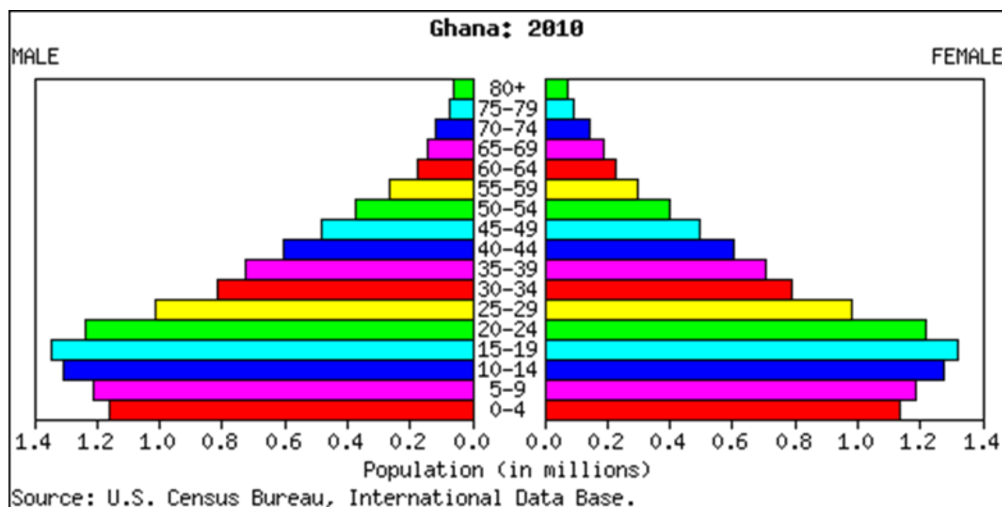

Figure 2: Ghana population pyramid

Socio-economic and political context

Ghana was the first African colony to attain independence in the post-World war II era, on 6th March 1957 by the British Administration. The country was formerly known as the Gold Coast. The nation is now divided into ten administrative districts which are further divided into 170 District Assemblies, and these are responsible for developing, planning and mobilizing resources for the development of the districts (www.ghana.gov.gh).

The Ghanaian economy has been growing by 5.5% per year since 2004. As a result of this steady growth and initiatives outlined in Ghana's growth and poverty reduction strategies, the incidence of poverty has declined from 52% in 1992 to 29% in 2006. Ghana's goal until recently has been to achieve middle-income status by 2015 (WHO, 2011a; www.ghana.gov.gh).

In July 2011, the economic status of Ghana was revised and the country moved from being a low income to a lower-middle income country. This followed the oil find (in commercial quantities) in Ghana in 2007 and subsequent oil production, which begun in 2011. The recent

production of oil in Ghana led analysts in the World Bank to revise upwards the country's gross domestic product (GDP), spurring hopes for greater strides in the fight against poverty (World Bank, 2011). Before this the Ghana Statistical Service (GSS) in November 2010, announced that it had rebased Ghana's economy, indicating that the size of the economy in real Gross Domestic Product (GDP) terms had been raised threefold, placing the country among the lower-middle income group of countries (GSS, 2010).

As Ghana works towards becoming a middle income country, it is important to ensure that its human capital is a strong and healthy since a healthy population is vital in a country that seeks to improve productivity and ultimately development. Over the years, the health status of Ghanaians has improved, although there are marked differences in some health indicators among the different geographical regions and socio economic groupings (UNESCO, 2010).

Health and Development

After decades of good but sometimes difficult progress, Ghana recognizes that it still faces important challenges in its development trajectory. Adult literacy rate for both sexes is 63% (71.2 % for males and only 57.2% for females). However, the net primary school enrolment ratio is almost same for both males and females at 63% and 64% respectively. In spite of that, the possibility of girls dropping out of school or not continuing secondary education over the later years could be a reason for overall low literacy rate for females (WHO, 2011a).

According to a recent desk study (WSP, 2012), carried out by the World Bank's Water and Sanitation Program (WSP), it was found that 16 million Ghanaians use unsanitary or shared latrines and 4.8 million have no latrines at all and defecate in the open. Poor sanitation costs Ghana 420 million Cedis each year, equivalent to US$290 million. This estimation of millions has been accounted in four ways: a) for time spent to find private location for defecation; b) premature deaths due to diarrhea; c) productivity lose whilst sick or accessing healthcare, d) money spent on health care due to diarrhea-related problem. Access to sanitation demonstrates high inequities; the poorest 20% of the population are 22 times more likely to practice open defecation than the wealthiest 20% of the population (WSP, 2012).

The nationwide decline of poverty and increase in access to basic social services has been the result of efforts under the Ghana Poverty Reduction Strategy (GPRS I and II). The priorities for Ghana have been identified in the three pillars of the GPRS strategy: human development; good governance and civic responsibility; and private sector competitiveness for growth, with a focus on modernizing agriculture. The discovery of oil and gas along with Ghana's progress to date poses the question of how much aid Ghana will continue to receive, particularly from some bilateral development partners who have priorities in fragile or very low income International

Development Association (IDA) states. This is considered to have some implications on the on-going projects in the country (WHO, 2011a; www.ghana.gov.gh).

Millennium Development Goals

Ghana has made good progress in the achievement of the Millennium Development Goals (MDGs) since 2000. There has been steady progress in achieving MDGs by 2015 in areas like universal primary education, and poverty reduction but challenges still exist in the areas of child health and mortality, maternal mortality, gender equality and HIV/AIDS, malaria and other diseases. A recognized obstacle that needs greater attention is the lack of reliable and consistent data to monitor progress of the MDGs. The United Nations system and donor partners are actively supporting the Ghana Statistical Service in building its capacity (WHO, 2011a; www.mdgmonitor.org).

Disease Burden

The burden of diseases is high in Ghana where communicable diseases predominate and non-communicable diseases are increasing rapidly. Out of total mortality numbers, the communicable, maternal, perinatal and nutritional conditions account for 53% of total deaths and non-communicable diseases (NCDs) are estimated to account for 39% of all deaths and the remaining 8% deaths occur due to injuries (WHO, 2011b).

HIV/AIDS

The HIV/AIDS epidemic is stable in the country, even though it is firmly established there. According to UNAIDS/WHO estimates from 2007, 260 000 adults and children are estimated to be living with HIV; adult (15-49 years) HIV prevalence is held at 1.9%. HIV prevalence among pregnant women in Ghana has declined from 3.6% in 2003 to 2.6% in 2007 (WHO, 2011a; WHO, 2008a).

According to WHO, an estimated 13 000 people are receiving antiretroviral therapy, of around 87 000 in need, indicating around 15% anti-retroviral therapy coverage (WHO, 2011a; WHO, 2008b). Strategies including behavior change communication, prevention of mother-to-child transmission, and the provision of treatment care and support have all been implemented.

Tuberculosis

Ghana is estimated to have had 14,124 new cases of TB in 2010 (incidence rate of 86 per 100,000 population), of whom 7,656 were new, smear-positive cases. The number of reported TB cases (all forms) gradually increased from 10,386 cases in 1999 to 15,145 in 2010 (WHO TB). Between 60-70% of TB cases reported occur in the economically most productive age group (15-49 years). This same age group is the most sexually active and is at the greatest risk of

contracting HIV. TB mortality in Ghana is relatively high. An evidence based study in Korle-Bu Teaching Hospital Accra, indicates that TB is the cause of death in one out of seven post mortems (WHO, 2011a).

TB case fatality rates in new smear-positive patients, as reported to the National TB Control Programme (NTP), increased from 3.4% in 1996 to 8.6% in 2004 (WHO TB). Factors contributing to this increase may include late reporting of patients for medical care, late diagnosis of their condition, and the presence of HIV co-infection. The TB treatment success rate (for new smear-positive) has risen from 22% in 1996 to 87% in 2010 (WHO, 2011a; WHO TB).

Malaria

Until 2007, malaria was still considered to be the leading cause of morbidity and mortality in children, accounting for about 40% of all outpatient attendances at health facilities (WHO, 2011a). Overall, the multiple strategies adopted for malaria control have been moderately successful. Insecticide-treated bed nets (ITNs) have been distributed free of charge since 2006 when this policy was adopted. The use of ITNs by children under five years of age and pregnant women has increased as a result of their distribution during integrated mass campaigns and Child Health campaigns, during which over three million nets have been distributed.

The anti-malaria drug policy was reviewed in 2004 with artemisinin-based combination therapy becoming the recommended therapy in Ghana (WHO, 2011a; WHO Malaria].

Non-communicable diseases overview

NCDs are estimated to account for 39% of all deaths in Ghana (WHO, 2011b). Currently, it is estimated that NCDs constitute over 20% of all cases of outpatient attendance (WHO, 2011a).

According to recent estimates in 2008, available at the World Health Organization Ghana website (WHO, 2011b), the total number of deaths due to non-communicable diseases is 498,000 among males and 364,000 among females. Out of this number deaths due to NCDs under age 60 (per cent of all deaths) account for 46.4% in males and 38.5% in females. The disease specific age-standardized death rate per 100,000 for four main NCDs is presented in Table 1 (WHO, 2011b).

A study was undertaken in 2006 in the largest tertiary hospital of Ghana by reviewing autopsies and hospital mortality to understand more about Cancer mortality patterns in Ghana. It suggested that cancer mortality was higher among women, and that the commonest cause of cancer death in females was malignancies of the breast followed closely by the liver and cervix.

In males, the highest mortality was from cancer of the liver, followed by the prostate, hematopoietic organs, and stomach (Wiredu & Armah, 2006).

Age-standardized death rate per 100 000	***males***	***females***
All NCDs	816.9	595.3
Cancers	89.9	99.0
Chronic respiratory diseases	126.5	54.5
Cardiovascular diseases and diabetes	426.6	343.5

Table 1: The disease specific age-standardized death rate for four main NCDs in Ghana

Evidence suggests that the prevalence of certain non-communicable diseases, such as diabetes and hypertension, is increasing rapidly in parts of sub-Saharan Africa (Unwin et al., 1999). The prevalence of NCDs such as diabetes mellitus, asthma, hypertension and other cardiovascular diseases is rising in Ghana as a result of increasing life expectancy, abuse of alcohol, tobacco use, poor dietary habits, inadequate physical activity and increasing stress (WHO, 2011a).

The government‘s new policy on regenerative health and nutrition is expected to provide the basis for prevention and management of NCDs. This programme focuses on healthy eating, improving food safety, and regular exercise, drinking potable water, rest, improving environmental sanitation, improving personal hygiene, and ensuring lifestyles that promote health (WHO, 2011a).

Risk factors

The WHO resources present risk factors for NCDs in two parts as the behavioral and metabolic risk factors. The figures for those estimates are provided in Tables 2 and 3 (WHO, 2011b).

Tobacco

The adult prevalence of cigarette smoking is reported as 7.3% among males and 0.2 % in females (WHO Tobacco). The age-standardized estimated prevalence of smoking among those aged 15 years or more, 2009, is 7% for current and 5% for daily use of any smoked tobacco (WHO Tobacco).

It can be said that smoking prevalence, as of today, is quite low in Ghana. Ghana signed the WHO Framework Convention on Tobacco Control (WHO FCTC) in 2003 and ratified it in 2004. Although direct bans on tobacco advertising and publicity exist, smoke-free environment laws are still not enforced, and the subnational jurisdictions do not have the authority to adopt and implement smoke-free laws. Government expenditure on tobacco control is low and there is a

technical unit with just 0.5 full-time equivalent staff working for tobacco control (WHO Tobacco). To keep the prevalence low government may need to become more active in enforcing the control measures.

Behavioral risk factors			
2008 estimated prevalence %	***males***	***females***	***total***
Current daily tobacco smoking	7.0	1.7	4.4
Physical inactivity	13.0	19.3	16.1

Table 2: Behavioral risk factors for NVDs in Ghana (WHO, 2011b)

Metabolic risk factors			
2008 estimated prevalence %	***males***	***females***	***total***
Raised blood pressure	37.6	35.2	36.4
Raised blood glucose	8.6	9.0	8.8
Overweight	23.1	34.9	28.9
Obesity	4.1	10.9	7.5
Raised Cholesterol	15.3	19.8	17.6

Table 3: Metabolic risk factors for NVDs in Ghana (WHO, 2011b)

Alcohol

According to 2003 data, many different forms of alcohol beverages are consumed in Ghana. Beer accounts for 27%, 5% wine, 2% spirits and the rest of 66% belongs to others such as fermented beverages made from sorghum, maize, millet, rice or cider, fruit wine, fortified wine etc. Alcohol consumption is more common than tobacco use, even though around 70.4% of the population aged 15+ were reported to be abstainers (defined as ‘did not drink in the last 12 months’). Of these, 58.2% are life time abstainers for both sexes (WHO Alcohol). See Table 4.

A study conducted with data from Ghana Maternal Health Survey 2007 reports that in Ghana, alcohol consumption and unwanted pregnancies are on the ascendancy. It suggests that women who had ever consumed alcohol were about three times as likely to die from abortion-related causes compared to those who abstained from alcohol. Maternal age, marital status and educational level were found to have a confounding effect on the observed association (Asamoah & Agardh, 2012).

Abstainers (15+ years), 1999 Persons who did not drink in the last 12 months			
	Males	Females	Total
Lifetime Abstainers	52.1%	64.4%	58.2%
Former Drinkers	15.9%	8.4%	12.2%
Abstainers	68.0 %	72.8%	70.4%

Table 4: Alcohol abstinence in Ghana (Source: WHO Alcohol)

In Ghana, alcohol policy includes an excise tax on beer/wine/spirits. 18 years is national legal minimum age for off-premise sales of alcoholic beverages. Legally binding regulations on alcohol advertising and sponsorship are also in place (WHO Alcohol).

Physical activity and Nutrition

Little information was identified for this review with regard to physical activity and nutrition in Ghana. However, as presented in Table 2 above, 16.1% of population (13.0 % males and 19.3% females) is reported to be physically inactive. Females are physically less active than males, a figure which is directly related to the proportion of females being overweight (10.9%) and obese (4.1%). It is reported that Ghana is going through an economic and nutrition transition and experiencing an increase in the prevalence of obesity and obesity-related illnesses, especially among women and urban dwellers (Ofei, 2005).

Country Capacity to address NCDs

The chronic disease prevention and control in Ghana is in its very early stages, as with many other middle- and low-income countries. A unit has been established at Ministry of Health that is responsible for NCDs. Some seed funding has been made available for treatment and control, prevention and health promotion, as well as surveillance, monitoring and evaluation. A national health reporting system that includes NCD cause-specific mortality and morbidity and for risk factors reporting has been set up. However, there is no national population-based cancer registry in the country. Despite these developments, there is little NCD control work at the implementation stage yet. No programme, policy, or action plan is currently operational for the four NCDs (CVDs, cancer, chronic respiratory diseases and diabetes) and their four main risk factors (alcohol, unhealthy diet, physical inactivity and tobacco) (WHO, 2011b).

Nevertheless, the government recognizes the ongoing epidemiological transition that the country faces, with increasing prevalence of NCDs and continuing high levels of infectious

diseases. Hence, the current health policy – the 2006 Health sector policy, which has the theme "Creating wealth through health" – has shifted the emphasis from curative strategies to health promotion and the prevention of ill-health. Achieving this feat cannot be addressed by a single government ministry; rather it requires leadership, action and commitment at all levels of decision making (district, regional and national), and across all sectors whose work concerns the health of the population. This will require the framing of social and economic policies and the development of programs across the whole society that can influence the social determinants of health and advance health equity as indicated by the WHO Commission on Social Determinants of health (CSDH, 2008). The framing of relevant policies also requires that relevant research is carried out to equip policy makers with the right information on issues that need to be addressed. This in turn requires capacity building in carrying out research in the area of SDH.

5. SDH CURRICULAR REVIEW

This curricular review was conducted in order to:

1. Identify ongoing "SDH relevant" training courses in Ghana
2. Establish existing gaps that INTREC can fill.

a) Institutions that offer SDH-related courses on the graduate and undergraduate levels

A total of six universities, institutions, and training schools were found to offer courses and programs at both undergraduate and graduate levels that relate to social determinants of health.

i) Graduate Programs

The University of Ghana (UG):

- In the School of Public Health, the Department of Social and Behavioral science run most of the courses that relate to SDH. Some related courses were also run by other departments such as the Biological, Environmental and Occupational Health Sciences department; the Epidemiology and Disease Control department, Health Policy Planning and Management department and the Population, Family and Reproductive health department.
- The Regional Institute of Population studies
- The Institute of Statistical, Social and Economic Research
- The Institute for Environmental and Sanitation Studies.
- Faculty of Social Sciences' Departments of Geography, Social Work, Economics, Psychology

Kwame Nkrumah University of Science and Technology (KNUST)

- The College of Arts and Social Sciences' departments of sociology and social work

University of Cape Coast (UCC)

- The Institute of Education's Faculty of Education

Ghana Institute of Management and Public Administration (GIMPA)

- The Institute offers a post graduate diploma

ii) Undergraduate Programs

The University of Ghana (UG):

Undergraduate programs that relate to SDH are offered in the following faculties and institutes of the University of Ghana

- Faculty of Social Sciences' departments of Psychology, Sociology, Social work, Geography, and Resource Development.
- School of Public Health

University of Science and Technology

- Department of Geography and Rural Development

University of Cape Coas

- Department of Health Economics

Central University College Ghana

- Faculty of Arts and Social Sciences, Department of Environment and Development Studies

Kintampo Health Training School

- certificate, diploma and advance diploma courses related to SDH are offered here

iii) Short Courses

The Ghana Institute of Management and Public Administration and the Department of Public Health of the Ghana College of Physicians and Surgeons offer short courses in Occupational Health Safety and Environment.

b) Summary of the available SDH-related courses

School of public health, the University of Ghana

The School of Public Health of the University of Ghana offers courses within its programs that aim at enhancing students' knowledge and equipping them with concepts and strategies that will enable them promote good health in the society. Some of the courses review various social and behavioral theories, models and constructs, and examine why and how these are used to inform interventions and implement effective strategies that promote public health, relating these to the determinants of health in Ghana. Some of these courses are either core courses or electives. Generally the courses are delivered through face to face lectures, seminars, workshops, group work, student presentations and assignments. At the end of some courses students go on field visits and conduct some research in areas of interest.

The school has courses like Foundations of Public Health that gives students a broad perspective of issues that public health deals with, highlighting some elements of social determinants of health that impact public health. A core course like Social Science Theories in Public Health Practice and Research course examines, in detail, theoretical frameworks in the

social sciences such as the Health Belief Model, Social Cognitive Theory, Stage Theory, Theory of Reasoned Action, and others. There is emphasis on the application of these theories in public health practice. There are also courses such as Public Health Nutrition that deal with effective utilization of food resources to ensure optimal growth, development and health.

There are also courses on health promotion that cover theories and models that are considered the backbone of the processes used to plan, implement, and evaluate health promotion interventions. They also cover the practices which provide opportunities for appropriate application of health promotion interventions in changing and uncertain environments, by focusing on key players charged with preventing diseases and promoting Public Health. There is a course on Global health issues that gives a global overview of health and the challenges faced, while another on Global Perspectives on Health provides the student with the opportunity to examine the challenges associated with the implementation of health promotion activities around the globe with special reference to the context of low- and middle-income countries. The course on Health and Development in the third world examines the various social, economic, and political changes that have taken place in low- and middle-income countries, and analyzes the impact such changes have had on the health status of populations.

The School of Public Health offers some courses that offer training in policy and legislation within the health sector. These are Health Policy Research and Analysis, Advanced Health Policy and Health Legislation. These courses provide a practical guide to the identification of health policy systems development and reform issues that need research to generate empirical data to support decision making as well as examine factors that influence the development and implementation of health related public social policies and their accompanying programs in developing countries. Students also have the opportunity to analyze principles behind the existing health legislation.

Other courses within the school educate students on gender and health, gender and violence, women's health, motherhood issues and maternal morbidity and mortality. These courses provide an understanding into the role of gender in the health and welfare of the populace. SDH issues such as socio-cultural, socio-political, and socio-economic constructs of gender, and how these constructs affect the health of both genders are examined. In the case of women's health, some SDH issues that come into focus are cultural values and religious principles that influence decision-making processes on reproductive and other health issues. For the course on gender and violence, issues focused on are demographic, socio-cultural, and economic factors that impact on gender and violence, and the impact of violence on mental health and the various coping strategies and responses to physical violence.

Courses that address environmental health are Human Health and Environmental Impact and Environmental Health. These courses highlight the challenges of the working environment with its associated hazards. They prepare students to identify environmental hazards to which people are exposed, and to develop policies and regulations relevant to the protection and improvement of the physical environment, as well as to plan and implement environmental health programs. There is some focus on occupational health within this course in addition to a course tailored specifically for occupational health. The occupational health course entails advanced courses in Occupational Medicine and Hygiene in relation to agriculture, industrialization and topics relating to the national and international economic activities and social issues. Discussions focus on research in any aspect of hazards and patho-physiology encountered in the working environment. Another course focuses on Injury epidemiology. This course introduces injury as a public health problem and highlights research methods, study designs, risk factors and prevention strategies that are applied to the problem of injuries.

The school also has courses that focus on Disease Control and which address general concepts of communicable and non-communicable diseases. While these courses address factors influencing the communicable disease transmission process, other courses taught, for example, Introduction to Non Communicable Disease Epidemiology, give an overview of non-communicable diseases in both developed and developing country settings, focusing on cardiovascular diseases and cancer, diet and cancer, and the epidemiology and prevention of mental disorders. The course also focuses on developing and criticizing strategies for preventing cardiovascular disease at the community and individual level. The Cardiovascular Disease (CVD) Epidemiology course focuses on the epidemiology of CVDs in various economies and also explores various aspects and causes of CVDs such as tobacco control; obesity while addressing approaches for the control of CVDs, e.g. dietary approaches.

There are other courses on family health, ageing and health, population health and survival. As part of the ageing and health course the impact of ageing on the structure and composition of society and its implications for the economy, health, and development is discussed. During the family health course a whole range of issues connected to the subject are discussed and this includes policy as well as the kinds of services available. The population health and survival course summarizes the structure of existing and emerging disease patterns as they affect various population subgroups, with focus on disease patterns when society undergoes modernization. Another significant course is Behavioral Science. This course is based on the premise that most of society’s health and disease problems are behavior or lifestyle induced. The students are exposed to the social, economic, political, and cultural contexts within which illness occurs, and they have the opportunity to assess critically the impact of socio-cultural dynamics on the health seeking behaviors of individuals and groups in society.

Other universities and institutions

There are a number of courses in institutions and schools in various universities that relate to social determinants of health; however, these courses are generally more tailored towards the objectives of the particular department in which the course in run. Within these courses, the focus on the impact of these determinants on health is minimal. Some of these courses however are similar in objectives and content to some courses run in the School of Public Health. This is the case for courses in the area of environmental health, ageing, population, health and development, gender and health and accidents and safety at work that are offered in the Institute for Environmental Health and Sanitation Studies, the Regional Institute for Population Studies, and the Psychology Department of the University of Ghana.

Another graduate course of interest is Medical Geography in the Department of Geography at the University of Ghana, which focuses on the organization of space from the point of view of disease and health. This course emphasizes the socio-demographic dimensions of health and disease, the occurrence of diseases and the social determinants responsible for observed distribution and diffusion. An aspect of a related course in the same department on development changes and human health looks at special health problems and disease types; medical services and spatial analysis of health care.

In Economics, students studying health economics courses are exposed to socio-economic development and health, as well as how domestic economic issues impact on growth, poverty population, urbanization, migration, income distribution, education and resource development. These are issues that are determinants of health and an aspect of these courses consider empirical issues of these determinants and their impact on health in developing countries.

One course in the Department of Social Work which is Communication for Development introduces students to theoretical concepts in adult education and equips them with techniques in mass education which is important since behavioral change can promote health equity. Another course in social issues in contemporary Ghana explores causes and consequences of food insecurity on poverty.

Short courses

The Faculty of Public Health of the Ghana College of Physicians and Surgeons, and the Ghana Institute of Management and Public Administration both organize short courses in Occupational Health and safety which aim at integrating safety cultures into organizations. These courses are targeted at safety professionals working in various organizations.

c) Training Gaps

School of Public Health, the University of Ghana

Ghana has only one School of Public Health, which is in the University of Ghana, Legon. The School offers some training at both the graduate and undergraduate levels to health professionals, qualified applicants with a social science background, or those with related or relevant qualifications. Many of the elements of social determinants of health are addressed within the courses that the school offers (both core and elective courses), although the issues addressed are not referred to by the term "social determinants of health". The courses offered by the school aim at enhancing students' knowledge and equipping them with concepts and strategies that will enable them promote good health in the society. Some of the courses review various social and behavioral theories, models and constructs and examine why and how these are used to inform interventions and implement effective strategies that promote public health, relating these to the determinants of health in Ghana. The programs offered in the school provide tools in epidemiology, management, behavioral science, communications, and economics to prepare students to assess priorities and craft implementations for public health. Although various aspects of the courses in the SPH deal with inequalities and are SDH-related that is not the focus of the training and the link is not explicit.

Access to training is however limited and competition for admission into the school is very keen. Many people who would have benefitted from training in SDH-related courses are denied access due to limitations on the number of students that the school admits on a yearly basis.

Another factor that limits access, not only for SDH-related courses in the school of public health but also for related courses run in other faculties outside the SPH and also in other universities, is that the courses offered are classroom-based and are delivered through face to face interactions with lecturers. The introduction of some online courses in this area can improve access to training and education in SDH and add to building capacity in that area.

Other universities and institutions

There are some SDH-related courses offered in departments outside the School of Public Health at both undergraduate and graduate levels, mainly in the three main public universities in Ghana (University of Ghana, Kwame Nkrumah University of Science and Technology, and University of Cape Coast). With the exception of a few courses, the focus on the ultimate impact on health of populations within these courses is minimal. There is the need to highlight the impact on health of these courses.

On considering the content of the courses offered both within and outside the school of public health it can be said that although elements of SDH are taught within the courses offered by

these institutions, the link between the course content and SDH is not explicit. There is therefore the possibility that students may complete these courses and yet not be aware of SDH factors, or the extent to which these factors influence health equity and the quality of life of the population which ultimately affects the country's development. During these courses the importance of effective program planning and implementation which incorporates the SDH model must be highlighted. To address SDH students must be enlightened on the need to formulate policies and programs to cut across all the key sectors of society.

d) Internet availability for SDH education purposes in Ghana

Introduction

Ghana is one of only a few African countries with a liberalized telecom market. Currently there is a vast array of internet service providers ranging from providers of total telecommunications products and services to customized data management services.

Internet Service Providers

In Ghana there are almost 30 Internet Service Providers (ISPs) in operation who retail both wireless and wire line internet solutions. Wireless internet access in Ghana is available from six mobile network operators. These Internet Service Providers include companies like Vodafon, MTN Ghana, Millicom Ghana (TIGO), Globacom Limited (GLO), Airtel Ghana and Expresso Telecom Ghana. There are also customized providers of internet services for both business and educational purposes examples of which are Zipnet, Busy Internet, IS Internet Solutions Ghana, Ostec Ghana, K-Net, Iburst Ghana and Gateway Communications amongst many others.

Within the country there is an association of Internet service providers (GISPA) which has a total of about 23 members and their aim is to lobby government and regulatory bodies in order to facilitate growth of the internet in Ghana, and to make it easier for Ghanaians to access effective but affordable services.

Much of the growth in internet usage in the country was initially fuelled by the proliferation of cybercafes and public tele-centres in the country. Currently, users accessing the internet do so either by using a hard-wired terminal to connect directly to the internet, or by connecting to the internet by way of a modem via telephone cable satellite to the ISPs. With the expansion of the industry, internet access is more readily available and the service is available to people both in the rural and urban centers in the country. To enhance this further major fiber optic loops will soon be completed which will connect the Northern and many remote sections of the country.

Internet Penetration

The number of Ghanaians who have access to the internet is gradually increasing with the rapid growth in the sector, and presently about 2 million people use the internet in the country. As at December 2011, with a population of almost 25 million, it was estimated that internet penetration in the country was 8.4%. Internet usage is also expected to increase dramatically further through the use of cell phone devices, as Ghana has a cell phone penetration greater than 65%.

Internet Capacity Available

Currently internet service provision has been enhanced by the availability of four under sea submarine fiber optic cables landed by service providers. These cables are as follows:

Fiber Optic Cable	Provider (Landed by)	Capacity per second
SAT 3	Vodafon Ghana	120 gigabytes
Glo one	Globacom	600 gigabytes
Main one	Main one	1.12 Terabytes (1,920 gigabytes)
WACS (West African Communication System)	MTN	500 gigabytes

Table 5: Internet capacity in Ghana

This capacity gives the country significant redundant fiber for increased connectivity to the outside world, and this provides high speed data and internet transmission services. It also ensures reliability of internet availability that can support the development of and access to on line training and education.

Pricing of internet services

Prices for internet use have dropped considerably on the back of a reduction in the wholesale prices of international bandwidths, while at the same time capacity has improved by about 65 times. Providers have available various packages which subscribers can access, depending on their financial capacity and their required band width. This ensures that subscribers can make choices of the most suitable options for their purposes.

Conclusion

Currently in Ghana there are a number of students who are undertaking online courses offered by various institutions around the world. Some universities within the country like the

University of Ghana are also developing infrastructure that will provide e-learning platform for the university.

With enhanced availability of internet services it will be possible to offer training for more people in the area of SDH through online education.

6. SDH AND HEALTH INEQUITIES IN GHANA

In an address to the Ghana academy of Arts and Sciences entitled "Treating Ghana's Sick Health service", a former director general of the Ghana Health Service in June 2011 indicated that Ghana needs a health-centered development agenda, because despite concerted efforts and increasing resources, the health of the population had not seen tremendous improvements. It was indicated that Ghana has a high disease burden and that the determinants of health are not under the direct purview of the Ministry of Health, however they impact tremendously on the health of the population. Therefore there is the need for a health centered development agenda for the country, and implementation of this will require sector-wide programming. In this address factors identified included Environmental Sanitation and hygiene, safe water, food and nutrition, air quality, safe housing, good or safe roads, transport, lifestyles, employment, education and poverty (Badu-Akosah, 2011).

This section includes material collected on several of these topics, as well as other important health concerns, from the three Health and Demographic Surveillance Sites (HDSS) sites in Ghana, as well as from other literature. The three HDSS sites are: Navrongo Health Research Centre, Kintampo Health Research Centre, and the Dodowa Health Research Centre.

i) Dodowa Health Research Centre (DHRC) - Lymphatic Filariasis

Research topics

The DHRC has some publications on the neglected tropical disease, lymphatic filariasis, with respect to understanding the community impact; the economic burden; cultural beliefs and practices, and their implications for disease control; and community-directed treatment for Filariasis control in Ghana.

Summary of Methods

Most of the studies on Lymphatic Filariasis were conducted in the northern part of Ghana. Research methods used during the studies included review of sociocultural literature as well as the use of both qualitative and quantitative methods.

Summary of Results

Lymphatic filariasis (LF), the second most common vector-borne parasitic disease after malaria, is found in over 80 tropical and subtropical countries. According to WHO, LF is the second most common cause of long-term disability after mental illness. LF causes a wide spectrum of clinical and subclinical disease. Chronic manifestations of LF are chronic lymphoedema, elephantiasis and hydrocele. Further, those infected with LF suffer the debilitating effect of acute filarial attacks that last from five to seven days and may occur two to three times each year. Chronic

filarial disease has serious social and economic effects. Results of one study indicated that the incidence of acute adenolymphangitis (ADL) in victims was high, but was higher in females than in males. This disease prevented victims from performing normal activities, including economic activities, and it increase the financial burden on carers. Men with hydroceles on the other hand suffered a greater psychosocial burden. Victims with long-standing chronic disease, such as elephantiasis of the leg and hydroceles, tended not to seek treatment except when there was superimposed ADL. (Wynd et al., 2007). The disease is generally attributed to supernatural and spiritual factors. Other findings indicate that the community is caring towards victims (Gyapong et al., 1996).

The elimination of lymphatic filariasis as a public health problem is currently dependent on the delivery of annual drug treatments, and the treatment must be community directed. Elimination programs will be more effective if they are grounded in sociocultural awareness during the planning stage (Gyapong, 2001).

ii) Kintampo Health Research Centre (KHRC)

Publications accessed were on studies on malaria, mental health and Vitamin A supplementation in women. The publications are:

Research topics

Malaria Studies

- Malaria Epidemiology in Ahafo area of Ghana
- Community Perception of malaria and malaria treatment behavior in a rural district in Ghana
- Malaria transmission dynamics at a site in Ghana proposed for testing malaria vaccine
- Seasonal profiles of malaria infection, anemia and bed net use in Northern Ghana.
- Epidemiology of malaria in forest savannah transmission zone
- Detectability of plasmodium clones

Vitamin A Supplementation

- The effect of vitamin A supplementation in women of reproductive age on maternal survival in Ghana

Mental Health

- Common Understanding of women's mental illness in Ghana
- Whether you like it or not, people with mental illness are going to go to traditional healers

Summary of Methods

Most of the studies were conducted within the northern sector and middle belt of Ghana. The mental health studies were conducted in 5 out of the 10 regions in the country. Both quantitative and qualitative data collection methods were employed. Qualitative methods used were focus group discussions and in depth interviews. Some study designs were cross sectional surveys, active surveillance and cluster randomized placebo controlled trial.

Summary of Results

Malaria - Respondents in one study were aware that mosquito bites caused malaria, though they also mentioned a dirty environment and standing in the sun as other causal factors (Asante et al., 2010)

In the Kasenna Nankana district of the Northern Region, findings indicate that malaria transmission was highly seasonal and was low during the dry season, whilst the heaviest transmission occurred from June to October. The intensity of transmission was also higher for people in the irrigated communities than the non-irrigated ones (Apawu et al., 2004).

In the Kintampo north and south districts which are in a forest savannah zone, parasite prevalence was relatively higher during the rainy season but also high all year round. The prevalence of anemia was very high and this was consistent with other reports in Ghana. It is however indicated that the high prevalence of anemia could also be due to malnutrition, hookworm infection, and sickle cell anemia. However, the contribution of these illnesses to anemia in a malaria endemic region has been found to be minimal compared with malaria itself (Owusu-Adjei et al., 2009).

The malaria epidemiology study carried out in some districts in the Brong Ahafo region was a baseline study conducted prior to the start of mining activities in the area. The results from the study were to be used for monitoring and evaluating malaria interventions specifically targeted at the mining area. Findings revealed that in the study area, the prevalence of malaria parasitaemia was relatively low. Malaria parasitaemia was significantly associated with socioeconomic status, with parasitaemia decreasing as socioeconomic status improved. In this study, health insurance membership was protective against malaria parasitaemia but had no significant relationship with anaemia (Asante et al., 2011).

Though there was a high ITN ownership and use, there was no evidence of its protection against malaria parasitaemia. This could be due to poor quality of ITNs or improper use. Since the completion of the survey, efforts at controlling malaria in this mining area have been

intensified, but they could still be enhanced with increased resources and partnerships between government and the private sector (Asante et al., 2011).

Vitamin A supplementation - In the study that tested the effect of vitamin A supplementation in women of reproductive age, the evidence gathered, although limited, did not support inclusion of vitamin A supplementation for women in either safe motherhood or child survival strategies (Kirkwood et al., 2010).

Mental Health - Generally, the mental health of women is a neglected area, and the study on Common understandings of women's mental illness in Ghana indicated high rates of depression and anxiety disorders amongst women. Findings indicate that mental illness in women is attributed to a number of causes, which include women being the weaker sex, hormones, witchcraft, adultery, abuse, and poverty; which can be further sub-categorized as women's inherent vulnerability, witchcraft, and gender disadvantage. Women's subordinate position in society may underpin their mental distress needs and this needs to be recognized and addressed in policies that will address the mental needs of women in Ghana (Ofori-Atta et al., 2010).

Another study that looked at the widespread use of traditional and faith healers in the provision of mental health care found many reasons for the appeal of traditional and faith healers. These include cultural perceptions of mental disorders, the psychosocial support afforded by such healers, as well as their availability, accessibility and affordability. Barriers that hinder collaboration between traditional healers and public sector mental health services include human rights and safety concerns, skepticism around the effectiveness of 'conventional' treatments, and traditional healer solidarity. For any such partnership to be successful, there is the need for mutual respect and bi-directional conversations between the two sectors (Ae-Ngibise et al., 2010).

Other work on mental health in the country has shown that the provision of mental health services is a major challenge within the health service. An article on Mental Health and Inequity in Africa indicates that Ghana is one of the many countries across the globe experiencing inequity in the allocation of resources for mental health. Issues raised in the article emphasize that specialized psychiatric care for people with mental illness is woefully inadequate, and though a mental health bill has been passed, it is important for an act to be drafted and implemented to ensure that mental health is incorporated adequately into primary health care. Another report that focuses on provision of mental health services in northern Ghana paints a dire picture of the state of mental service provision in the country. This report also advocates for the passing of the Mental Health Bill into an act to improve the care of poor, vulnerable

people with mental illness or epilepsy, to safeguard their human rights, and promote their participation in restoration and recovery (Mental Health Aid, 2012).

iii) Studies on hypertension and obesity in Ghana

Research topics

Several studies have been conducted on non-communicable diseases in Ghana, on the following topics:

- Socioeconomic Status and Hypertension in Ghana
- Health of Urban Ghanaian Women
- Blood Pressure in Northern Ghana
- Blood Pressure in Accra Women
- The Epidemiology of Obesity in Ghana

Summary of Methods

All the studies conducted were approved by the relevant Ethical Review Committees or Institutional review Boards. Whilst for the study on obesity, data were collected from a nationwide sample as part of a world health survey, the other studies accessed were conducted in Accra Metropolitan Area and Kassena Nankana district of the Northern Region. Quantitative methods were mainly used in the collection of data for these studies. Survey instruments were used to collect data. For some participants of certain studies, anthropometric and blood pressure measurements were taken, whilst for other studies participants went through comprehensive medical and laboratory examination (CMLE).

Data were coded and entered into a database, and analyzed using versions of statistical programs, SPSS and STATA.

Summary of Results

The study on 'Health of Urban Ghanaian Women' indicated that there is a wide range of health conditions that affect women in the urban environment. These range from non-communicable illnesses such as hypertension, diabetes and obesity, to the persistent problems of fever and malaria (Hill et al., 2007). The study on 'Assessment of Blood Pressure in Urban Women' also indicated hypertension to be a significant public health problem for adult urban women. The study identified several significant risk factors for hypertension in a cohort of urban women. These include increasing age, obesity, parity of three or more children, early age of menopause, no formal education, married status, post-menopausal status, elevated fasting blood glucose and total cholesterol levels, and a first-degree relative with hypertension (Duda et al., 2007).

Findings from studies on hypertension show that the prevalence of hypertension was lowest among participants in the low socio-economic position, and highest among those of the highest socio economic position. The pattern among those within the intermediate socioeconomic group was inconsistent. Participants in the highest employment grade category were more likely to have hypertension than those in the lowest category. There was a positive graded association between adult wealth and hypertension, with more assets associated with greater risks. One study also showed that blood pressure increases with age (Addo et al., 2009).

The findings from the studies indicate a need to promote the adoption of healthy lifestyles regardless of socioeconomic position as a means of primary prevention of hypertension with emphasis on maintaining ideal body weight and the need to develop appropriate strategies for better control of hypertension (Kunutsor & Powles, 2011). Findings also indicate a need to prevent increasing BP contributing to a major increase in associated health burdens. The problem of excessive salt consumption needs to be addressed through health education programs (Addo et al., 2009).

A number of studies on NCDs have also been conducted by non-HDSS research groups in the country. One such study charted a brief history of Ghana's chronic disease burden, focusing on prevalence, risk and illness experiences in addition to demonstrating that Ghana, like other African countries, faces a chronic disease epidemic. The study indicated that chronic diseases in Ghana constitutes significant public health and developmental challenges, requiring the same intellectual and financial commitments afforded to communicable and infectious diseases such as malaria and HIV/AIDS. Recommendations from the study are that there should be an effective response to the multifaceted roots and consequences of chronic diseases. Research, interventions and policies on these have to be informed by multidisciplinary, biomedical and social science collaborations (De-Graft Aikins, 2007).

Other studies focused specifically on disease conditions such as obesity, pre-hypertension, hypertension, and diabetes. One study that looked at the epidemiology of obesity demonstrated a link between lack of physical activity, drinking and an unbalanced diet to obesity. It also showed the classical link between obesity and a history of angina and diabetes. It was recommended that measures should be taken to control obesity in order to reduce the burden of chronic diseases that consume health resources and lead to premature deaths. There is the need for increased awareness, and promotion of healthy life style, including exercising and general healthy living (Biritwum et al., 2005).

One study that reviewed published articles on population-based prevalence of adult hypertension in Ghana found that prevalence of hypertension ranged from 19% to 48%

between studies. Findings from similar studies indicate that factors associated with increased blood pressure include advancement with age and increased BMI and waist circumference. Other factors are over-nutrition and alcohol consumption. Population-wide approaches need to be developed for education and appropriate medical provision, in order to address vascular disease risks resulting from higher than optimal BP. There is the need to prevent increasing BP from contributing to a major increase in associated health burdens (Kunutsor & Powles, 2009; Bosu, 2010; Agyemang & Owusu.Dabo, 2008).

iv) Environmental Sanitation and Hygiene

For more than forty years, environmental sanitation and hygiene has been one of the greatest challenges to the health of the people of Ghana. One study, which also explored the environmental and health consequences of the waste dilemma in the country, confirmed this assertion, and also found that domestic waste management has been a persistent problem in Accra for years. The largest risk to humans comes in the form of diseases associated with unsanitary conditions. Infectious diseases of poor sanitation and poverty are the most common diseases affecting the residents of Accra. Due to poor waste management, some people burn their waste which also contributes to outdoor air pollution. Burning of domestic waste has been associated with respiratory illness. The study recommends the need to explore how recycling can play a larger role in the disposal practices (Thompson, 2010).

Another study conducted in the north of the country indicated similar findings. This study also concluded that there are inadequate facilities for waste disposal especially among the low class residential areas, and that waste management institutions were unable to deliver efficient services as they were under-resourced. This study also recommended the implementation of Integrated Solid Waste Management, which applies recycling methods especially for waste like rubber cans, bottles, metals and plastics like polythene bags and empty water sachets, as well as the composting of waste food items (Palczynski, 2002).

The effects of poor solid waste disposal as well as inappropriate use of pesticides on the health of the population is made evident in a study on Pesticide and Pathogen Contamination of Vegetables. The findings from this study indicated that vegetables from urban markets in three cities in the southern, middle and northern belts of the country were fecally contaminated, and there were pesticide residues which exceeded the maximum residue limit for consumption. The study concluded that intensive vegetable production, common in Ghana and its neighboring countries, threatens public health due to microbiologic and pesticide contaminations (Amoah et al., 2006).

v) Air Pollution

Focusing on air pollution, one study was conducted for an initial assessment of the levels and spatial and or temporal patterns of multiple pollutants in the ambient air in two low-income neighborhoods. The findings were that there is evidence of particle pollution from various sources such as biomass and traffic sources (Arku et al., 2008). Another study sought to investigate within-neighborhood spatial variability of particulate matter (PM) in communities of varying socioeconomic status. Findings from this study indicate that factors that had the largest effects on local PM pollution were nearby wood and charcoal stoves, congested and heavy traffic, loose dirt road surface, and trash. The study also found that PM pollution was highest in neighborhoods of lowest socioeconomic status and highest population density. Recommendations from this study are that there is the need for effective and equitable interventions and policies that reduce the impacts of traffic and biomass pollution (Dionisio et al., 2010).

vi) Women's Health

One study that focused on women's health identified social determinants of women's health in very poor rural areas, as well as exploring the protective and enabling factors for wellbeing of women in rural communities. The results indicated that there were existing connections between social determinants and women's health. The ability to bear children, traditional skills, education, religious beliefs, social status and social support were strong indicators that affect the status and wellbeing of women of childbearing age.

Indications were that previous local customs marginalized women, yet with the adaption of different religions and change in beliefs of roles for women, women's health and status have improved. Although most women were not completely healthy, women were able to sustain livelihoods to support themselves and their families. They have little access to existing resources in order to start enterprises on their own. Therefore it was difficult for a woman to succeed on her own, meaning social support had significant contributions to women's health and status. The study recommended that human capital such as skills training and basic education were important factors for a woman to succeed in an income generating activity. Social networks, including assistance from husbands and children, were also suggested as important for women's prosperity. This study indicated an enormous need for health education for the people living in rural communities (Bosu, 2010). A similar study which looked at women's health in Accra, which is mostly urban, also concluded that among the study population increasing age, lack of formal education, and low-income adversely affected health conditions of women (Agyemang & Owusu-Dabo, 2008).

The disadvantaged position of women in Ghana and its influence on their health is portrayed in another study conducted on the understandings of women's mental health. The study sought to explore what key stakeholders perceive as the main causes of mental illness in women in Ghana. The reasons attributed were classified as women's inherent vulnerability, witchcraft, and gender disadvantage. The study therefore recommended that the way in which women's subordinate position within society may underpin their mental distress needs to be recognized and addressed. The results from this study offer opportunities to identify how policy can better recognize, accommodate and address the mental health needs of women in Ghana and other low-income African countries (Ofori-Atta et al., 2010).

vii) Road Traffic Accidents

Over the years, road traffic accidents have caused many deaths as well as disability among the population, and the trend increases with time. The Ghana Police Service has reported that in 2011, about 2,330 people died through road accidents as against 1,760 recorded in 2010. Statistics indicate that out of 13,572 road accidents recorded in 2011, 13,272 people received injuries. This compares to 11,147 injuries from accidents recorded in 2010 (Vibe Ghana, 2011).

A feature article on curbing road accidents in Ghana puts the cost of road accidents to the nation in 2008 at US$288million. This article suggests that the causes of these accidents include poor eyesight, driver fatigue, drunkenness, over speeding, defective vehicles, overloading, poor roads, and nonexistent road markings (Boateng, 2011).

Another feature article suggests the same causes for the carnage on the roads, in addition to reckless and irresponsible driving and wrongful over-takings. The article also suggests that a large percentage (85%) of public transport drivers have never attended a driving school. Those untrained drivers transfer their bad practices to their apprentices without any sense of responsibility. Consequently, a sustained cycle of reckless and undisciplined drivers are maintained, continually causing death and depleting the human capital of the nation (Kamara Makama, 2011).

One study was conducted to investigate the knowledge and attitudes of commercial drivers in Ghana as regards alcohol impaired driving and to decipher information that will be used to develop anti-drunk driving social marketing messages for educating the public. Findings from this study indicate that the majority of drivers have the understanding that drunk driving was a significant risk factor for crashes. However, there was a significant under-appreciation of the extent of the problem and most respondents believed that it was only extremely intoxicated drivers who caused the problem. Recommendations from this study stressed that it was necessary to enforce existing anti-drunk driving laws (Asiamah et al., 2002).

Summary

This overview of SDH needs in Ghana suggests that in order to progress in development and to make gains in ensuring health equity, there is a need for leadership, equitable resource distribution, and policy coherence on the part of government to benefit all sectors, but especially for sectors that deal issues like mental health and environmental health. In addition to this, for some of the determinants identified, gains could be made through legislation as well as the enforcement of current laws, awareness creation and education as in the case of non-communicable and lifestyle diseases, occupational health and safety, and road traffic accidents.

Poverty is a major over-riding determinant of health that needs to be addressed through social schemes implemented with adequate and equitable coverage. Women particularly who find themselves in disadvantaged circumstances need psychosocial support as well as policies and programs that will ensure gender equity.

A strong political will and adequate investment is therefore needed to make this a reality. Since Ghana has, recently become an oil-producing and exporting country, it is expected that the oil revenue generated will enhance the quality of life of the population. Revenue from the Oil and Gas industry can be channeled into fighting poverty and the inequities that are presently to be found in Ghana.

7. ONGOING WORK ON SDH

In Ghana various sector ministries, departments and agencies are mandated and resourced to do work that impacts upon various facets of the health of the population. However, evidence of collaborative work and inter-sectoral partnership that will promote health equity is few and far between.

The Ministry of Health (MOH) in Ghana is the government machinery mandated to provide health services and promote health in the country. With the support of Government, donor agencies and multi-lateral partners like WHO, USAID, DFID, UNICEF, and with the collaboration of both international and local nongovernmental organizations (INGOs and NGOs), the MoH has over the years implemented policies to increase access to good quality health services, and has put in place strategies and programs that will ensure optimum health for the population. The policy thrust of the MOH is to reduce inequities in access to care and to increase coverage, quality and use of health services so as to achieve a healthier national population. In the Government of Ghana's Sector Medium Term Development Plan, one very important objective within the health sector is to bridge equity gaps in access to health care and nutrition services and ensure sustainable financing arrangements that protect the poor.

Health Care Services

In a bid to improve and ensure equity in accessing healthcare, the MoH and its allies and collaborators have achieved some successes. An example of this is the establishment and subsequent increase of Community-based Health Planning and Services zones (CHPS) in all ten regions of the nation, to improve access to health care and to provide primary health care services within communities. These are complemented by targeted outreach services to deprived areas.

Within the ambit of SDH work, the MoH has also implemented programs to generally strengthen the health system by developing and using information technology to improve information management and service delivery. Other areas of interest in which some programs have also been initiated and implemented are the management of non-communicable diseases; maternal health care; nutrition and safety. Mental health care has only recently received a boost with the passing of a Mental Health Bill. Currently, however in the area of mental health, with only three psychiatric hospitals in the country, care for the mentally ill is grossly inadequate and this is so especially in the northern parts of Ghana. One international NGO that has worked actively and made some impact in the area of mental health especially in the northern part of Ghana is Basic Needs. Government action for the implementation of the provisions of this bill is very crucial for addressing mental health care in the country.

Similarly, some initial programs have been implemented with regards to environmental and occupational health and safety, health lifestyles and behaviors. Implementation of programs for these, need inter-sectoral action to be effective. Several local as well as international NGOs, for example, the Catholic Relief Services (CRS) and World Vision International (WVI), implement programs in support of and in line with the vision of the health ministry. The mission of CRS is principally to promote human development by responding to major emergencies, fighting disease and poverty, and nurturing peaceful and just societies. Most of the projects of CRS are focused in the Northern part of Ghana, and in the area of health they respond to the poor health conditions by tailoring support to the areas that need the most immediate attention. CRS Ghana provides training to improve the quality of services, and helps increase access to these services by supporting construction. World Vision International has also worked to improve health and nutrition by providing quality and accessible health services to children and their families in several regions in the country.

Other Ministries, Departments and Agencies (MDA) in SDH work

The Ministry of Women and Children's Affairs is mandated to empower women as well as improve the socio-economic status of women and children, the vulnerable and marginalized groups, through formulation of policies and targeted interventions, which promote gender mainstreaming across all sectors that will lead to the achievement of gender equality. Examples of some organizations that support the ministries work are The Hunger Project and Action Aid.

In the area of water and environmental sanitation, the main players in the government sector are the Ministry of Local Government and Rural Development, the Environmental Protection Agency, and the Ministry of Environment Science and Technology. In various ways these ministries are to ensure an environmentally safe society that will contribute to improving health. Some NGOs which are active in this aspect of SDH work are Rural Aid, Water Aid, World Vision International (WVI) and CRS. WVI has provided access to clean drinking water, and has helped to eradicate guinea-worm in many communities, while CRS has provided resources to meet water and sanitation needs especially in the three northern regions.

The work of Water Aid and Rural Aid has been based on their various missions. The mission of Water Aid is to transform lives by improving access to safe water, hygiene and sanitation in poor communities by providing financial and capacity support to its local partner NGOs who in turn implement and manage water, sanitation and hygiene promotion projects in local communities. Rural Aid's mission was initially mainly to provide water to communities in the Upper East Region of Ghana where it is based. They currently engage in water provision, sanitation, hygiene promotion, and advocacy activities.

MDAs & Social Protection Schemes

A number of social protection schemes are currently operational in the country to help alleviate poverty and livelihood vulnerability. The objective of a Social Protection Scheme is to protect people from chronic poverty, as well as risks and shocks caused by unexpected economic fluctuations. Social Protection strategies are often financed by public funds and contributions.

Within the health sector, in order to reduce health inequalities and improve access to health care for people of varied socio economic backgrounds within the population, the Government of Ghana under the MOH has implemented a National Health Insurance Scheme (NHIS) to provide financial risk protection against the cost of quality basic health care. Through the NHIS, the government of Ghana provides basic healthcare services to persons resident in the country through mutual and private health insurance schemes. All residents of Ghana are expected to enroll in either a private or a mutual health insurance scheme. Conditions for membership of these schemes are varied and persons who choose to enroll in a mutual scheme are expected to pay a financial contribution of between GHC 7.2 to GHC 10. The NHIS policy directs that contributions may be up to GHC 48 as an upper limit. Residents aged above 70 years and the very poor are exempted from paying premiums, whilst children aged less than 18 years are covered by the premiums paid by their parents. It is estimated that as of the end of 2009, about 14.5 million Ghanaians had ever registered under the insurance scheme. This does not however represent active membership. Another scheme within the health sector is health exemption for the elderly and socially disadvantaged persons.

To address socio-economic equity and to invest in social economic development, some social transfer schemes or social grant schemes have been implemented by government ministries and their collaborators. The social grant or transfer scheme provides financial support for Orphans and Vulnerable Children, people over 65 years, and people with disabilities. The needy households are selected depending on their poverty status and presence of any one of the three categories of vulnerable groups. The selected needy households are given a specified amount of cash on a monthly basis depending on the number of needy people in a household. These cash transfers to the people may have certain conditions attached depending on the category of needy person involved. Examples of these are the Livelihood Empowerment Against Poverty (LEAP) program, implemented in various sectors by the Ministry of Employment and Social Welfare's Department of Social Welfare. The Ministry of Employment and Social Welfare has as its core mandate the promotion of sustainable employment opportunities, management and vocational skills development, training and re-training, harmonious industrial relations, safe and group formation, and social integration of the vulnerable, the excluded and the disadvantaged for the development and growth of the economy. Within this ministry, conditional cash transfers and health insurance is provided for extremely poor and vulnerable

persons. In collaboration with the Ministry of Agriculture, support is provided for farmers and fishermen, while Local Enterprises and skills development program is implemented by the same department in collaboration with Ministry of Local Government and Rural Development.

The Ministry of Education and its collaborators also have various social transfer schemes to expand access to all levels of education to carry out the Government's vision of using quality education delivery in order to accelerate the nation's socio-economic development. Some of these are the school feeding program, capitation grant (to assist with school-related costs, such as stationary, building maintenance, and so on), and free school uniform programs. In the educational sector as well, there are both national and international NGOs like ISODEC, CRS and PLAN International, as well as development partners like DFID, USAID, who are allied to the Ministry of Education. They provide support while also implementing programs to advance education in Ghana.

Other social protection schemes operational in Ghana are humanitarian relief schemes for disaster management as well as other social insurance schemes like the social security and pension schemes.

Summary

There is a substantial amount of ongoing work within several sectors of the government that relates to SDH, however the impact of much of this work brings little benefit to health equity because of inadequate coverage of programs, weak institutional capacity, weak targeting mechanisms and inadequate inter-sectoral linkages that pertain in many of these sectors.

To address SDH and make gains towards ensuring health equity, government would be required to take actions that would strengthen these public institutions at national, regional and district levels, as well as ensuring policy coherence across the various institutions. Within the various sectors, measures must be instituted to ensure effective planning, regulation development, enforcement, and standard-setting in all programs and projects (CSDH, 2008).

8. SDH-RELATED POLICIES IN GHANA

Policies and guidelines drawn up by government with the support and input by NGOs both local and international, donors and bilateral partners were reviewed. These policies are mostly within specific sectors.

a) SDH-relevant policies within the health sector

The Ministry of health currently operates under a policy dubbed "Creating wealth through health". This policy was adopted in 2007. Previously the work of the health ministry was guided by a five-year program of work, which ran from 2002 to 2006. The relevant SDH components in the current policy are Healthy Lifestyles and the Environment; Health Reproduction and Nutrition services; and Governance and Financing. Other policies relevant to SDH within the MOH are the National Drug Policy, the National Health Insurance Policy and the Free Maternal Care Policy.

The first version of the National Drug Policy was passed in 1999, and it was revised in 2004. This policy covers quality assurance, the rational use of drugs, emerging diseases and pharmaceuticals, and local manufacture of pharmaceutical and traditional medicinal products. Education and awareness creation on the requirements of this policy is important for compliance due to rampant violations.

The National Health Insurance Policy was implemented in 2004 to ensure access to basic healthcare services to all residents of Ghana. The NHIS council is mandated to register, license and regulate various health insurance schemes. Under the various schemes, exemption from paying premiums has been provided for the elderly, the very poor who are classified as indigent, and children under eighteen whose parents or guardians are registered under the scheme. There have been challenges with payment of premiums for some clients as well as delays in reimbursement to facilities for services rendered. These need to be streamlined.

The free maternal care policy is an exemption policy directed at making delivery care free. The policy was considered as being favorable, but implementation ran into significant problems due to failure of prompt and adequate reimbursement to the clinical facilities. Such policies require ensuring availability of funds to cover the exemptions and identifying ways to improve the imbalance between the rich and the poor.

In August 2011 a policy document dubbed "Occupational Health and Safety Policy and Guidelines" for the health sector was launched. This document is expected to serve as a model

to guide other sectors of the economy to take measures in ensuring safe and healthy workplace programs.

The Public Health Bill, which was passed by the parliament of Ghana in July 2012, requires that all workers are screened prior to employment, and thereafter regularly, for general illnesses as well as for workplace-specific ill-health. Regular screening will ensure that the onset of non-communicable diseases is identified and possible remedies sought. Government also needs to ensure that workplace health programs and employee wellbeing programs become a requirement of all workplaces in the country.

Another very important aspect of this bill is the legislation on Tobacco control which needs to be enforced considering the devastating and injurious effect of smoking on the health of both smokers and non-smokers. The Public Health bill prohibits smoking in public places and provides for a ban on the following: advertising of tobacco and tobacco products, tobacco sponsorship, promotion of tobacco and tobacco products, the sale of products that look like or are likely to be identified or associated with tobacco or tobacco products. The legislation mandates the printing of health warnings on tobacco packs, prohibit minors from selling, buying, lighting or being exposed to tobacco or tobacco products, and it also bans the sale or offer for sale of tobacco or tobacco products to a child. In addition, advocating for an increase in taxes on tobacco products will make it more difficult for people to purchase the product.

b) SDH-relevant policies outside the health sector

The Ministry of Women and Children's Affairs has a policy themed "Empowering Women and Children", spanning 2010 to 2013. This policy covers the following issues: domestic violence, Human Trafficking, Gender Responsive skills, and Community Development and Gender Issues. These are issues on which effective programs will promote gender equity.

The National Population Policy, put forward by the National Population Council in 1994, has many components that are relevant to social determinants of health. Some of these are Maternal and Child Health, Family Planning and Fertility Regulation, Health and Welfare, Food and Nutrition, Empowerment of Women, Education, Role of men in family welfare, The Aged and Persons with disability, Internal Migration and Spatial distribution of the population, Environmental Programs, Housing Strategies and Poverty Reduction.

Another very comprehensive policy is that by the Ministry of Environment Science and Technology dubbed National Science, technology and Innovation policy of 2010. It has components for agriculture, health, industry, environment, human settlement, building and

construction, sports and recreation and roads and transport. The Environmental Protection Agency also has a policy that covers some of these components, whilst the Ministry of Energy has a National Energy Policy (2010) that has a component on energy and the environment. It is important for the policies in the various sectors to be complementary. The effective implementation of these policies across sectors in a coherent manner can improve health and promote health equity.

The Ministry of Transport and the Ministry of Roads and Highways both have policies that cater for road safety for pedestrians and vehicular traffic. The Ministry of Local Government and Rural Development's Environmental Sanitation Policy (1999) has components that provide guidelines for solid and liquid waste management, whilst the policy of the Ministry of Water Resources Works and Housing's policy - the National Water Policy (2007) – has components covering Integrated Water Resources management, access to water for food security, and water for non-consumptive and other uses.

Within the Ministry of Trade and Industry there is the Ghana Industrial Policy (2009) that has a component on occupational health and safety. The Ministry of Employment and Social Welfare has a National Ageing Policy (2010) which has components covering the health, living environment and income security of the aged.

In a bid to ensure the proper management of the emerging oil and gas industry, the Government of Ghana has put in place a number of measures to maximize the economic and social benefits from this sector. Currently there is the Petroleum Revenue Management Act, passed in 2011, which promises accountability and transparency in the disbursement of oil revenue. This Act provides a framework to guide the efficient collection, allocation and management of revenue from the oil resource for the benefit of present and future generations, as well as ensuring the overall management of petroleum revenue, based on sound and sustainable fiscal policies that transcend political regimes. The bill has outlined clear regulations for petroleum revenue inflows and outflows. In the bill, provision has been made for the establishment of a Petroleum Holding Fund into which all petroleum receipts will be deposited and disbursed according to the provisions of the Act. A Stabilization Fund has also been established to take care of revenue volatility through expenditure smoothing, as well as a Heritage Fund to ensure intergenerational equity and to create an alternative source of income for the future (Attah-Brako, 2011). In the Act, certain priority spending areas have been outlined for which petroleum revenues can be allocated. These are priority areas that have implications for SDH, for example, water and sanitation, agriculture and agro-business, physical infrastructure and service delivery in education and health, rural development, environmental protection and provision of social welfare and the protection of the physically handicapped and

disadvantaged citizens amongst others (Petroleum Revenue Management Bill http://www.mofep.gov/sites/default/).

Ghana therefore has a lot of good prospects of addressing SDH in years ahead so long as there is effective management, and the revenue from the oil and gas industry is equitably disbursed to fight poverty and bring about equity.

c) Forthcoming policies relevant to SDH

The National Development Planning Commission in Ghana has developed the Ghana Shared Growth and Development Agenda (GSGDA) which is a Medium-Term Development Policy Framework (2010-2013) to be used by sectors, metropolitan, municipal and district assemblies (MMDAs), Civil Society Organizations (CSOs) and the private sector, for the preparation of policies, strategies, programs and actions that will enhance wellbeing, and improve the living standards of Ghanaians. The guidelines were prepared to ensure among other things that, across sectors, all policies and programs implemented are purposefully formulated to support the achievement of national development goals and objectives of the Medium-Term Development Policy Framework, and that cross cutting issues such as population, gender, climate change, and vulnerability are integrated into programs and policies across sectors and at different levels.

The Medium-Term Development Policy Framework (2010-2013) aims to address economic imbalances, re-stabilize the Ghanaian economy and place it on a path of sustained accelerated growth and poverty reduction geared towards achieving the Millennium Development Goals and middle income status.

The SDH relevant aspects of this framework that are to inform policies and programs of all sectors are:

Expanded development of production infrastructure

- Transport Infrastructure: To ensure the provision, expansion and maintenance of safe and secured transport infrastructure of all kinds
- Human Settlement Development: To promote a sustainable, spatially integrated and orderly development of human settlements to support socio-economic development

Developing human resources for development through:

- Education: the plan of the NDPC is to improve equity in access to and participation in quality education at all levels and for all peoples including those with disability. It is also to include mainstream issues of population, family life education, gender, health,

HIV/AIDS/STI, conflicts, fire safety, road safety, civic responsibility, human rights and environment in school curricular at all levels

- Health: the aim is to bridge the equity gap in access to health care and nutrition services by ensuring sustainable financing arrangements that protect the poor, as well as ensure improved maternal and child health care
- Population Management: to create awareness on the implication of population on development; and to support development of programs on key emerging issues like urbanization, migration, girl child education, the aged, youth, persons with disability, HIV/AIDS/STI/TB.

Transparent and accountable governance:

- Practice of Democracy and Reform agenda: To promote coordination, harmonization and ownership of the development process.
- Women Empowerment: To empower women and to mainstream gender into socio-economic development, to review and enforce existing laws protecting women's rights, and to introduce new legislation to take care of existing gaps, as well as introduce gender budgeting and enhance women's access to economic resources.
- Rights and entitlement: To identify and equip the vulnerable and excluded with employable skills; facilitate equitable access to good quality and affordable social services; put in place effective programs for public awareness creation on laws for the protection of the vulnerable.

Reducing Poverty and Income Inequities

- Special Development Areas: Bridge/reduce spatial and income inequalities in Ghana's development, Coordinate on-going and emerging programs for reducing poverty and inequalities in Ghana
- Poverty Reduction focus: Promote income generating opportunities for the poor and vulnerable, including food crop farmers; facilitate and enhance the empowerment of the poor in terms of their economic, social and human rights and environmental protection and security; promote inclusive development processes through support for decentralization and gender equity; develop and enhance Social Protection for the Poor by ensuring fair and equitable distribution of national wealth.

Putting through policies according to this framework will impact health inequities and contribute towards enhancing the health of the nation's population.

9. FINDINGS FROM STAKEHOLDER INTERVIEWS

Informants' responses were analysed and categorized according to the different topics that were discussed during the interviews. These are presented in turn below.

i. Understanding and use of the term 'Social Determinants of Health'

The term "Social Determinants of Health" (SDH) generally seemed to be understood by interviewees, particularly those respondents within the health sector. Respondents in other government sectors outside the health sector had a vague idea and some of them needed some explanations for clarity.

Respondents within the health sector and those whose work impacts directly on SDH indicated that SDH refers to social phenomena or activities that have any implication for health, or to those that influence the health of people either positively or negatively. References were made to factors outside the health sector that promote, determine or influence the health of the population.

Examples given of some of these determinants were socio-economic circumstances such as poverty, education, access to social amenities, social and community framework such as where a person lives, and living conditions, gender and environmental conditions.

Generally, with the exception of respondents who had some exposure to the term due to their work (for example, they had collaborated with organizations who were advocating for government to work on SDH), the term is not one that is generally used in the work environment. It was indicated that in their work the determinants are not referred to in that broad term; however, the factors are identified and addressed through various programs that for example improve access to health care for vulnerable like children under-five years of age, or pregnant women. These issues are addressed as part of the mandates of the various health care providers since they influence access to healthcare however there is limited use of the term. In expressing their views about the meaning of the term some references were made to ensuring equity in the provision of services and amenities for the population.

One respondent indicated the possibility that the phrasing of the term gave the impression that it was a phenomenon that should be handled within the health sector. This, he indicated, could be misleading.

ii. The most important SDH in Ghana

Social determinants of health that were identified as the most important in Ghana were education, as well as (both formal and informal) economic conditions of the population. Challenges in these areas have led to the implementation of various social protection schemes and livelihood sustainability programs. Other SDH mentioned were agriculture and food security, water and sanitation, cultural dimensions, and health seeking behavior. Respondents indicated that education principally was very critical, since that could enable individuals to take responsibility for their economic and health circumstances which are important factors that determine ones quality of life.

iii. Sectors that address SDH issues

The related sectors which address issues related to SDH that were identified as most important are the Ministry of Education, which deals with formal education, and the Ministry of Health, when education is in reference to health education. Other sectors that were also identified as important are the Ministries of Health, Finance and Economic Planning, Food and Agriculture, the environmental health and sanitation division of the Ministry of Local Government, and the Ministry of Employment and Social Welfare.

Amongst the various MDAs whose work impacts upon health, there is an appreciable level of inter-sectoral collaboration and cooperation to ensure that the various mandates of the sectors are fulfilled. However, generally issues that are seen as those that fulfill the health objectives are seen as the prerogative of the health ministry. In addition to these government MDAs, it was indicated that development partners such as WHO, DFID, USAID, DANIDA, the UN agencies, and the World Bank, who provided support and funding for many of the programs within these sectors, were also key in the implementation of programs.

Both international and local nongovernmental organizations also either partner government MDAs or implement their own programs on key SDH issues. These organizations work closely with the MDAs as well as other NGOs and development partners to address important SDH issues. These organizations may however not have specific visions for SDH. Just like the MDAs they collaborate with, they work within their mandates to fulfill their missions and visions, and through advocacy and implementation of various programs and projects, they address many key SDH issues, especially at the community level where most of them are based.

iv. Success Stories

Looking at the sectors whose work relate to SDH, a few respondents indicated that some successes are evident, while others preferred to refer to these as modest gains. Examples of those described as successes are in the area of immunization coverage and guinea worm

eradication. Other examples included the National Health Insurance Scheme, the area of decentralization of provision of the health care services to improve access and ensure equity in health care, with the local government sector actively and effectively collaborating with the Ministry of Health.

v. Impact of work of sectors outside the health

Interviews conducted with personnel in sectors outside the health sector indicate that there is a prevailing view that the work done in these sectors to a large extent has a positive impact on health. For example, within the agricultural sector there are programs that are geared towards food security and food safety which promote preventive health. This is done through training programs in nutrition, food processing, food safety, and sanitation, as well as through the implementation of alternative livelihood programs aimed at improving the circumstances of community members. Other sectors outside the health ministry also have programs geared towards ensuring equity and enhancing the livelihood of community members.

Although generally most of the MDAs outside the health sector do not conduct a health impact assessment of their programs, it was indicated that it was however something that they thought was feasible and would be helpful to do in the future if they had the means and support to conduct such an assessment.

vi. SDH Issues not being addressed

There is evidence that there is quite an appreciable amount of work going on in the country related to SDH, and though it may seem that some of this is being done on a piecemeal basis, the objective of bringing about equity and the impact of enhancing the lives of the population is evident. Respondents were however of the view that there are some other factors that are critical if inequalities are to be minimized; and these need more investment, commitment and action.

It was suggested that the collaboration between many of the sectors that deal with SDH is not effective. Many of the sectors focus mainly on their mandate without reference to the programs of other sectors whose work also impact health. Sectors therefore seem to be in a straightjacket. References were made to environmental sanitation and the emergence of non-communicable diseases such as hypertension, cancers, diabetes. It was suggested that the sector that takes care of sanitation needs much more investment and capacity building, and that there is a need for further research to provide information that would enhance health educational messages to ensure that the desired lifestyle adjustments are made within the population to bring about behavioral change, and thereby stem the trend of non-communicable diseases and improve sanitation.

Some of these factors which the government needs to focus on are the cultural dimensions which determine the general behavior and choices of the population, road traffic accidents, and energy (in terms of stability in the provision of power which affects the provision of health services). Other factors that government needs to address are the economy and unemployment.

vii. Political importance of SDH

Generally, most respondents were of the view that politically, SDH issues are seen as important. SDH-related issues feature in political discourse, and due to this perspective, successive governments have implemented various policies and programs to address poverty, improve education and access to education, in addition to many other programs. As far back as the early 2000s the Ministry of Health started making efforts towards addressing issues related to SDH in a concerted manner through inter-sectoral collaboration. Currently the MOH is working with the NDPC to bring the various sectors to work together towards improving health.

The implementation of the national health insurance scheme which provides a uniform platform for the population to access health care as well as sustainable health financing for the poor was cited as an example of the importance of SDH politically. It was, however, indicated that there are some limiting factors hampering the carrying forward of this agenda. Lack of resources, and the difficulty in prioritization due to many pressing issues that government has to deal with, are some factors that were cited as hampering the implementation of the SDH agenda.

Another opinion however was that SDH does not appear to be important politically because some of the issues that relate to SDH are handled on a piecemeal basis, and therefore the results achieved are not lasting. An example that was given was the perennial outbreak of cholera due to sanitation problems. It was suggested that government needs to put in place adequate structures that will address SDH effectively and in a concerted manner. Collaboration between the sectors that deal with SDH issues needs to be institutionalized and adequately financed, since there was an opinion that a lack of logistics seemed to hamper collaboration between sectors. Government also needs to enforce existing regulations on issues that relate to SDH. To address these there must be political will and commitment.

viii. Policies that relate to SDH

Most of the respondents indicated that they were involved in policy formulation and policy reviews and gave examples of policies that relate to SDH that are either being reviewed or are due for review. It was indicated that the Aging policy had just been reviewed while the

Children's policy, the social policy the social protection policy were currently under review. Other policies that relate to SDH that are being developed are the nutrition policy and food safety policy and the Millennium Accelerated Framework (MAF). Within the next eighteen months, the Ghana Shared Growth and Development Agenda (GSGDA), which is a medium-term national development policy framework, may also be reviewed. The current document spans 2010 to 2013, and its focus is to accelerate employment creation and income generation for poverty reduction and shared growth. Every government sector has a component in it and they formulate their policies and programs according to that agenda.

The reviews of the various policies are mainly being conducted within the various government sector ministries, with inputs by the sectors collaborators and stakeholders; while the GSDDA will be reviewed by the National Development Planning Commission. Respondents indicated that generally the formulation or reviews of policies receive support from every quarter of the society including the collaborators of the various sectors, so long as the policy benefits the general population. Policies are opposed only when they seem to favour one segment of the society while others are deprived or neglected.

Respondents indicated that when policies are being reviewed, it is important to support the review with some evidence to indicate why a particular policy needs to be looked at. Within the health sector, some of this evidence could be data in terms of health outcomes as well as review reports. In addition to this, respondents indicated that research was the one important way of gathering evidence to support policy reviews. It was indicated that due to funding issues, the research conducted by the research institutions within the health sector are often based on the priorities of the funding agencies. However it is important to provide funds for these institutions to conduct health systems research which will provide needed evidence for policy reviews for example.

ix. Bridging the gap between researchers and decision makers

It was suggested that when conducting research it is important to identify and involve decision makers or stakeholders right from the onset, by, for example, informing them about the research or interviewing them. This ensures that they develop an interest in the subject of the research and then results can be disseminated to them readily. It was also indicated that it is important to package the results or findings of any research in such a way that it will impact the work of the stakeholder. This means that whatever gaps are identified for action must be clearly spelt out. There must be an analytical framework that will inform the work of the decision maker. Therefore effective collaboration between the stakeholder and the researcher is an important factor. It was stressed that decision makers are not interested in abstract issues,

and that whatever information is passed on to them must be packaged such that they can be easily implemented.

It was also indicated that one factor that could inhibit the bringing of decision makers and researchers together is the issue of turf protection. It was explained that people in positions of authority tend to guard against other people gaining insight into their domains. This could imply that when research is conducted in such sectors, the divulging of information could be limited. Thus gaining the interest of the decision maker in the research is very important.

The issue of funding was also mentioned as a barrier to bringing stakeholders and researchers together, because in many cases the one who initiates bridging the gap may be expected to provide funding for implementation of the recommended actions.

x. Respondents' Recommendations for Addressing SDH

Respondents were of the view that there must be education on what the term 'Social Determinants of Health' is. Awareness needs to be created of this term, especially within the sectors whose work impact on health. It is also important for these sectors to be aware that there must be an effective multi-sectoral platform if issues of SDH can be effectively addressed.

It was recommended that Ghana needs to have an integrated planning system. The NDPC could play an important role in addressing social determinants of health, since it is the apex body that is responsible for the coordinating development planning in Ghana. Issues of SDH cut across sectors, therefore there is the need to develop policy frameworks that manage cross cutting issues as the NDPC has done with the GSGDA, which is supposed to guide policy formulation within the various different sectors. It was recommended that the commission needs to be strengthened so it can effectively play this policy formulation role as well as planning, monitoring and evaluation. It is also important that such policies are instituted so that they are binding on successive governments, so that even with changes in government, programs that were initiated and implemented by a previous government will be continued. It is also important to ensure that the issues that need to be addressed are put on the political agenda. There should also be a focal person at cabinet level in the government who can coordinate SDH issues and ensure that they are given priority.

The need for research that will identify the gaps that must be addressed was also stressed. It was indicated that the key determinants must be identified if equity gaps are to be bridged in the various sectors. This evidence must be made available to advise on and guide the formulation of appropriate policies.

Another recommendation was that the population must be educated on the laws that relate to SDH, and these laws must be enforced. The education about these laws can be done through the media.

10.CONCLUSIONS AND RECOMMENDATIONS

Introduction

The WHO commission on Social Determinants of Health was set up to gather together the evidence on what can be done to promote health equity, and to foster a global movement to achieve it. In line with this the commission is calling on the WHO and all governments to lead appropriate action, first within their respective countries and then globally on the social determinants of health with the aim of achieving health equity. It is essential that governments, civil society, WHO come together in taking action to improve the lives of the world's citizens. In order to ascertain the right policies and programs to implement to reduce health inequalities and ultimately to achieve social justice, it is important to determine what the status quo in each country is relation to SDH.

Use of the term 'SDH', and SDH-relevant training in Ghana

Through curricular, literature and policy reviews, and in-depth stakeholder interviews, it was evident that the term "Social Determinants of Health" (SDH) is not one that is widely used in Ghana. This was evident throughout this study since throughout the various aspects of desk reviews and data collection, the term was hardly cited. It is recommended that awareness must be created about the expression, its meaning, and its relevance to national development.

During interviews, it was however evident that the term was familiar to stakeholders whose schedules had exposed them to the term. Other respondents had a vague understanding of the phrase and needed some clarification. Generally it was concluded that the term is not one that is frequently used amongst stakeholders. Making the phrase known and understood is therefore important both for sectors both within and outside health whose work impact health and also for those in academia. This will ensure that the appropriate links are made between relevant curricula and programs that relate to SDH.

The curricular review revealed that there are several courses that relate to SDH being offered in the only School of Public Health in Ghana, at the University of Ghana, Legon. There are also a few other courses run in other institutions outside the SPH. A review of the course contents of these courses revealed that the courses are aimed at enhancing students' knowledge, and equipping them with concepts and strategies that will enable them to promote good health in the society. The courses review various social and behavioral theories, models and constructs and examine why and how these are used to inform interventions and implement effective strategies that promote public health, relating these to the determinants of health in Ghana. It was however noted that there is little reference to these as SDH, and therefore the link between the courses and SDH is not explicit. Generally courses offered in the SPH and in other

institutions that relate to SDH are delivered through face to face lectures, seminars, workshops. The number of people who are able to access training is also limited, since the institutions do not have the capacity to increase student intake so that more people are trained. A good number of highly qualified applicants therefore fail to gain admission to go through courses that relate to SDH. This mode of training, which is mainly through face to face interactions, seminars and workshops, also places limits on the number of people in the country who can be trained in SDH-related courses. Currently there are no online courses available in Ghana.

It is recommended that the option of making SDH-related training curses available online be considered. This would require some investment to transform the course modules into online courses, in order to enable many more students to gain access to training in courses related to SDH. Internet availability is rapidly increasing and improving, and therefore there is that capacity to support online education in SDH. When making these courses available, the course descriptions should also clearly make reference to the link of the course content to SDH where appropriate. This will also serve to create awareness and educate people on the term “social determinants of health”.

Ongoing SDH Work and Country Needs

Ghana is currently working towards becoming a middle income country and a healthy population is vital in a country that seeks to improve productivity and ultimately development. An overview of the disease burden in Ghana indicates an epidemiological transition in the disease pattern as there is an increase in the prevalence of non-communicable diseases like cancers, diabetes, and cardiovascular diseases, although communicable diseases like malaria and respiratory tract infections are still the leading cause of morbidity. Due to this emerging trend, the current health policy, the 2006 Health sector policy which has the theme “Creating wealth through health” has shifted emphasis from curative strategies to health promotion and prevention of ill-health.

Currently there are policies and programs that address some SDH, and these are being implemented by the MOH and its allies as well as other institutions outside the health ministry according to their mandates. An overview of ongoing programs in the health sector indicates that quite an appreciable amount of work is going on in the country that relates to SDH. Some successes have been attained in improving access to health care and the implementation of programs to address specific health needs. The MOH together with input from donor partners, multilateral agencies, INGOs and local NGOs, have drawn up policies and implemented programs that relate to SDH aimed at increasing access to good quality health services and ensuring optimum health for the population.

With regards to programs that relate to SDH within the health sector, there are ongoing programs to address the management of non-communicable diseases as well as maternal health care, nutrition and safety and mental health care. Some initial programs have been implemented with regards to environmental and occupational health and safety, health lifestyles and behaviors.

Institutions outside the MOH also have policies and programs to address inequities and improve the lives of the populace, particularly women and children, the vulnerable and marginalized groups. Although many of these programs are SDH-related, that is not the focus of the various sectors, and therefore the health impact of these programs is not assessed. It was, however, evident that stakeholders felt that doing such an assessment would be important, and that it would have a positive impact on the work of their sectors. Some of these programs have not achieved the desired impact due to inadequate funding and coverage of programs, weak institutional capacity, weak targeting mechanisms and inadequate inter-sectoral linkages, and therefore there is a need for government to focus some attention in these areas.

In the review of literature, the SDH needs that were identified included environmental sanitation and hygiene, air pollution, mental health, women's health, road traffic accidents, and non-communicable diseases. During interviews with stakeholders, road traffic accidents and water and sanitation were also identified as very important social determinants of health. Others were education, economic conditions or poverty, agriculture and food security and cultural or social dimensions that determine the choices people make, for example with regards to health-seeking behavior.

It is clear that some of the issues identified during the desk literature review are not seen as issues that determine the general health and wellbeing of the population. This gives emphasis to the need to create awareness about SDH. For some of these determinants, it is obvious that though there may be some effort at addressing them, the desired impact is not being made. In the areas of sanitation, for example, there is the need to also enforce existing laws on garbage and human waste disposal as well as littering, if the desired impact will be made.

SDH-related policies and policy reviews

During the desk review, it became evident that Ghana has a number of relevant SDH-related policies, including from non-health sectors. Some examples of these policies are the Ministry of Environment Science and Technology's National Science, Technology and Innovation Policy of 2010; the National Aging Policy; and the National Population policy which has not been reviewed for many years. With the coherent implementation of existing policies, many SDH issues can be dealt with to enhance the quality of life of the population and promote health

equity. Currently there are some policies that have just been reviewed, like the Children's Policy and the Aging Policy, while the Social Protection policy and the Social policy are undergoing review. The Ghana Shared Growth and Development Agenda is also expected to be reviewed within the next eighteen months. It is important that relevant information is provided for such policy reviews.

This Medium term Development Policy Framework – the Ghana Shared Growth and Development Agenda – is a framework developed by the National Development Planning Commission (NDPC) which is the apex body for coordinating development planning in Ghana. The objective of this framework is geared towards the establishment of a just and free Ghanaian society. This framework is supposed to guide the policies and programs of the various sectors and to ensure that, where possible, equity gaps are bridged. In developing such frameworks the NDPC puts together cross-sectoral planning groups that bring together stakeholders from different sectors and different levels, as indicated in Ghana's planning law, to work together to ensure that all pertinent issues are covered. The NDPC can therefore play a vital role in working towards addressing SDH issues since it has the mandate to bring stakeholders together. The NDPC needs to be furnished with appropriate information about SDH needs for the country, and once this information is validated, it can be factored into the policy framework. The important role of research in furnishing policy makers and providing stakeholders with valid and up-to-date data to inform policy formulation and policy reviews therefore cannot be over emphasized. This again underscores the importance of training and capacity building in the area of SDH, to ensure that there is adequate and qualified human resource to support what needs to be accomplished in the area of SDH.

It is also recommended that collaboration needs to be strengthened between the various MDAs or sectors whose work relates to SDH. Each sector has its mandate and its policies that guide its programs. In order to be able to address SDH in a holistic manner, there is the need for an integrated planning system (as is being implemented by the NDPC) to be institutionalized to ensure that not only are there policies that cut across sectors, all geared towards addressing social determinants of health and human development, but that these policies are also effectively implemented. This kind of planning will also ensure that over time there is no duplication of programs within sectors, which will ensure the effective use of available resources. For this to be effective, measures must be taken to eliminate "turf protection" by stakeholders and technocrats, a challenge which has been identified as a hindrance to the effective collaboration and implementation of policy programs.

Generally policy formulation and reviews receive the support of stakeholders so long as the policies are for the general good of the population. Reviews are only opposed when the content

seems to favor some section of the population to the neglect or disadvantage of others. It is also recommended that in any research on SDH, stakeholders must be involved right from the onset so that dissemination of results to them will be easy and readily accepted. Research results must also be formulated in a way that can readily impact the work of the stakeholder.

The NDPC therefore needs to be strengthened and empowered to enable it to play an effective monitoring role, and to ensure that the policies that emanate from the various sectors conform to the requirements of the framework.

Making progress in addressing SDH and eliminating inequalities is a feat that cannot be addressed by a single government ministry. Rather it is one that requires leadership, action and commitment at all levels of decision making (district, regional and national) and across all sectors whose work impacts upon the health of the population. This will require the framing of social and economic policies and the development of programs across the whole society that can influence the social determinants of health, and advance health equity as indicated by the WHO Commission on Social Determinants of health. This will also require strong political leadership. It is therefore important to bring these issues onto the political agenda of government, a feat which will require well targeted advocacy. As indicated earlier, involving the relevant stakeholders in research that relates to SDH could be very advantageous, since they are in a position to play an advocacy role in getting SDH on the political agenda. Generally, many of the programs that relate to SDH are seen as politically important. However it is important to ensure that these issues are addressed in a concerted and comprehensive manner.

SUMMARY OF RECOMMENDATIONS

Recommendations for the government, policy makers and non-governmental organizations

i) Addressing social determinants of health requires strong political will. SDH must therefore be placed on the political agenda of government.
ii) Awareness must be created about social determinants of health. Programs must be instituted to educate and create awareness about SDH in MDAs and organizations whose work relate to SDH as well as in the general populace. There must be a drive to institutionalize and promote use the phrase "Social Determinants of Health."
iii) Strengthen and finance inter-sectoral collaboration between institutions whose work impacts upon SDH. Programs and projects must be planned and implemented across sectors to maximize resources and reduce duplication.
iv) Institutions that offer training in courses that relate to SDH must be expanded and supported to increase training in SDH.

v) Institutions that offer SDH-related courses must ensure that the link between the courses offered and SDH is made explicit.
vi) Institutionalize an integrated planning system to ensure that policies are formulated to cut across sectors.
vii) The apex body for development planning (the NDPC) must be empowered and strengthened to enable it to play an effective monitoring role, and to ensure that the policies that emanate from various sectors conform to the requirements of the framework drawn up for development, and that they are implemented accordingly.
viii) Enforce existing laws and regulations in sectors that relate to SDH.
ix) Institutions that implement SDH-related programs should be directed and supported to formally carry out health impact assessment of their programs in order to ascertain the influence of their programs on SDH and health outcomes.

Recommendations for INTREC

i) Build capacity in research in SDH to ensure further research into SDH issues.
ii) Improve access to training and education in SDH through offering online courses in SDH
iii) Involve stakeholders in any research conducted in the area of SDH through sharing information and seeking their input to facilitate incorporation of recommendations into policies
iv) Furnish policy makers with relevant information from research into SDH which can influence policy.
v) Ensure that research results are formulated in a way that can readily impact the work of the stakeholder

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Annex 1 - Courses related to social determinants of health offered in Ghana

<table>
<tr><th>NAME OF INSTITUTION & DEPT</th><th>NAME OF SDH RELATED COURSE</th><th>FORMAT OF COURSE</th><th>NAME & CONTACT DETAIL OF COURSE ORGANISER</th><th>TOPICS COVERED IN THE COURSE</th></tr>
<tr><td>UNIVERSITY OF GHANA, SCHOOL OF PUBLIC HEALTH (SPH)

Dept of Social and Behavioural Science: Graduate Program Msc/Mphil Applied Health Social Science</td><td>Health Promotion and Practice</td><td>Course delivery-(face to face) includes lectures, seminars, workshops, group work, student presentations and assignments</td><td>Head of Dept: Dr. Philip Adongo Office Phone: +233-28-9109001/+233-28-9109011
Email: sph@ug.edu.gh</td><td>The course is designed to enhance the student's knowledge of the basic concepts and strategies of Health Promotion. It provides opportunities for appropriate application of Health Promotion interventions in changing and uncertain environments with special focus on key players charged with preventing diseases and promoting Public Health. Emphasis is placed on behavior change theories, strategies and methods for responding to emerging and pertinent Public Health issues.</td></tr>
<tr><td colspan="5">Health Promotion and Practice Course Readings
1. Hubley, John (2000). Communicating Health
2. Glanz, K., Rinner, B. K. And Lewis, F. M. (2002). Health Behaviour and Health Education –Theory, Research and Practice. Third Edition
3. Downie, R. S., Tannahill, C., Tannahill, A. (1996). Health Promotion-Models and Values; Second Edition</td></tr>
<tr><td></td><td>Gender and Health</td><td>Course delivery-(face to face) includes lectures, seminars, workshops, group work, student presentations and assignments</td><td></td><td>The course provides an understanding of the role of gender in the health and welfare of the populace. It examines the interrelationship between gender and health. It examines the socio-cultural, socio-political, and socio-economic constructs of gender and how these constructs affect women and men's health in the developing world. It analyzes how women and men's health problems develop, are perceived, and responded to both medically and socially in the contemporary society. In this context, an important theoretical aspect of the course is the development of a socio-medical perspective on health and, specifically, the analysis of women and men's health in relation to their lives and how culture, social institutions, and social policies shape these experiences. Course topics include gender concepts, patriarchy, gender,</td></tr>
</table>

				experience, culture, power, health; poverty, health and health care, gender, and men's health.

Gender and Health Course Readings

1. Adomako Ampofo, A. (2007). 'My Cocoa Is Between My Legs"; Globalization, Social Change And Sex As Work: Ghanaian Women In Accra, Kumasi And Abidjan. In Harley, Sharon (Ed.) *Women's Labor in the Global Economy: Speaking in Multiple Voices.* New Jersey, Rutgers University Press: 117- 148.
2. Allotey Pascale, Gyapong Margaret (2005): The gender agenda in the control of tropical diseases: A review of current evidence, TDR/STR/SEB/ST/05.1, Special Topics No. 4, UNICEF/ UNDP/ World Bank /WHO Special Programme for Research and Training in Tropical Diseases (TDR).
3. Sackey, B.M. (2006). New Directions in Gender and Religion. Boulder, CO: Lexington Books

	Theories and Models of Health Promotion (Elective)	Course delivery-(face to face) includes lectures, seminars, workshops, group work, student presentations and assignments		This course gives an understanding of why theories, models, and constructs are considered the backbone of the processes used to plan, implement, and evaluate Health Promotion interventions. During the course, students are provided with opportunities to review some social science and/or behavioral theories and models and explore how these can be used to guide programme planners in selecting the type of interventions that are needed to accomplish specified goals and objectives

Theories and Models of Health Promotion course readings

1. Glanz, K., Rinner, B. K. And Lewis, F. M. (2002). Health Behaviour and Health Education –Theory, Research and Practice. Third Edition
2. Downie, R. S., Tannahill, C., Tannahill, A. (1996). Health Promotion-Models and Values; Second Edition
3. USAIDS et al (2007). Communication, Behaviour Change and Health- A Trainer's Guide

	Global Perspectives on Health Promotion (Elective)	Course delivery-(face to face) includes lectures, seminars, workshops, group work, student presentations and assignments		The course focuses on helping the student examine the challenges associated with the implementation of Health Promotion activities around the globe with special reference to the context of the developing world. It also provides insights into how to design effective strategies within severe resource constraints. Health Promotion interventions have contributed to substantial improvements in the health status of many nations.

Global Perspectives on Health Course Readings

1. David V. McQueen, Catherine M. Jones (2007).Global Perspectives in Health Promotion Effectiveness. Springer,
2. Promoting Health: Global Perspectives Graham R. Williamson (eds.)

3. Downie, R. S., Tannahill, C., Tannahill, A. (1996). Health Promotion-Models and Values; Second Edition

	Ageing and Health (Elective)	Course delivery-(face to face) includes lectures, seminars, workshops, group work, student presentations and assignments		The course introduces students to the issues of global ageing in general and with reference to Africa in particular. The impact of ageing on the structure and composition of society and its implications for the economy, health, and development will be discussed. The course also explains the magnitude of health and development issues as they relate to ageing and enables students to do a gender analysis of these issues.

Ageing and Health Course Readings

1. Weisstub, D.N., Thomasma, D.C., Gauthier, S., Tomossy, G.F. (eds.) 2002. Aging: Culture, Health, and Social Change.
2. Hummert, M. L. Nussbaum, J.F. (eds.) 2001. Aging, Communication, and Health: Linking Research and Practice for Successful Aging, Hillsdale, NJ: Lawrence Erlbaum.
3. Hickey, T., Speers, M. A., and Prohaska, T. R. (eds.) 1997. Public Health and Aging, The Johns Hopkins University Press.
4. Lunenfeld, B., Gooren, L. J. G., Morales, A., and Morley, J. E. (eds) 2008. Textbook of Men's Health and Aging. Informal Healthcare, London

	Women's Health in Sub-Saharan Africa (Elective)	Course delivery-(face to face) includes lectures, seminars, workshops, group work, student presentations and assignments		The main goal of the course is to explain a variety of health problems faced by sub-Saharan African women, often compounded by cultural values, and religious principles that influence decision-making processes on reproductive and other health issues. The course will also review various factors that impinge on women's health and emphasize some of the emerging changes brought about by gender mainstreaming of health issues in sub-Saharan Africa. Students will have the opportunity to compare the situation of sub-Saharan African women with those from other parts of the world including the United States.

Women's Health in sub-Saharan Africa Course Readings

1. Adongo P B, Phillips JF, Kajihara B, Fayorsey C, Debpuur C, Binka FN (1997): Cultural factors constraining the introduction of family planning among the Kassena-Nankana of northern Ghana. *Social Science and Medicine* ; 45 (12):1789-1804
2. Otoide VO, Oronsaye F, Okonofua FE (2001): Why Nigerian adolescents seek abortion rather than contraception: evidence from focus group discussions. International Family Planning Perspectives, 27 (2): 77-81.
3. Price N, Hawkins K (2001): Young people's sexual and reproductive health: Towards a framework for action. In Managing Reproductive Life: Cross-Cultural Themes in Fertility and Sexuality .Ed. S. Tremayne. New York: Berghahn Books, 194-220.
4 Setel, P. W., Lewis, M., and M. Lyons (1999). Histories of Sexually Transmitted Diseases and HIV/AIDS in Sub-Saharan Africa (Contributions in Medical Studies), Greenwood Press
5 Turshen, M. (1999). *Privatizing Health Services in Africa.* New Brunswick, N.J.: Rutgers University Press

	Health & Development in the Third World (Elective)	Course delivery-(face to face) includes lectures, seminars		This course examines the various social, economic, and political changes that have taken place in the developing world and analyze the impact such changes have had on the health status of populations. The course defines development and explains the link between health and development. It reviews some social and economic development theories as well as the demographic and health transition theories in relation to the developing world. This will lead to an examination of the demographic/health profile of developing nations (e.g. Ghana) and the historical perspective of development policies and their impact on health delivery. This course also enables students to examine critical health issues and their impact on the development and health delivery efforts of developing countries (e.g. HIV/AIDS, Malaria etc.).

Health & Development in the Third World Course Readings

1. Appelbaum, R. P. (1970): *Theories of Social Change*. Chigago: Markham Publishing Company.
2. Asante, F. A. (2005): *The Economic Impact of the Burden of Malaria in Ghana*. Accra: ISSER.
3. Barnet, T. and A. Whiteside (2002): *AIDS in the Twenty-First Century: Disease and Globalization*. New York: PALGRAVE MACMILLAN
4. Birdsall, N.; A. Kelly and S. Sinding (eds) (2001): *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World.* Oxford: Oxford University Press.
5. Corvalan, C. F.; T. Kjellstrom and K. R. Smith (1999): “Health, Environment and Sustainable Development: Identifying Links and Indicators to Promote Action”. In: *Epidemiology*, Volume 10. No. 5, pp 656-660.

	Gender and Violence (Elective)	Course delivery-(face to face) includes lectures, seminars		This course introduces students to the demographic, socio-cultural, and economic factors that impact on gender and violence. Students will be exposed to a wide range of issues that include physical, emotional, and sexual abuse. They will also look at the impact of violence on mental health and the various coping strategies and responses to physical violence.
1. Gender and Violence Course Readings Adomako Ampofo, A., Beoku-Betts, J. and Osirim., M. eds. (2008) "Researching African Women and Gender Studies: New Social Science Perspectives". Special Issue of African and Asian Studies (7): 327-341. 2. Adomako Ampofo, Akosua. (2006). "Intimate Bargains: Sex Workers and 'Free women' Negotiate their Sexual Space." In Christine Oppong, M. Yaa P. A. Oppong and Irene Odotei (Eds.) Sex and Gender in an Era of AIDS: Ghana at the turn of the Millennium. Accra, Sub-Saharan Africa Publishers: 137-168. 3. Akerkar, S. (2001). Gender and Participation Overview Report, BRIDGE Development – Gender Institute of Development Studies. 4. Prah, M. and Adomako Ampofo, A. (2005) "Punishment and Discipline of Women and Children in Ghana." In Cusack, K and T. Manuh (Eds.) *Violence Against Women in Ghana*. 5. WHO (2005): WHO multi-country study on women's health and domestic violence against women, WHO, Geneva				
	Behavioural Science	Course delivery-(face to face) includes lectures, seminars		The course is in two (2) parts. The first part of the course addresses the principles and methods of group dynamics, team building, and teamwork. The second part of the course is based on the premise that most of society's health and disease problems are behavior/lifestyle induced. The students are exposed to the social, economic, political, and cultural contexts within which illness occurs. Opportunities are given which enable students to appreciate public health and related problems more holistically and to assess critically the impact of socio-cultural dynamics on the health seeking behaviors of individuals and groups in society.
Behavioural Science Course Readings a. Levine J. M., & Moreland J.L. (1995), Group processes in A. Tesser (Ed) Advanced Social Psychology, pp. 419 – 466. b. Eagle, A. H., & Johnson, B. T. (1990) Gender and Leadership style: A meta-analysis. Psychological Bulletin 108, 233-256 c. Bishop G. D (1994) Health Psychology. London, Allyn and Bacon Publication, Chapter 2: pp 18-39 d. Insko, C. A., Thilbault, J. W., Moehle, D., Wilson, M. R. Diamond, W. B. Glimore, R. Solomon, M. R. & Lipsitz, A. (1980) Social Evolution and the emergence of leadership, Journal of Personality and Social Psychology 39, 431-448.				

	Social Science Theories in Public Health Practice and Research	Course delivery-(face to face) includes lectures, seminars		Public Health is about the prevention of diseases, injuries, and disability as well as the promotion of good health all of which require a change in human behaviour. This course examines, in detail, theoretical frameworks in the social sciences such as the Health Belief Model, Social Cognitive Theory, Stage Theory, Theory of Reasoned Action, and others. Emphasis will be given to the application of these theories in public health practice, the design, and evaluation of public health interventions and in research
Social Science Theories in Public Health Practice and Research Course Readings: 1. Glanz, K., Rinner, B. K. And Lewis, F. M. (2002). Health Behaviour and Health Education –Theory, Research and Practice. Third Edition 2. Mark Edberg (2007). Essentials of Health Behavior: Social and Behavioral Theory in Public Health (Essential Public Health). 3. Elder John P. (2001). Behavior Change and Public Health in the Developing World 4. Graham Scambler (2002). Health and Social Change: A Critical Theory				
	Foundations of Public Health	Course delivery-(face to face) includes lectures, seminars		History of Public Health, threats to public Health, guiding public health principles. International influences of public health, role of doctors in public health; role of primary care; housing and health; environmental health; occupational health; health promotion;, immunity and its relation to the theory of immunization; parasitic, viral and other microbial life of public health significance. Diagnostic methods in public health, role of nutrients and micronutrients as well as drugs of public health importance; introduction to basic cell physiology and biochemistry; molecular biology, genetics and its applications to health of populations, introduction to public health ethics
UNIVERSITY OF GHANA: SPH Dept of Biological, Environmental and Occupational Health Sciences	**Environmental Health**	Course delivery-(face to face) includes lectures, seminars	Acting Head of Dept: Ishmael Norman PhD Office Phone: +233-28-9109001/+233-28-9109011 Email: sph@ug.edu.gh	Covers a wide range of issues on the basic principles of environmental health. Course prepares students to participate in the planning and administration of environmental health programs and to develop policies and regulations relevant to the protection and improvement of the physical environment. Course covers principles of environmental health, identifying environmental hazards to which men are exposed, modes of transmission of the hazards to men and

				corresponding measures for protection against or prevention of transmission. It also touches on the basic principles of environmental programs.
	Occupational Health	Course delivery-(face to face) includes lectures, seminars		Entails advanced courses in Occupational Medicine and Hygiene in relation to agriculture, industrialization and topics relating to the national and international economic activities and social issues. Discussions focus on research in any aspect of hazards and patho-physiology encountered in the working environment, particularly in the area of respiratory physiology and related population predicted values. Advanced studies in occupational epidemiology, ergonomics, occupational toxicology and psychology is emphasized. Legal and administrative aspects of occupational safety and health and compensation issues are explored.
	Human Health and Environmental Impact	Course delivery-(face to face) includes lectures, seminars		Highlights the challenges of the working environment with its associated hazards. Course covers 4 subheadings. Ecology and Health; Microbes and parasites; Environmental Health, Occupational Health
	Global Health Issues	Course delivery-(face to face) includes lectures, seminars		Course focuses on international public health programmes for the prevention and control of diseases and disabilities and in advancing the health of populations worldwide. Course includes presentations on topics such as Global overview of health; Challenges faced in the areas of Global Health including medical, cultural, historical, economic and political influences. Addresses the adequacy of the scientific base to support improvements in Health and Health care, Tropical Medicine Issues; Assessment of biomedical knowledge and research for the reduction of behavioral, socio-economic and environmental risks to public health, ethical issues in public health, availability of trained health personnel; institutional capacity building for health research.
UNIVERSITY OF GHANA: SPH Dept of Epidemiology and Disease Control	**Disease Control**	Course delivery-(face to face) includes lectures, seminars	Head of Dept: E. A. Afari. MD, MSc, FGCPS	General concepts of communicable and non communicable diseases. Definitions of reportable diseases; Quarantinable diseases. Factors influencing

			Office Phone: +233-28-9109001/+233-28-9109011 Email: sph@ug.edu.gh	communicable disease transmission process. Control of oral-faecal transmitted diseases; vector-borne diseases, sexually transmitted diseases; water related diseases; contact diseases, zoologic disease and air borne diseases.
	Injury Epidemiology	Course delivery-(face to face) includes lectures, seminars		Introduction to injury as a public health problem. Research methods, study designs, risk factors and prevention strategies applied to the problem of injuries.
	Introduction to Non-communicable Disease Epidemiology	Course delivery-(face to face) includes lectures, seminars		An overview of non-communicable diseases in both developed and developing country settings; the global burden of such diseases, temporal trends in mortality from cardiovascular diseases and cancer, diet and cancer and the epidemiology and prevention of mental disorders. Developing and criticizing strategies for preventing cardiovascular disease at the community and individual level.
	Cardiovascular Disease Epidemiology	Course delivery-(face to face) includes lectures, seminars		History of Cardiovascular Disease (CVD) epidemiology; Classification of CVDs; Epidemiology of CVDs in rich economies; Epidemiology in LMICs; Genetic basis of CVDs; Paediatric causes of CVDs; Tobacco control; Obesity; Stroke; Coronary artery disease; Rheumatic heart disease; Diabetes and cardiovascular diseases, conducting field trials in CVDs. Approaches to control of CVDs-dietary approaches
UNIVERSITY OF GHANA: SPH Dept of Health Policy, Planning and Management	**Health Policy Research and Analysis**	Course delivery-(face to face) includes lectures, seminars	Head of Dept: Moses Aikins PhD Office Phone: +233-28-9109001/+233-28-9109011 Email: sph@ug.edu.gh	Course focuses on the identification of empirical evidence to inform content of health policy and health system reform. Provides practical guide to the identification of health policy and systems development and reform issues that need research to generate empirical data to support decision making. It provides skills in identifying and reviewing existing information related to the problem or issues on how to conduct multi-disciplinary health policy and systems research to generate new information, analyze the findings and provide recommendations in clear succinct reports. It

				provides an introduction to concepts and methods of public analysis.
	Advanced Health Policy	Course delivery-(face to face) includes lectures, seminars		Course examines factors that influence the development and implementation of health related public social policies and their accompanying programs in developing countries. It emphasizes how to use this understanding to improve the process of public policy and program development and implementation for health.
	Health Legislation	Course delivery-(face to face) includes lectures, seminars		Course covers basic introduction to legislation and health as well as principles behind the existing health legislation.
UNIVERSITY OF GHANA: SPH Department of Population, Family and Reproductive Health	**Introduction to Family Health**	Course delivery-(face to face) includes lectures, seminars	Head of Dept: Augustine Ankomah PhD Office Phone: +233-28-9109001/+233-28-9109011 Email: sph@ug.edu.gh	The family its structure and function. The rational for family health, MCH and family planning. Historical developments; Global movements in Population Policy and family planning. Child Survival and Development. Maternal, infant and child morbidity and mortality; Growth and Development. Low birth weight. School age and adolescent health issues; Maternal Morbidity and Mortality. Safe Motherhood, Gender Issues and Health. Family Planning, Reproductive and sexual health. Disability. Services for the family including home visiting.
	Public Health Nutrition	Course delivery-(face to face) includes lectures, seminars		Course provides basic nutritional information and is designed to enable students develop insight into Nutrition issues; the acquisition and effective utilization of food resources that ensure optimal growth, development and health.
	Motherhood Issues and Maternal Morbidity and Mortality	Course delivery-(face to face) includes lectures, seminars		Course is designed to enable students develop insight into the issues, concerns and considerations that affect pregnancy and child bearing and underpin policy-making and program development in safe motherhood programs.
	Population Health and survival	Course delivery-(face to face) includes lectures, seminars		Course summarizes the make-up of existing and emerging disease patterns as they affect various population subgroups, with focus on disease patterns when society undergoes modernization.
	Personality development and			Explores the development of personality, human reactions and emotions. Discusses normal and abnormal

	behavior disorders			behavior, labeling, disorders related to growth and mental disorders. Emphasizes a basic understanding of psychopathology and how these affect individual ; families and social work practitioners
UNIVERSITY OF GHANA: FACULTY OF SOCIAL SCIENCES **Dept of Social Work** Undergraduate courses	**Working with Older People**	Course delivery-(face to face) includes lectures, seminars	Head of Dept: Kofi Ohene-Konadu. BA,MA, MPhil, PhD P O Box LG 72, Legon	The aged population and their needs available resources and service in the community assisting the aged in obtaining services implication for the future.
	Working with Persons with HIV/AIDS			Basic facts about HIV/AIDS; psychological and social impact of HIV/AIDS; service needs of people living with HIV/AIDS; children affected by HIV/AIDS, gender roles and poverty relations. SOWK 309 Introduction to Social Work Research Examination of basic research knowledge and skills required for social work practice. Theory of social research, qualitative and quantitative research, ethical issues germane to social workers, research design, sampling an sampling techniques foe research
	Victimology			The course will examine the forms and manifestations of human rights abuse. Students will examine types of violence; youth, domestic, child violence abuse, stalking, ethnic violence, victims and perpetuators of violence. Topics in family violence; their relevance to Social Work Practice; program development and interventionist approaches and issues.
	Theories of Rehabilitation			History and cross-cultural status of the sick and the disabled. Disability: process Concepts, types. Rehabilitation: concepts, equalization of opportunities, conventional and community-based rehabilitation systems.
	Social Gerontology			Introduction: Myths, stereotypes, demography of aging, women and aging, cross-cultural issues. Theories of aging. Social, psychological, physical aspects of aging economic determinants of aging. Services and resources. Aged and their families. Work and retirement behaviour. Policy

				response to aging in Africa. Elder abuse and combativeness.
	Working with people in need of protection			Institutional care and its impact on individual functioning; Mentally-ill in psychiatric hospitals; Children in residual homes, problems of immigrants and refugees; intervention strategies to facilitate reintegration into family or community.
UNIVERSITY OF GHANA: FACULTY OF SOCIAL SCIENCES **Dept of Psychology** Under Graduate Courses.	**Community Psychology**		Head of Department: Benjamin Amponsah PhD P O Box LG 72 Legon	This course is designed to help students develop a conceptual and pragmatic understanding of various issues and topics in community psychology. It introduces students specifically to the principles/philosophies of community psychology, community research and program evaluation, types and models of prevention, stress, coping and social support, psychological sense of community and reasons and strategies for social change. At the end of the course, students should be empowered to apply the principles/models of community psychology to social/community problems and to provide appropriate interventions.
	Health Psychology			Health psychology focuses on the role played by psychological factors in the cause, development and consequences of health and illnesses. The objectives of this course are to expose students to some of the major theoretical and intervention issues in health/illness behaviours. The course will be based on a national health perspective, with the main emphasis on behavioural risk factors which constitute the main health problems in Ghana. Topics to be covered include stress and coping, HIV/AIDS, lifestyle diseases in Ghana and disease prevention and health promotion.
	Reproductive Health			
UNIVERSITY OF GHANA FACULTY OF SOCIAL SCIENCES: **Dept of Psychology** **MPhil Social Psychology**	**Accident and Safety at work**	Course delivery-(face to face) includes lectures, seminars		Nature of human errors, stress, noise and fatigue, involuntary and voluntary rest pauses, economic cost of accidents. The concepts of accidents, adjustment behavior, complimentary safety theories.
	Social Psychology			Course considers how social psychology can be employed

	in Society			to improve quality of life. Topics include areas of life satisfaction such as economic wellbeing. Coping with economic pressures. The working man; Job discrimination and stress on working women. Advertising and consumer behavior. Theoretical approaches and what consumers think about advertising. Public Health: smoking and heart disease. The mass media and health attitudes, behavior and energy conservation.

UNIVERSITY OF GHANA: Faculty of Social Sciences Dept of Sociology Under graduate courses	**Culture and Reproductive Health**	Course delivery-(face to face) includes lectures, seminars	Head of Dept: Steve Tanoh Phd P O Box LG 72 Legon	Definition of basic concepts - Culture, Reproductive Health. Approaches – The Cultural Approaches; The Empowerment Approach; Development Approach; Reproductive Health Trends and Prevalence of the Components of Reproductive Health; A Focus on HIV/AIDS, Inequalities and Reproductive Health – Gender inequalities, biological differences, individual and households, societal level and Policy level inequalities. The Cultural Contexts of Reproductive Health – family and kinship, marriage, status of females, culture and sexuality, cultural practices, issues of vulnerability; Socio-Economic Issues – Poverty and unemployment, Education and literacy, women's equity issues; Health care situation; Cultural and Societal Diversities in Reproductive Health; Reproductive Health Services or Programmes Policy Issues.
UNIVERSITY OF GHANA: INSTITUTE OF STATISTICAL, SOCIAL AND ECONOMIC RESEARCH (ISSER) MA/MPhil	**Gender and Development and**	Course delivery-(face to face) includes lectures, seminars	Director of Institute: Clement Ahiadeke Address: P O Box LG 74, Legon Fax:233 0302 512504 Tel:233 0302 512502/3 Email:info@isser .edu.gh	The genesis of women and gender Studies; women's movement and Organizations and their control and ownership of material resources; decision making and authority in relation to the household and economic and political sectors of society, agriculture and non-farm occupations, health, education and legislation.
UNIVERSITY OF GHANA:	**Population, Health and**	Course delivery-(face	Director of	Introduces the concept of health and

REGIONAL INSTITUTE OF POPULATION STUDIES MA/MPhil Population Studies	**Development**	to face) includes lectures, seminars	Institute: Prof Francis Dodoo Address; Univ of Ghana P O Box 96 Legon Tel: 233 0303 500274; 233 0302 500273 Email:rips@ug. Edu.gh	various indicators of health to students and provides a sense of the scale of health problems in Ghana and Africa in general. In this respect, it looks at the incidence and prevalence rates of disease and infections such as HIV/AIDS (including epidemics and endemic diseases), the distribution of diseases and environmental and socio economic factors influencing diseases as they relate to the socio economic development of nations in Africa
	Gender and Reproductive Health			Explores the main gender issues in population matters as well as reproductive rights and health. The topics include the concept of gender, concept of reproductive health, human sexuality, economic, social and cultural factors influencing women's status and role, gender policy issues and development planning, creation of awareness and the empowerment of women for development through viable operational and administrative strategies and structures.
	Population ,Ageing And Development			Provides a better understanding of how the process of ageing affects development and vice versa. It discusses the determinants and consequences of ageing as well as strategies to ameliorate the negative impact of the ageing process on the Elderly.
UNIVERSITY OF GHANA INSTITUTE FOR ENVIRONMENTAL AND SANITATION STUDIES	**Environmental Health**		Acting Director: Prof Christopher Gordon Address: P O Box 209, Legon Accra Tel: 233 0302 512819,512618	A study of the structure of human population, Population regulation factors and the relationships Between human population growth, resource use, Technology and the eco system. Urbanization with Special reference to land use, slum and squatter Settlements.
UNIVERSITY OF GHANA	**Medical Geography**		Head of Dept:	The course focuses on the application of geographic

Faculty of Social Sciences Dept of Geography and Resource Development Under Graduate Courses			Emmanuel M. Attua. BSc.,Dip Ed., MPhil, PhD P O Box LG 59 Legon Tel:233 0302 500394 Fax: 233 0302 500392 Email:geograf@ Ug.edu.gh	concepts and techniques to health-related problems and on studies of local variations of both human and environmental conditions which are causatively related to human activities. Basically, the course is concerned with describing, explaining and predicting the etiology, occurrences, transmission and effects ofdiseases in spatial variation and patterns. Relevant illustration will be drawn from both the developed & developing world. Course outline includes an introduction to medical geography, methodology, rates, ratios and indices, ecology of disease causation (agent-host environmental factors), epidemiology (principles and methods, the physical environment and health, types of diseases and their control, and environmental health.
	Theories and Analytical Methods for Integrated Environmental Health (IEH) and Disaster Risk Reduction (DRR) in Urban Areas			Course covers concepts of environmental health and disaster events, and disaster profiling in urban Ghana. It is to equip students with a deeper understanding of concepts on environmental health and disaster risk reduction, thus enhancing their ability to appreciate and apply the appropriate methods and tools in assessing EH and DRR in urban Ghana. Course covers the following topics: Environmental and Health Linkages, disaster incidence and prevention, disaster preparedness and mitigation, notions and perceptions around disaster management, the global context of IEH and DRR and an introduction to the tools and methods for assessing urban vulnerability and climate change.

	Policies and Strategies for Integrated Environmental Health (IEH) and Disaster Risk Reduction (DRR) in			Course expands on the discussions on concepts and methods to include relevant legislation, policies and strategic programmes for IEH and DRR in low income communities in urban Ghana. It involves field visits to specific communities as a way of testing the models used during class discussions. The course covers the following topics: global and local contexts of IEH and DRR,

	Urban Areas			institutional framework for IEH and DRR in Ghana, field application of methods and tools for assessing IEH and DRR, vulnerability assessment in urban communities, climate change modeling and strategies for building resilient communities.
	Population and Development			The course provides an overview of the spatial dynamics of human populations with regard to the environment they occupy. An analysis of the inter-relationships between population, resources, environment and development is addressed. The main focus is on Africa and the Developing World in general. The population-development interrelationships are examined against the view that development must be for the benefit and enhancement of the quality of life of people. The outline includes population and development inter-relationships, population and resource utilization, population distribution and redistribution policies, population and environment, population and contemporary social issues, population and health, including reproductive health and HIV/AIDS, population, gender and development, population dynamics and different societal groups, e.g., the aged, the youth, adolescents etc., population planning policies and programmes, population estimates and projections.
Ghana Institute of Management and Public Administration (GIMPA)	**Occupational Safety, Health and Environmental Management. Post Graduate Certificate**	Course delivery-(face to face) includes lectures, seminars **Course Duration: 7 weeks**	Asst Registrar GIMPA Tel: 0302 404664/401683 OR Ghana Employers Ass Box 2616, Accra Tel:0302 678455 Fax:0302 678405	Overview of management Occupational Safety and health management Safety message communication Principle of health and safety management General environmental management Legal framework for safety, health and environmental management
Ghana Institute of Management and Public	**Occupational Safety, Health and**	Course delivery-(face to face) includes	The Dean/Administra	. Institutional Framework for Global/National Health, Safety and Environmental Management Fundamentals of

Administration (GIMPA) Post Graduate Diploma	**Environmental Management. Post Graduate Diploma** **Course duration: 1 year**	lectures, seminars, workshops, group work, student presentations and assignments	tive Manager GIMPA Public Services School (GPSS) P. O. Box AH50, Achimota, Accra, Ghana E-mail: info@gimpa.edu.gh or gimpa@excite.com gpss@gimpa.edu.gh Tel: Tel: 0302-404664	Occupational Health and Safety Management · Applied Occupational Health and Safety Management · Principles of Occupational Health Management (Risks to Health at work) · Integrating Health and Safety Culture into an Organization · Principles of Environmental Management
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KNUST) **Faculty of Arts and Social Sciences** **Dept of Sociology and Social Work** **Under Graduate Courses**	**Marriage and Family II**	Course delivery-(face to face) includes lectures, seminars	Head of Dept Tel:233 051 60364/5 Fax:233 051 63750 Email: provost.cass@knust.edu.gh	Patterns of interaction between spouses, Power and authority in the family, patterns decision – making, socialization of children, social class and parent psychological perspectives. Domestic violence causes and effects, divorce and remarriage, one parent families, dual earner marriages, delayed childbearing, cross cultural variations in the family patterns and marital satisfaction.
	Gerontology II			Examination of problems of adaptation and life satisfaction in old age, personal adjustment problems, marital problems, family conflict, relocation, adjustment to separation and loneliness, anxiety over limited income, mental illness and interpersonal loss among others. The goals are to assist many old adults experience a sense of satisfaction, accomplishment and contentment.
	Gender and			Course focuses on gender analysis to particular areas of

	Development II			development such as industrialization, agrarian change, health, housing, employment, transport, structural adjustment programmes and environment change. Policy making gender awareness.
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KNUST) College of Arts and Social Science: Dept of Sociology and Social Work Graduate Courses	**Gender and Development II**	Course delivery-(face to face) includes lectures, seminars		This module focuses on contemporary gender and human right issues. It looks at international and national instruments such as CEDAW, African Union Charter and its Protocols, the 1992 Constitution of Ghana and the Criminal Code 1960. These are then applied to a range of specific issues including; health, violence, culture; employment; economic reforms and approaches to mainstreaming gender into national policies. Students completing this course will be sensitized to a range of perspective relevant to the policy dimension of Governments and Non-Governmental agencies in developing countries, especially Ghana.
KNUST College of arts and social science: Dept of Geography and Rural Development Under graduate program	**Health and Development**	Course delivery-(face to face) includes lectures, seminars	Head of Department Dept of Geography Tel:233 051 60364/5 Fax:233 051 63750 Email: provost.cass@knust.edu.gh	To examine the interrelationships between health and development using specific examples from developing countries and to examine the causes and developmental impact of selected diseases. The socio-cultural and economic factors that impinge on development are to be examined in their spatial perspectives. Students are also to be predisposed to policy analysis in addressing the health and development problems in developing countries.
UNIVERSITY OF CAPE COAST: FACULTY OF SOCIAL SCIENCES Under Graduate	**Health Economics**		Head of Dept: Dr Peter B Aglobitse	The course analyses the determinants of health, the demand and supply of health care services, pricing of health care services, and market failure and public intervention in health care delivery. The course also looks at the health care insurance.
UNIVERSITY OF CAPE COAST: FACULTY OF SOCIAL SCIENCES Department of Population and Health Undergraduate	**Hazards and Safety Studies**		Head of Dept: Dr K Barima Antwi Tel: 03321-34072 Ext. 201,	This course introduces students to the understanding of the concept of hazard – both human induced and natural - as well as the causes and implications of such hazards. Emphasis is on some of the basic hazards experienced in Ghana and West Africa such as floods, bush fires, earthquakes and accidents, and the strategies that have

			210, 211 social.sciences@ ucc.edu.gh	been adopted to prevent and/or reduce the impact of some of the hazards. Emphasis is on the management of space such as building beyond flood plains, settlements around volcanic areas and specific issues such as occupational health and safety; safety associated with transportation; safety around sites such as industrial plants, waste disposal sites, major highways and airline routes.
UNIVERSITY OF CAPE COAST: Institute of Education. Faculty of Education	**Control of Non Communicable Diseases of Public Health Importance**		Dean:Prof Joseph Ghartey Ampiah Faculty of Education University of Cape Coast Cape Coast - Ghana Tel: 233 042 34810/35781 education@ucc.edu.gh	The course helps students acquire knowledge about specific non-communicable diseases of public health importance; their mode of infestation, transmission, and prevention, treatment and control measures
Kintampo Health Training School	**Certificate diploma/advanced diploma courses in Community Health & Medicine**		Director: E T Adjasi PhD College of Health P O Box 9 Kintampo Tel: 035209035 Email: teyadjase@yahoo.com	The courses offered reflect current practices and policies in health systems development, determinants of health, health sector reforms, evidence-based policy and practice, statistics, epidemiology, disease control & surveillance, reproductive and child health information system management, economics of health, environment and health, nutrition and health, health education and promotion, health systems research and project development, financial management, monitoring and evaluation.
Central University College Ghana Faculty of Arts and Social Sciences Department of Environment and Development Studies	**B A Environment and Development Studies**		The Head of Dept. P O Box DS 3210 Dansoman Accra, Ghana Office Tel No:	• Development, Environment and Health • The Ghana Poverty Reduction Strategy and Resource Management

			0302 313 185 Ext 158 Fax: 233 0302 311042	
Short Courses				
Ghana College of Physicians and Surgeons **Faculty of Public Health**	**Occupational Health, Safety & Environment (HSE) Management** **6-8 Feb 2012**	Workshop Sessions Shared Experiences	Dr A. B. Quainoo, Occupational Medical Advisor; **Telephone:** 020 820 9551 **Email:** abquainookf@gmail.com Mr Atta Abboah-Offei,Occupational Hygiene & Safety Expert, Head of HSE, Qatar Aluminium Ltd, Qatar, Middle East; Dr Stephen Ayisi-Addo, Occupational Physician **Telephone:** 0244 572 776 **Email:** ayisi71@yahoo.com	HSE Responsibility of the Manager; Moral/Humanistic, Financial and Legal Responsibilities. Preparation towards Deposition. Managing Aging and Shift Work to reduce Operational Costs in Organisations. Using Leading and Lagging Indicators to Measure HSE Performance. A Strategic Approach to Develop and Implement Employees' Wellness Programme in Organisations. Reducing Cost of Accidents - the Root Cause Analysis Approach

Annex 2 - Ghana Country Needs for SDH

Reference/ Title of Article	Name and Contact Details of first(or other main author)	Objective of Study	Methods
Treating Ghana's Sick Health Service 8 June 2011 http://www.healthlegend.org/articles2.php	Prof. Agyemang Badu- Akosah FGA Former Director-General of the Ghana Health Service (GHS)	Lecture organized by the Ghana Academy of Arts and Sciences. 8/6/2011	
Issues: 1. **Environmental Sanitation and Hygiene**: A great challenge to the health of Ghanaians. Indiscriminate waste disposal in gutters, rivers, sea. This has been compounded by menace of non-biodegradable plastic waste. 2. **Toilet facilities**: Only 19.6% of population have access to toilet facilities (GLSS 2007) In rural Savannah 69% do not have access to toilet facilities 3. **Safe Water:** GLSS (2007) indicated 84.2% had access to safe water. This comprises of 98.7% of households in Accra having access to treated water and for households in rural forest and rural savanna areas only 12.2% and 5.9% of respectively. Water from boreholes and wells used by households have not been properly analyzed for the possibility of contamination by liquid waste disposed through underground suckaways which may contaminate the water table. 4. **Food and Nutrition:** In Ghana 59% of women have some level of anaemia. The prevalence of anaemia is higher among pregnant mothers, (70%) and breast feeding mothers, (62%). 78% of children under 5 are anaemic, 48% of which are moderate and 78% severe. (GDHS 2008) 55% of deaths in children under 5 have an underlying malnutrition. 5**. Air Quality**: The rapid urbanization, depletion of forest and bush fires, all conspire to reduce the oxygen tensions in the air. Good air is an essential component of good and healthy living			
Recommendations: Intersectoral cooperation is needed to deal with sanitation and access to safe water issues. Statistic for assessing access to safe water should be number of households with inside piped water. Add routine microbiological analysis to filtration and mineral content analysis of water used for sachet water.			
ENVIRONMENTAL HEALTH: AIR POLLUTION			
Within Neighborhood Patterns and Sources of Particle Pollution: Mobile Monitoring and Geographic Information System Analysis in Four Communities in Accra Ghana. http://www.ehsehplp03.niehs. nih.gov/article/fetcharticle. action?articleURI Online 7 Jan 2010	Kathie L. Dionisio Harvard School of Public Health, Boston, Massachusetts, USA; Harvard Initiative for Global Health, Cambridge, Massachusetts	To understand within-neighborhood spatial variability of particulate matter (PM) in communities of varying socioeconomic status (SES) in Accra, Ghana. To quantify the effects of nearby sources on local PM concentration.	Study was conducted in four Accra neighborhoods: Jamestown/Ushertown, Asylum Down, Nima, and East Legon. 1 week of morning and afternoon mobile and stationary air pollution measurements in study neighborhoods. PM with aerodynamic diameters ≤ 2.5 µm (PM2.5) and ≤ 10 µm (PM10) was measured continuously, with matched

Air Pollution in Accra Neighborhoods: Spatial, Socio-Economic and temporal Patterns http://pubs.acs.org/doi/pdfplus/ 16 Feb 2010			global positioning system coordinates; detailed data on local sources were collected at periodic stops. Effects of nearby sources on local PM were estimated using linear mixed-effects models
Findings: In the measurement campaign, the geometric means of PM 2.5 and PM10 along the mobile monitoring path were 21 and 49 μg/m3, respectively, in the neighborhood with highest SES and 39 and 96 μg/m3, respectively, in the neighborhood with lowest SES and highest population density. PM2.5 and PM10 were as high as 200 and 400 μg/m3, respectively, in some segments of the path. After adjusting for other factors, the factors that had the largest effects on local PM pollution were nearby wood and charcoal stoves, congested and heavy traffic, loose dirt road surface, and trash. **Recommendations:** Biomass fuels, transportation, and unpaved roads may be important determinants of local PM variation in Accra neighborhoods. If confirmed by additional or supporting data, the results demonstrate the need for effective and equitable interventions and policies that reduce the impacts of traffic and biomass pollution.			
Characterizing Air Pollution in Two low-income Neighborhoods in Ghana. 1 Sept 2008 http://www.ncbi.nlm.nih.gov/sites/entrez.db= pubmed	Arku, R E (2008) Department of Geography and Resource Development, University of Ghana, Legon, Accra, Ghana.	To conduct a study for an initial assessment of the levels and spatial and/or temporal patterns of multiple pollutants in the ambient air in two low-income neighborhoods in Accra, Ghana.	Over a 3-week period the ff were measured. (i) 24-hour integrated PM(10) and PM(2.5) mass at four roof-top fixed sites, also used for particle speciation; (ii) continuous PM(10) and PM(2.5) at one fixed site; and (iii) 96-hour integrated concentration of sulfur dioxide (SO(2)) and nitrogen dioxide (NO(2)) at 30 fixed sites. Also conducted were seven consecutive days of mobile monitoring of PM(10) and PM(2.5) mass and submicron particle count
Findings: There is evidence for the contributions from biomass and traffic sources, and from geological and marine non-combustion sources to particle pollution.			
Household and Community Poverty, Biomass use and air pollution in Accra Ghana 5 July 2011 http://www.ncbi.nlm.gov/pubmed/21690396	Zhou Z Department of Global Health and Population, Department of Environmental Health, Harvard School of Public Health, Boston, MA 02115, USA.	To assess how household air pollution varies by SES and how it is affected by biomass fuels and traffic sources in developing country cities.	Researchers collected and analyzed geo-referenced data on household and community particulate matter (PM) pollution, SES, fuel use for domestic and small-commercial cooking, housing characteristics,

			and distance to major roads in four neighborhoods in Accra, Ghana
Findings: Cooking area PM was lowest in the high-SES neighborhood and was highest in two low-SES slums. After adjustment for other factors, living in a community where all households use biomass fuels would be associated with 1.5- to 2.7-times PM levels in models with and without adjustment for ambient PM. Community biomass use had a stronger association with household PM than household's own fuel choice in crude and adjusted estimates. **Recommendations:** Lack of regular physical access to clean fuels is an obstacle to fuel switching in low-income neighborhoods and should be addressed through equitable energy infrastructure.			
Particle Pollution in Accra Neighborhoods: Spatial and Socioeconomic patterns Nov 2009 http://journals.ww.com/epidem/fulltext/2009/11001/	Kathie L. Dionisio Harvard School of Public Health, Boston, MA, United States	The study was conducted to understand the spatial and socioeconomic patterns of particulate matter (PM) pollution in Accra, Ghana.	Over a two year period, 48-hour integrated and continuous PM_{10} and $PM_{2.5}$ concentrations were measured at a total of 11 rooftop sites in four neighborhoods. Measurement sites in each neighborhood were located either on a main road or in a residential area
Findings: Neighborhoods of higher socioeconomic status consistently had lower levels of PM pollution than lower socioeconomic ones. Time-patterns of continuous PM pollution were also different at traffic sites compared to those in residential areas. **Recommendations:** PM pollution in these Accra neighborhoods is slightly lower than large cities in Asia but substantially higher than those in Latin America and high-income nations. There is evidence for the contributions from biomass and traffic sources, and from geological and marine non-combustion sources to PM pollution.			

ENVIRONMENTAL HEALTH: WASTE MANAGEMENT			
Domestic Waste Management Strategies in Accra, Ghana and other urban cities in Tropical Developing Nations http://www.cwru.edu/med/epidbio/ mphp439/waste_mgmt_Accra.pdf	Ian A.Thompson	-To analyze the approaches and strategies being used to address Accra's growing waste management problem focusing on solid domestic waste. -To explore the characteristics of Ghanaian society that both aid and detract from effective waste management. -To explore the environmental and health consequences of the waste dilemma.	Review of approaches and strategies being used to address Accra's growing waste management problem.
Findings: Domestic waste management has been a persistent problem in Accra for years. Accra generates between 1500-1800 tons of waste per day, but it has the capacity to collect only 1200 (66%) tons per day. At all the various levels of waste management, (sorting, collection, transportation, and disposal) there exist disruptions that pose a threat to the environment and public health. It is the manner in which the waste is kept that dictates the exposure to health risks. The largest risk to humans comes in the form of diseases associated with unsanitary conditions. Infectious diseases of poor sanitation and poverty are the most common diseases affecting the residents of Accra. Waste is disposed of in open containers and when disposal facilities are not accessible waste is burnt or disposed of in open spaces and surface drains. Indiscriminate dumping in drains and refuse overflow leads to drainage blockage and leads to flooding during rains which claims more lives. Insufficient communal facilities can lead to open defecation along beaches, drains, and open spaces. Poor sanitation practices are also a cause of cholera and diarrheal diseases. Burning of waste contributes to outdoor air pollution. Burning of domestic waste has been associated with respiratory illness. Unregulated leachants from refuse near waterways increase the technical difficulty of providing clean water. **Recommendations:** Landfills and dump spaces are diminishing. There is the need to explore to determine if recycling can play a larger role in the disposal practices of Accra residents. Research effort is needed on the economics of the waste management labor market to determine if substantial gains in output, employment, and services can be had from the introduction of labor-intensive methods of waste collection and disposal (eg: the use of handcarts to retrieve garbage from collection points not reachable by trucks). Carry out research into the possibility of implementing landfill gas recovery using organic waste to produce methane gas which can be sold to local population to generate revenue.			

<table>
<tr><td>Solid Waste Management in Ghana: The case of Tamale Metropolitan Area

http://www.dspace.knust.edugh:8080/ jspui/bitstream/123456789/146/1/Felix_ Puopielthesis.pdf

October 20</td><td>Felix Puopiel

Thesis for MSc in Development Policy and Planning</td><td>-To examine the factors affecting effective solid waste management in the metropolis
-To assess the types and components of solid waste generated in the Tamale Metropolis.
-To examine means of waste disposal by households (place of disposal).
-To analyze the mode and frequency of solid waste collection.
-To analyze how the waste collected is finally disposed of.
-To assess the capacity of the waste management institutions in managing solid waste in the area.
-To make recommendations for effective management of solid.</td><td>Research reviewed secondary data obtained from books, articles, newspapers and internet sources.

Primary data were collected through preliminary field investigation, questionnaires survey and face- to-face interviews.</td></tr>
<tr><td colspan="4">Findings: Results indicate inadequate facilities for waste disposal especially among the low class residential areas. The survey established that about 66 per cent of respondents have no access to skips for disposing their waste. Therefore respondents resorted to dumping waste in nearby gutters, by roadside, opened spaces and other unapproved ways of managing their domestic waste. Waste collection was irregular and the landfill did not meet the requirement of a sanitary landfill as in the case of KMA and therefore could be described as an open dump. The waste management institutions were unable to deliver efficient services as they were under resourced.
Recommendations: Adequate dustbins and skips should be provided particularly for the low class residential and middle class residential areas to avoid dumping of waste in open spaces, gutters, boilers and roadside. There should be regular waste collection. The Integrated Solid Waste Management (ISWM) should be adopted. Residents should be encouraged to separate the waste generated into their various components before final disposal. Waste can be disaggregated into plastic, metals, wood, cans, bottles and food waste. In this case rubber cans, bottles, metals can be recycled and reused; plastics like polythene bags and empty water sachets can also be recycled. The rest like food waste can be composted for manure. The landfill site should be properly managed to avoid heaping of waste and burning. The weighbridge, gas recovery system and leachate collection system should be revived for the landfill to work effectively. The waste management institutions should be adequately resourced.</td></tr>
<tr><td>Pesticide and Pathogen Contamination of Vegetables in Ghana’s Urban Markets
2006
http://www.environmental-</td><td>P Amoah

West Africa Office, International Water</td><td>To determine and compare the current level of exposure of the Ghanaian urban population to hazardous pesticide and fecal</td><td>Vegetable samples (lettuce, cabbage, and spring onion) were randomly collected under normal purchase conditions from 9 major</td></tr>
</table>

expert.com/Files\6063\articles\10012\Pesticideand PathogenContaminationofVegetables.pdf	Management Institute, PMB CT 112 Cantonments, Accra, Ghana,	coliform contamination through the consumption of fresh vegetables produced in intensive urban and peri urban smallholder agriculture with informal wastewater irrigation.	markets and 12 specialized selling points in 3 major Ghanaian cities: Accra, Kumasi and Tamale. The samples were analyzed for pesticide residue on lettuce leaves, total and fecal coliforms, and helminth egg counts on all three vegetables.
Findings: Vegetables from all 3 cities were fecally contaminated and carried fecal coliform populations with geometric mean values ranging from 4.0×10^3 to 9.3×10^8 g^{-1} wet weight and exceeded recommended standards. Pesticide residues eg. Chlopyrifs, lindane, endosulfan , recorded exceeded the maximum residue limit for consumption. The study shows that intensive vegetable production, common in Ghana and its neighboring countries, threatens public health from the microbiologic and pesticide dimensions. **Recommendations:** Standard recommendations to address this situation (ie. better legislations, law enforcement, or integrated pest management) often do not match the capabilities of farmers and authorities. The most appropriate entry point for risk decrease that also addresses postharvest contamination is washing vegetables before food preparation at the household or “chop” bar (street restaurant).			

<table>
<tr><td colspan="4">OCCUPATIONAL HEALTH AND SAFETY</td></tr>
<tr>
<td>Occupational Health and safety issues involving casual workers on building construction sites in Ghana, a Kumasi study

July 2010

http://www.dspace.knust.edu.gh:8080/ jspui/bitstream/123456789/1/</td>
<td>Frederick Owusu Danso

A thesis presented to the Department of Building Technology, Faculty of Arctitecture and Building Technology , Kwame Nkrumah University of Science and Technology

For award of Master of Science in Construction Management</td>
<td>-To determine the challenges facing Ghanaian contractors in respect of the recruitment of casual workers on occupational health and safety issues.
-To determine the contemporary occupational health and safety (OHS) issues confronting casual workers in the construction industry and how this can be incorporated into a framework to meet the challenges of the 21st Century.</td>
<td>Researcher employed a range of research methods conducting research in three phases.
Field survey using closed ended questionnaire, formal and informal, face to face unstructured taped interviews and discussions and desk review of published and unpublished material.</td>
</tr>
<tr><td colspan="4">Findings: The findings indicate that 60% of building contractors in the Kumasi metropolis do not provide welfare facilities and safety materials to casual workers. The findings also indicate that first-aid equipments, safe drinking water, sanitary facilities, provision of personal protection equipment (PPE) and training of casual workers on safety procedures, were the measures needed for addressing the occupational health and safety issues confronting casual workers on construction sites. The occupational health and safety of casual workers in the Ghanaian construction industry have been compromised as a result of the drive of economic and social behavior of both employers and casual workers, coupled with the lack of or implementation of safety legislation and polices on construction sites.
Recommendations: Safety officers to visit construction sites regularly and to ensure enforcement of laws governing health and safety, employment, and rights of casual workers; and to create awareness among casual workers the laws governing their occupational health and safety rights.
NGOs and relevant institutions must organize training programs and workshops for the workers and management in safety. Construction firms should set up Human Resource and Safety Departments for the purpose of executing safety education campaigns and training programs for all levels of management and casual workers. Daily safety briefings should be carried out to inculcate safety awareness and improve safety.</td></tr>
<tr>
<td>Occupational and Industrial Safety and Health in Ghana</td>
<td>Joe-Steve Annan (MSc. Quality Safety & Environment; BSc Chemical Engineering; International
Member- American Industrial Hygienists Association)
jsannan5@yahoo.com.
00233244182337.</td>
<td>Feature Article</td>
<td></td>
</tr>
</table>

Findings: Rate of industrialization in Ghana is increasing and a large percentage of the workforce is being exposed to workplace hazards. There are fragments of Occupational Safety and Health legal requirements under the jurisdiction of different agencies but there is no national policy and body responsible for monitoring and ensuring that requirements and guidelines in occupational safety and health are implemented. There is the need for a national body that will focus all the little scattered efforts by the different agencies, improve upon the approach and implement them uniformly across the nation. **Recommendations:** Ghana must have a broad based national Occupational Safety and Health policy that is in line with the ILO convention 155 as a minimum. This must seek to address Safety and Health issues regarding all projects and operations from design stage, through procurement, construction, operation and decommissioning. Effective consultation with relevant organizations will impact successful implementation.eg Ghana Minerals Commission, Ghana Chamber of Mines, Ghana National Petroleum Corporation, The Association of Ghana Industries, The Universities, The Department of Factory Inspectorate, The Ghana Institute of Engineers, The Ghana Medical Association, and The Ghana Bar Association, Ghana Environmental Protection Agency. Introduction of relevant courses like Safety Engineering in Universities and Polytechnics as well as Occupational Health in our Medical Schools. Effective collaboration between industry, the public and governing/implementing body is paramount. Governing body must be empowered and well resourced to ensure effective monitoring and continual research. Targets must be set for the roles of various industries to facilitate implementation. Guidelines must be given in areas like emergency preparedness, hazardous material management, risk assessments, accident reporting and investigation, workplace inspections, workplace exposures monitoring, assessment and control, purchasing and supply chain policies, permit to work systems, etc After implementation there must be effective monitoring according to specified standards, compliance by the industry, identification of opportunities for improvement, and recommendation of effective and applicable corrective or improvement actions.

CHRONIC CONDITIONS (NON COMMUNICABLE DISEASES)			
Ghana's neglected chronic disease epidemic: a developmental challenge Dec 2007 http://www.ncbi.nlm.nih.gov/pmc/archives/PMC2350116	Ama de-Graft Aikins Department of Social and Developmental Psychology, Faculty of Social and Political Sciences, University of Cambridge, Free School Lane, Cambridge CB2 3RQ, United Kingdom	To chart a brief history of Ghana's chronic disease burden, focusing on prevalence, risk and illness experiences. To demonstrate that Ghana, like other African countries, faces a chronic disease epidemic	Literature and Records review

<table>
<tr><td colspan="4">Findings: Chronic diseases in Ghana constitute public health and developmental challenges, requiring the same intellectual and financial commitments afforded to communicable and infectious diseases such as malaria and HIV/AIDS
Recommendations: To ensure effective response to the multifaceted roots and consequences of chronic diseases, research, interventions and policies have to be informed by multidisciplinary - biomedical and social science - collaborations.</td></tr>
<tr><td>Diabetes in Ghana: a community based prevalence study in Greater Accra

http://www.ncbi.nlm.nih.gov/pubmed/ 11947967</td><td>Amoah A G

Department of Medicine and Therapeutics, Diabetes Research Laboratory, University of Ghana Medical School, P.O. Box 4236, Accra, Ghana.
agbamoah@ghana.com</td><td>To ascertain the prevalence of diabetes, impaired fasting glycaemia (IFG) and impaired glucose tolerance (IGT) in a random cluster sample of Ghanaians aged 25 years and above from the Greater Accra area of Ghana.</td><td>.</td></tr>
<tr><td colspan="4">Findings: The crude prevalence of diabetes was 6.3%. Out of 300 subjects with diabetes, 209 (69.7%) had no prior history of the disease. Diabetes, Impaired Glucose tolerance (IGT) and combined Impaired fasting Glycaemia (IFG) and IGT increased with age. The oldest age group (64+ years) had the highest diabetes prevalence (13.6%). Diabetes was more common in males than females (7.7 vs. 5.5%) [P<0.05]. Worsening glycaemic status tended to be associated with increase in age, body mass index, systolic and diastolic blood pressures</td></tr>
<tr><td>Epidemic of hypertension in Ghana: a systematic review
July 2010
http://www.ncbi.nlm.nih.gov/pmc/articles/ PMC2910685/?tool=pmcentrez</td><td>William K Bosu
Disease Control and Prevention Department, Ghana Health Service, P O Box KB493, Accra, Ghana
Non-Communicable Disease Epidemiology Unit, Department of Epidemiology & Disease Control, School of Public Health, University of Ghana, Legon, Ghana
William K Bosu:
billy_bosu@yahoo.co.uk</td><td></td><td>Review of published article (in PubMed and Google Scholar databases) on the population-based prevalence of adult hypertension in Ghana between 1970 and August 2009. This was supplemented by a manual search of retrieved references. Fifteen unique population-based articles in non-pregnant humans were obtained. In addition, two relevant unpublished graduate student theses from one university department were identified after a search of its 1996-2008 theses.</td></tr>
<tr><td colspan="4">Findings: The prevalence of hypertension ranged from 19% to 48% between studies. Sex differences were generally minimal whereas urban populations tended to have higher prevalence than rural population in studies with mixed population types. Factors independently associated with hypertension included older age group, over-nutrition and alcohol consumption.</td></tr>
</table>

<table>
<tr><td colspan="4">Recommendations: Emerging opportunities such as the national health insurance scheme, a new health policy emphasizing health promotion and healthier lifestyles and effective treatment should be applied in the prevention and control hypertension.</td></tr>
<tr><td>Prehypertension in the Ashanti region of Ghana,
West Africa: An opportunity for early prevention
of clinical hypertension

2008

http://www.ncbi.nlm.gov/pubmed/17825331</td><td>Charles Agyemang
Department of Social Medicine, Academic Medical Centre, University of Amsterdam, Meibergdreef 9, 1105 AZ Amsterdam, The Netherlands</td><td>To assess prehypertension among Ghanaian adults in the
Ashanti region of Ghana, West Africa.</td><td>A cross sectional study. Data were collected in the region's major city (Kumasi) and four villages. Weight, height and blood pressure measurements were taken and body mass index calculated. Overweight was defined as BMI X25 kg/m2 and obesity as BMI X30 kg/m2. Two readings of BP were measured with a validated oscillometric automated digital BP device. Prehypertension was defined as not being on antihypertensive medication and having an SBP of 120–139mmHg ora DBP of 80-89mmHg.
Hypertension was defined as
an SBP X140mmHg, a DBP X90mmHg or being on
antihypertensive therapy.</td></tr>
<tr><td colspan="4">Findings: Overall, 31% of the study population were normotensive, 40% were prehypertensive and 29% were hypertensive. Prehypertension was more common in non-hypertensive males than non-hypertensive females (66% vs 49%, Po0.001). Prehypertension was also more common in those aged X35 years compared with those aged o35 years (Po0.001), and in overweight and obese people compared with people of normal weight (P ¼ 0.03).
Recommendations: As a large proportion of people with prehypertension will progress to clinical hypertension, targeting these people early with community-based lifestyle modifications (such as weight reduction, promotion of physical activity and reduction of salt intake) may have an important impact in preventing future increases in clinical hypertension.</td></tr>
<tr><td>Epidemiology of Obesity in Ghana

September 2005</td><td>R B Biritwum
Department of Community Health, University of Ghana Medical School, Korle Bu, Ghana.</td><td>Obesity is a very important risk factor for many diseases especially type 2 diabetes. However very little epidemiological information is available in Ghana to support intervention activities.</td><td>Anthropometric measurements were included in a WHO nationwide survey of health status and health system responsiveness from a random sample of 5000.</td></tr>
</table>

Findings: Prevalence of obesity was found to be 5.5% and higher among females 7.4% compared to males 2.8%. It was more common among the married than unmarried. Obesity was highest among the employed compared to self-employed or the not working for pay. The results from this study have demonstrated the link between lack of physical activity, drinking and the consumption of unbalanced diet to obesity and have also shown the classical link between obesity and history of angina and diabetes. **Recommendations**: Measures should be taken to control obesity in order to reduce the burden of chronic diseases that consume health resources and leads to premature deaths. There is the need for increased awareness, and promotion of healthy life style, including exercising and general healthy living.			
Descriptive epidemiology of blood pressure in a rural adult population in Northern Ghana 2009 http://www.ncbi.nih.gov/pubmed/19508111	S Kunutsor Malaria Consortium, COMDIS MUK, PO.Box 8045, Kampala, Uganda	To obtain data on blood pressure (BP) levels in rural a population in sub-Saharan Africa.	A cross sectional survey conducted among a representative rural sample from Kassena-Nankana District of Northern Ghana, West Africa. Data collection consisted of anthropometric and blood pressure measurements after questionnaire interviews. Household salt consumption was also measured in 20 randomly selected households.
Findings: Overall prevalence of casual high BP was 19.3%. Blood pressure increased with age, BMI and waist circumference. **Recommendations**: Population-wide approaches need to be developed, appropriate to the level of medical provision, in order to address vascular disease risks resulting from higher than optimal BPs. There is the need to prevent increasing BP from contributing to a major increase in associated health burdens. The problem of excessive salt consumption needs to be addressed through appropriate programs.			

Results of the Women's Health Study of Accra: Assessment of blood pressure in urban women 2007 *http://www.ncbi.nlm.nih.gov/pubmed/16887210*	Rosemary B. Duda Department of Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, United States rduda@caregroup.harvard.edu	To determine the burden of illness in a representative sampling of adult urban women. To provide an assessment of the prevalence of communicable and non-communicable illnesses	This was a community-based survey. Study participants were selected through a 2-stage cluster probability sample stratified by socioeconomic status based on the 2000 Ghanaian census data. Data collection included a comprehensive household survey and medical and laboratory examination for 1328 women.
Results: Prevalent conditions included poor vision (66.8%), malaria (48.7%), pain (42.8%), poor dentition (41.6%), hypertension (40.2%), obesity (34.7%), arthritis (27.1%), chronic back pain (19.4%), abnormal rectal (16.0%) and pelvic examinations (12.7%), HIV in women age 24–29 (8.3%), and hypercholesterolemia (22.7%). Increasing age, lack of formal education, and low-income adversely affected health conditions.			

Conclusion: The high prevalence of preventable illnesses in this expanding urban population indicates that the health care services are obligated to develop and provide screening, preventive strategies and treatment for both general health and gynecologic health conditions.			
WOMEN'S HEALTH			
Unraveling the health-related challenges of women in the informal economy: accounts of women in cross-border trading in Accra, Ghana. February 2012 http://www.springerlink.com/content/ 407651q671726747	Charlotte Wrigley-Asante	To unravel the health-related risks that women in cross-border trading face	In-depth interviews and observation
Findings: The most common physical health complaints were musculoskeletal problems such as body aches, back pains, waist pains and swollen feet as a result of long hours of travelling and poor road networks. Due to limited access to information on sexually transmitted diseases, women go through psychosocial problems arising out of constant thinking and 'worrying too much' about their safety in the vehicles, the cash they carry along etc **Recommendations:** It is recommended that more attention should be paid to women's work in the informal economy and cross-border trade in particular, so as to unravel the ways in which women's work affects their physical and mental health.			
Social Determinants of Health in very poor ruralities. 2010 http://bora.uib.no/bitstream/1956 /427/1/69631111.pdf	Crystal Andvik(2010) Thesis submitted for the degree Master of Philosophy in Health Promotion Research Centre of Health Promotion and Development Faculty of Psychology, University of Bergen, Norway	To identify social determinants of health in very poor ruralities To explore the protective and enabling factors for wellbeing of women in these communities To investigate the characteristics of a thriving woman	Research employed case study design; collecting data through focus group interviews, key informant interviews and personal observations during the field visits.
Findings: The results indicate existing connections between social determinants and women's health. The ability to bear children, traditional skills, education, religious beliefs and social status were strong indicators that affect the status and wellbeing of women of childbearing age. Social support from husbands was highly valued in addition to assistance from older children. Previous local customs marginalized women yet with the adaption of different religions and change in beliefs of roles for women, women's health and status have increased. Although most women were not completely healthy women were able to sustain livelihoods to support themselves and their families. They have little access to existing resources in order to start on their own. It was difficult for a woman to succeed on her own, meaning social support had significant contributions to women's health and status. **Recommendations:** Human capital such as skills training and basic education were important factors for a woman to succeed in an income generating activity. Social networks, including assistance from husbands and children, were also suggested as important for women's prosperity. This study indicated an immense need for health education for the people living in these communities. More research is needed on the collaboration between local organizations and governments to provide better access to healthcare and to shed light on which health determinants in the context of social relations may increase women's health and status the most.			
Common Understandings of Women's Mental Health		To explore what key	A qualitative study using

in Ghana: Results from a qualitative study 2010 http://www.ncbi.nlm.nih.gov/pubmed/21226647	Angela Ofori-Atta, University of Ghana Medical School, Korle-Bu, Ghana, PO Box 3859, Accra, Ghana +233 21 763050 +233 20 2015050 angielam@4u.com.gh School, Korle-Bu	stakeholders perceive as the main causes of mental illness in women in Ghana.	semi-structured interviews and focus group discussions. Participants were made up of 120 key stakeholders drawn from 5 of the 10 regions in Ghana.
Findings: Respondents attributed mental illness in women to a number of causes. These included women being the weaker sex, hormones, witchcraft, adultery, abuse and poverty. Explanations could be clustered under three broad categories: women's inherent vulnerability, witchcraft, and gender disadvantage. **Recommendations:** The way in which women's subordinate position within society may underpin their mental distress needs to be recognized and addressed. The results from this study offer opportunities to identify how policy can better recognize, accommodate and address the mental health needs of women in Ghana and other low-income African countries.			
MENTAL HEALTH			
Mental Health and Inequity in Africa http://isecn.org/2012/03/13/mental-health-promotion-in-ghana	Angelina Wilson	Article aims at providing empirical evidence on the condition of mental health in Ghana drawing from the experiences and work of an NGO called Basic Needs	Feature article
Issues: Mental health in Ghana is in a deplorable condition because it is estimated that 650,000 people are suffering from severe mental disorder and a further 2,166, 000 suffer from mild to moderate mental disorder. The treatment gap is 98% of the total population. Specialized psychiatric care is concentrated in the south to the neglect of the rest of the country. There are a few community based programs which are private. There is relatively low government funding on primary health care for mental health. On the level of policy a mental health bill has been passed but the current absence of a mental health act in Ghana has made it difficult to incorporate mental health into primary health care. Implications: Ghana is one of the many countries across the globe experiencing inequity in the allocation of resources for mental health. There must be an increase in government commitment to mental health. Passing of the mental health bill is a step in the right direction. This will in turn increase community care, awareness of the state of mental health, and reduce the stigma associated with mental illness. For mental health promotion to succeed, all hands need to be on deck. Psychologists, social workers are all necessary in the rehabilitation process (staff at BasicNeeds).			
Mental Health in Northern Ghana is in horrific state http://www.mentalhealthaidghana.org/45/	Mental Health aid Ghana		

<table>
<tr><td colspan="4">Issues: Nationally, Ghana has only 15 psychiatrists and just four of them were in active service. This gives the ratio of one psychiatrist to 1.7 million people as compared to 1:506 in Kenya and one to a million people in Nigeria. A 2003 government report dubbed “Mental Health Profile (Ghana)” showed that Ghana has only three psychiatric hospitals available to the over 24 million population – the Accra, Pantang and Ankaful hospitals – all of which are under-funded, overcrowded and located in the urban and better-developed South of the country. There are four private hospitals, two each in Accra and Kumasi. One psychiatrist stationed at the Tamale Teaching Hospital in the Northern Regional capital, takes care of patients scattered all over Northern Ghana. This comprises the Upper West, Upper East and Northern Regions. Only 34 out of 600 psychiatric nurses countrywide serve the population in Northern Ghana, estimated at 4,177,798 (2010 PHC provisional results), The three regions are reported to have a greater number of mentally sick and epileptic patients with many of them roaming the streets of cities and towns. A 37 paged photo book “Ghana – A picture of Mental Health” funded under the Mwananchi Grant Scheme managed by Participatory Development Associates of Ghana depicts pictures of horrific situations whereby mentally challenged persons have been chained, legs pinned through tree trunks, confined or kept in partially-enclosed porches or rooms, shackled, among others. Those confined in rooms eat, sleep and answer nature’s call there.
The mental health bill drafted between 2004 and 2006, has been passed and needs to be made law to improve the care of poor, vulnerable people with mental illness or epilepsy, safeguard their human rights and promote their participation in restoration and recovery.</td></tr>
<tr><td colspan="4">ROAD ACCIDENTS</td></tr>
<tr><td>Road Accidents In Ghana - And The Blame Culture

http;//www.ghanaweb.com/GhanaHomePage/NewsArchive.php?id=202159</td><td>Philip Kobina Baidoo Jnr

London

baidoo_philip@yahoo.co.uk</td><td>Feature Article</td><td></td></tr>
<tr><td colspan="4">Issues: Ghanaweb carried a heart-wrenching headline news, captioned ‘30 people died in road accidents in less than a month’ on 13 January 2011.

Recommendations: Ghana Private Road Transport Union (GPRTU) should do more by motivating their members with incentives such as best driver of the year with half of the votes coming from the general public and penalizing those that come at the lower end of the pile. Passengers should be able to asset their right when drivers are driving carelessly and over speeding. Awareness must be created in communities, in churches and mosques, in the various private clubs and most importantly the GPRTU.</td></tr>
<tr><td>Road accidents on the rise with 2,330 lives lost in 2011

http://www.vibeghana.com/2012/01/30/road-acidents-on-the-rise-with-2330-lives-lost-in-2011</td><td>Vibe Ghana</td><td>Feature Article</td><td></td></tr>
</table>

Issues: Ghana Police Service has said about 2,330 people died through road accidents in 2011 as against 1,760 recorded in 2010. The number of vehicles involved in accidents increased from 18,589 in 2010 to 19,530 in 2011. Statistics indicate that out of 13,572 road accidents recorded in 2011, 13,272 people received injuries from 1,729 fatal cases, as against 11,147 receiving injuries in 2010. The current trend of accidents on the country's roads is alarming and it is crucial for the Motor Traffic and Transport Unit (MTTU) and other stakeholders to step up efforts to help keep the situation under control.

MTTU Commander has indicated that there are no vehicles at some MTTU stations, no speed radar guns, no alcohol sensors, digital or camcorders to record scenes for evidential purposes and sometimes no computers for our word processing and accident data collections".

Recommendations: An appeal is being made to organizations and other corporate bodies to emulate the example of some companies who had offered assistance to the Unit to ensure maximum road safety in the country. GNA

Ghana Suffers the Carnage of Road Accidents http://www.ghanaweb.com/ GhanaHomePage/NewsArchiver/artikel. php?ID=219554	Kamara Makama: blog http://ifocusonafrica.blogspot.com Kamara2002gh@yahoo.com		Feature Article September 2011

It is estimated that an average of four people die daily in Ghana from road traffic accidents. The major causes of road accident accounting for these deaths are over speeding and carelessly reckless driving including overloading, irresponsible driving, wrong over-takings, drink driving and extreme fatigue. A good percentage (85%) of public transport drivers have never attended a driving school. Those untrained drivers transfer their bad practices to their apprentices without any sense of responsibility. Consequently, a sustained cycle of reckless and undisciplined drivers are maintained, continually causing death and depleting the human capital of the nation

Ghanaians- both passengers and drivers need to change their attitudes toward road usage. A country that fails to take pragmatic steps to curbing situations such as this may only be described as a country that has lost it sense of urgency and needs.

Understanding the knowledge and attitudes of commercial drivers in Ghana regarding alcohol impaired driving 2002 http://bmj-injuryprevention. bmj.com/content/8/1/53.full	G Asiamah Public Health Unit, Ghana Police Hospital,Accra,Ghana Correspondence to: Dr Charles Mock, Harborview Injury Prevention and Research Center, Box 359960, Harborview Medical Center, 325 Ninth Avenue, Seattle, WA 98104 USA; cmock{at}u.washington.ed	To investigate the knowledge and attitudes of commercial drivers in Ghana as regards alcohol impaired driving To ascertain information that will be used to develop anti drunk driving social marketing messages built upon the intrinsic values and motivation of these drivers.	Information was collected through a series of focus group discussions. These were conducted at five separate "lorry [truck] parks" in Accra A structured discussion guide was used to capture information related to values, risk perceptions, leisure time activities, and attitudes on alcohol impaired driving.

Findings: The majority of drivers expressed an understanding that drunk driving was a significant risk factor for crashes. There was a significant under-appreciation of the extent of the problem, however. Most believed that it was only rare, extremely intoxicated drivers who were the problem. The drivers also had a minimal understanding of the concept of blood alcohol concentration and related legal limits.

Recommendations: There was widespread support for increased enforcement of existing anti drunk driving laws.

Curbing Road Accidents In Ghana – A Long Term Solution	P K Boateng, East London, South Africa		Feature Article 6 July 2011
Issues: Road accidents cost nation $288 million in 2008. The $288m 2008 does not include the direct and indirect cost of road accidents to relatives of victims – wives, husbands, mothers, fathers, children etc - such as funeral costs and the cost of having to do without loved ones and breadwinners. Cause of accidents include poor eyesight, driver fatigue, drunkenness, overspeeding, defective vehicles, overloading, poor roads, nonexistent road markings. **Recommendations**: Reforms must result in adequate controls being put into place to make the 'purchase' of drivers' licenses and issuance of road-worthy certificates to defective vehicles, impossible. Reforms must ensure that every driver in Ghana to go for an eye test, at least once every five years; Impose heavy penalty on drunken drivers; Make use of speed cameras to catch and punish speeding drivers; Make it mandatory for all drivers in Ghana to be re-tested – both in the theory and practice of driving; Ensure good roads and constant maintenance of roads ; Adequate and effective signs and road markings are critically essential ; Sustained traffic safety campaign must be embarked upon by the DVLA throughout the year using community radios, posters, banners and the television to emphasize on road safety. The government should set up a 'road accidents fund' into which a percentage of the taxes on fuel and toll roads revenue will be paid.			

Annex 3 - Ongoing work on SDH in Ghana

NAME OF GROUP/INSTITUTION/ ACTOR	WEB ADDRESS AND NAME AND CONTACT DETAILS OF KEY PERSON/PEOPLE	MISSION OF GROUP	CORE AREA OF WORK AND POSSIBLE ALLIANCES
Government Ministries and Agencies			
GHANA HEALTH SERVICE (GHS) **MINISTRY OF HEALTH**	**Web Address:** www.ghanahealthservice.org Director General: Dr Elias Sory Ghana Health Service Private Mail Bag, Ministries, Accra. Ghana. West Africa Tel: 233 0302 684271; 684310; Fax: 233 0302 666808 Email:	**Mandate** To provide and prudently manage comprehensive and accessible health service with special emphasis on primary health care at regional, district and sub-district levels in accordance with approved national policies **Objectives** The objects of the Service are to: -Implement approved national policies for health delivery in the country. -Increase access to good quality health services, and -Manage prudently resources available for the provision of the health services.	Health Promotion and service provision ALLIANCES: UNICEF, DFID
Accomplishments, future aims	**General Health System Strengthening:** The GHS has initiated the development and use of information technology to improve information management and service delivery eg eHealth, National Health Insurance scheme ICT Infrastructure, **Primary Health Care:** Every one of the ten regions with the exception of Upper West Region has increased functional CHPS zones. The number of functional CHPS zones increased from 409 in 2008 to 868 in 2009. Targeted outreach services in Oral health and Eye Care at deprived areas. The nurse to patient population ratio has improved from 1:1079 in 2008 to 1:971 in 2009. OPD per capita increased from 0.77 in 2008 to 0.81 in 2009. **Maternal Health Care**: Relaunch of safe motherhood programme. Institutional maternal mortality ratio fell from 199.7/100,000LB in 2008 to 169.9/100,000LB in 2009. Policies on free maternal care and NHIS have resulted in an increase in access and utilization of health services. Skilled delivery rate improved nationally from 42.2%2008 to 45.6% 2009 . Other initiatives to reduce deaths due to abortion include the provision of Comprehensive Abortion Care (CAC), Adolescent Sexual Reproductive Health Services, repositioning of Family Planning Services, Focused Antenatal Care. Midwives trained in life		

	saving skills. The Family Health Division (FHD) developed and Policy/Strategic documents on Child Health and Adolescent Health updated **Environmental and Occupational Health and Safety**: Dissemination, orientation and training on Occupational health and Safety in the southern sector and awareness creation in two regions in the northern sector. Trainer of trainers' workshop held for staff from 10 regions in environmental health. Ongoing pilot project on waste management being monitored. Poison center established and training conducted for advising and managing cases. **Nutrition and Food Safety**: Nutrition unit set up to promote health and ensure food safety. Strategy document for achieving Universal Salt Iodation in Ghana produced. Materials for educational campaign on food fortification launched and aired. Training for private practitioners in anemia and vitamin A deficiency. **Healthy Lifestyle and behaviours**: Training of regional teams and identification of focal persons on regenerative health. Awareness creation programmes being aired. **New policy document entitled "**93Occupational Health and Safety Policy and Guidelines" for the health sector has been launched. **Non-Communicable Diseases :** GHS continues to improve early detection, reporting and management of non communicable diseases (NCDs), through public education, screening of SCD, Cervical, Breast and Prostate cancers. A draft strategic plan on cancers has been developed. Screening for Hypertension in public health facilities is being. **Mental Health**: Mental health bill has been passed. WHO AIMS survey launched by MOH to assess Ghana's Mental Health System to provide a baseline for planning and also elicit deficiencies in mental health delivery in Ghana. Provide comprehensive health services at all levels directly and by contracting out to other agencies.

NAME OF GROUP/INSTITUTION/ACTOR	WEB ADDRESS AND NAME AND CONTACT DETAILS OF KEY PERSON/PEOPLE	MISSION OF GROUP	CORE AREA OF WORK AND POSSIBLE ALLIANCES
MINISTRY OF WOMEN AND CHILDREN'S AFFAIRS	**Web Address:** www.mowa.ghana.net **Minister** : Hon.Juliana Azumah Mensah Postal Address P.O Box M186 Accra Telephone (+233-302) 688183 Fax (+233-302) 688182	MOWAC exists "**to enhance its contribution to the development of Ghana by achieving equal status between men and women; to facilitate enforcement of the rights of women and children; to promote the survival, development, protection of children; and increase the participation of both women and children in the development process through skilled and committed staff".**	Women Empowerment The mandate of MOWAC is to initiate/formulate policies to promote gender mainstreaming across all sectors that will lead to the achievement of gender equality and empowerment of women and facilitate the survival, development and growth of children. MOWAC also works to improve the socio-economic status of women and children, the vulnerable and marginalized groups through targeted interventions.
Accomplishments and Future Aims	Support women in income generating activities Spearheaded legislation on human trafficking and providing for the rescue, rehabilitation and reintegration of victims Establishment of human trafficking secretariat and board. Enactment of domestic violence act Establishment of board, secretariat for domestic violence. Development of IEC material and education on domestic violence Developed National Plan of Action Coordination, Social Services, Prevention and Protection Sensitization program to create health awareness for women (Reproductive Health and Right Issues, Family Planning and Safe motherhood). Facilitated the registration of more than 1000 female porters under the National Health Insurance Scheme. Trained over 17,000 women in the informal sector on financial management skills *Mothers of trafficked children supported with micro credit to carry out small skills business to support their families *Trained over 17,000 women in the informal sector on financial management skills *Mothers of trafficked children supported with micro credit to carry out small skills business to support their families. *Organized consultative Fora with key stakeholders to deliberate on issues of maternal mortality and strategies to curb the incidence		

Future Aims	*Organized International Expert Forum to deliberate on strategies to increase women's participation in decision-making positions. *Provided policy inputs on women and children's concerns for incorporation into national and sector plan eg: (i) Energy Sector Policy, (ii) Land Administration Policy, (iii) Social Protection Strategy Policy etc. Intensify advocacy and awareness creation on the mission and mandate of MOWAC -Facilitate the re-engineering process of MOWAC to enable it effectively and efficiently undertake its mandate Establishment of shelters to promote victim protection and facilitate prosecution of offenders. MOWAC is committed to build 2 shelters this year Facilitate the development of the Legislative Instrument on the Human Trafficking and Domestic Violence Acts - Lobby government for adequate resource and also hold discussions with development partners on alternative ways of funding. MOWAC has held discussions with UNFPA, UNICEF, etc in this regard.

NAME OF GROUP/INSTITUTION/ACTOR	WEB ADDRESS AND NAME AND CONTACT DETAILS OF KEY PERSON/PEOPLE	MISSION OF GROUP	CORE AREA OF WORK AND POSSIBLE ALLIANCES
SOCIAL PROTECTION SCHEMES			
GOVERNMENT OF GHANA: NATIONAL HEALTH INSURANCE AUTHORITY **NATIONAL HEALTH INSURANCE SCHEME**	Chief Executive: Mr Sylvester Mensah **Postal Address:: PMB Ministries, Accra** **Location of Office:** No. 36-6th Avenue, Opposite AU Suite, Ridge Residential area, Accra. **Telephone:**+233 (0) 302 238136/ 233555/ 216970/ 244730 **Fax Number:**+233 (0) 302 232325 **E-mail:info@nhia.gov.gh**	"To provide financial risk protection against the cost of quality basic health care for all residents in Ghana, and to delight our subscribers and stakeholders with an enthusiastic, motivated and empathetic professional staff who share the values of honesty and accountability in partnership with all stakeholders".	The object of the Authority is to secure the implementation of a national health insurance policy that ensures access to basic healthcare services to all residents.
Achievements: 14.5 million (ie 62% of population by 2009 estimates registered. The Council instituted measures to ensure that reserve funds were invested in profitable ventures to yield maximum returns, and in accordance with the approved investment policy of the NHIA. Investment income increased from 11.78% of total NHIS funding sources in 2008 to 17% in 2009 **Future Aims:** The Council would steer the operations of the NHIA and provide a sense of direction for the NHIA / NHIS. A new Strategic Plan for 2010-2014 is being developed. The Council will continue to pursue aggressive programs to reduce administrative costs and improve efficiency through organizational restructuring. The ongoing clinical and financial audits would be sustained to minimize fraud and abuse in the system and make the NHIS sustainable.			

MINISTRY OF EMPLOYMENT AND SOCIAL WELFARE; DEPT OF SOCIAL WELFARE 1) Livelihood Empowerrment Against Poverty (LEAP) program 2) Local Enterprises and skills development program (implemented in collaboration with Ministry of Local Government and Rural Development and other agencies)	Minister : Hon. Moses Asaga (MP) Postal Address P.O. Box 1627 State House Accra Telephone (+233-302) 684532 Fax (+233-302) 663615	The Ministry of Employment and Social Welfare exists to promote sustainable employment opportunities, management and vocational skills development, training and re-training, harmonious industrial relations, safe and group formation and social integration of vulnerable, excluded and the disadvantaged for the development and growth of the economy	-Formulation and implementation of policies, co-ordination, monitoring and evaluation of the performance in the sector. -Ensure improved productivity, efficiency, equity and prompt response to clients which comprises of the labor force, employers, and people with disabilities, the disadvantaged and vulnerable.
MINISTRY OF EDUCATION	**Minister : Mr Lee Ocran** **Postal Address P.O Box M45 Accra** **Telephone (+233-302)662772** **Fax (+233-302) 664067**	1. Expanding access to education at all level of education 2. Providing and improving infrastructural facilities 3. Raising the quality of teaching and learning for effective outcomes 4. Making education more relevant to national goals and aspiration by focusing on vocational and technical education 5. Making tertiary education more cost effective.	Carry out the Government's vision of using quality education delivery to accelerate the nation's socio economic development
Achievements: Resource allocation for FCUBE increased. (Free uniforms, school feeding program, capitation grant) Textbooks printed; furniture provided; construction, rebuilding, rehabilitation of structures and provision of teacher accommodation. Establishment of vocational institutes Future aims: Implementation of new educational program eg. Maintenance of FCUBE and cost sharing at SSS and tertiary levels. Upgrading of teacher training colleges and improvement of conditions of service of teachers. Metropolitan, Municipal and District Assemblies (MMDAs) to be responsible for the infrastructure, supervision and monitoring of Basic and Senior High Schools. Special Needs Education will be improved at all levels.			
INTERNATIONAL NGOS			
BASIC NEEDS	Contact Person: Peter Yaro Mobile: 024-4572733 Email:peter.yaro@basicneeds.org Postal Address: P.O. BOX TL 1140,	-BasicNeeds works in the developing world to end the suffering of mentally ill people. By ensuring that their basic needs are	Mental Health Alliances: Comic Relief, Canada

	TAMALE House No. 23, Fuo Residential Area Nr. Modern City Lodge, P. O. Box TL 1140, Tamale, Ghana Tel: +233 71 23566 Fax: +233 71 24245 Website: http://www.basicneeds.org/ghana	met and their basic rights are respected. -They aim to give hope to the thousands of people who struggle daily with a lack of treatment and the stigma surrounding their disease. The work of Basic needs is based on the philosophy of building inclusive communities, where mentally ill people, through development, realize their own rights.	Fund for Local Initiatives
Achievements: So far Basicneeds has helped over 17,500 mentally ill people throughout Ghana secure their basic rights and a life they can be proud of.			
The Hunger Project	**Web Address:www.thp.org**	Works to end hunger and poverty by pioneering sustainable, grassroots, women-centered strategies and advocating for their widespread adoption in countries throughout the world.	Mobilizing people at grassroot level to build self reliance though micro finance. Empowering women as key change agents. Forging partnerships with local governments. Through integrated approach to rural development, project aims to empower people to lead lives of self-reliance, meet their own basic needs and build better futures for their children.
Achievements: Project has pioneered the **Women's Empowerment Program (WEP),** which empowers women to become strong leaders in their households and communities through a series of workshops that focus on legal, civic and reproductive health rights as well as leadership skills for selected women. The trained women, also known as "animators," then carry out community-based educational activities using drama, mini-lectures and discussions. Hunger project uses Epicenter Strategy to reach more people. The Hunger Project-Ghana had successfully completed construction of 12 epicenters. Through its Microfinance Program in 2009, The Hunger Project disbursed 1,834 loans totaling $146,421. Of the epicenters that are operating in Ghana, three have government-recognized Rural Banks and are self-reliant. Future aims: The Hunger Project-Ghana aims to mobilize enough epicenter communities so that each epicenter building is within walking distance.			

Catholic Relief Services	Web Address: www.catholic	-Promote human development by	-CRS engages in policy analysis and

	relief.org	responding to major emergencies, fighting disease and poverty, and nurturing peaceful and just societies; and, -Serve Catholics in the United States as they live their faith in solidarity with their brothers and sisters around the world.	advocacy to address root causes of poverty, conflict and marginalization. -**Health** CRS responds to the poor health conditions in the country by tailoring support to the regions that need the most immediate attention. CRS Ghana provides training to improve the quality of services, and helps increase access to these services by supporting construction. -**Water and Sanitation** CRS Ghana has used private resources to meet water and sanitation needs, especially in the three northern regions. -**Agribusiness** CRS Ghana recognizes that in order to increase household income, efforts must be made to improve both the production and marketing of crops produced by small-scale farmers **-Education** Food assistance, encourages attendance and retention. CRS programs teach sanitation and hygiene practices and provide twice-yearly deworming for students Alliances: Ministry of Health, Ghana Health Service; Ministry of Education, Ghana Education Service, Dept of Social Welfare; Catholic Bishop conference, dioceses and hospitals,
Achievements: CRS Ghana has improved access to clean water and hygienic sanitation in 26 communities. Food assistance project for school children reaches 34 districts in the three northern regions. In the first year of agribusiness project, groundnut (peanut) profits increased by 50 percent.			
World Vision International	We b Address: www.wvi.org		Water and Sanitation-Provide access to clean drinking water and help to

	World Vision Private Mail Bag Accra-North TEL:233 -21-226643/+233-21-227216		eradicate guinea-worm. Teaching people about better hygiene and sanitation, and constructing latrines -Education- helping children go to school, by building schools, providing desks, textbooks and other stationery, establishing mobile libraries, and awarding scholarships to hundreds of needy children. -Health-improving health and nutrition by providing quality, accessible health services to children and their families -supporting micro-enterprise development by conducting micro-credit financing -Increasing food security by building capacities of farmers in scientific methods of crop and animal production
Achievements: Some two million people are directly benefiting from World Vision's work in Ghana through health and nutrition, education, food security, water and sanitation, gender and development and micro-enterprise development programmes WVI has drilled and equiped more than 2,300 boreholes with hand pumps since 1986. WVI has provided immunizations to 500,000 children and de-worming treatment to 250,000 children. Hundreds of traditional birth attendants have received training; and mosquito nets provided to families help protect against malaria. Through micro-credit financing more than US$2 million has helped 10,000 people, most of whom are women. WVI has built schools, provided desks, textbooks and other stationery, established mobile libraries, and awarded scholarships to hundreds of needy children.			
Water Aid	Web Address: www.wateraid.org/ghana **Address:** House No. 37 Kinshasa Ave, East Legon, Accra P.O. Box 16185, Kotoka International Airport **Postal address:** P.O. Box 16185, Kotoka International Airport **Tel:** +233 (0) 302 544 058	WaterAid transforms lives by improving access to safe water, hygiene and sanitation in the world's poorest communities. We work with partners and influence decision-makers to maximise our impact.	Sanitation and Hygiene- Provision and advocacy. Basically, WaterAid Ghana provides financial and capacity support to its eight local partner NGOs who in turn implement and manage water, sanitation and hygiene promotion projects in local communities. Partners: Akuapem Community

			Development Program; Afram Plains Community Organisation; Oboomma Rural Action Project; Professional Network Association; Newenergy; Binaba Area Community Health Project; Rural Aid
Achievements: WaterAid has been delivering services to poor communities for two and a half decades; and although the exact numbers served are unknown. In advocacy, considerable recent success has been achieved by WaterAid in Ghana at the national level. A new initiative in 2008 was to get each political party to explain its commitment to water and sanitation in the course of the presidential election campaign.			
Rural Aid	Web Address: The Programme Coordinator Box 13, Bolgatanga Upper East Region Tel: 233-72-23899/23900	To provide water to communities in the Upper East Region.	Rural Aid engages mainly in water, sanitation, hygiene promotion and advocacy activities
Achievements: Over the years, Rural Aid has been able to support the provision of more than 1, 500 hand dug wells and boreholes, more than 1,000 household and institutional latrines and the creation and training of hundreds of water and sanitation committees.			
ISODEC	Web Address: www.isodec.org.gh Integrated Social Development Centre Wawa Street, House Number C842/4 Kokomlemle P. O. Box MP 2989 Mamprobi, Accra Ghana Tel: 233-302-254918/254921 Fax: 233-302-253613 Email: isodec@isodec.org.gh	ISODEC works in solidarity with those striving for social justice towards a life of dignity by promoting rights and accountability.	From a peri-urban health and sanitation, basic education base, it grew into a formidable force in rural water and sanitation delivery. ISODEC also provides services in the areas of Girl Child Education, Family Reproductive Health and national budget analysis. Alliances: Third World Network (TWN), the Northern Network for Development (The Network), SEND Foundation, Institute of Policy Alternatives (IPA) and ISSER in Ghana; Save the Children –UK; OXFAM UK, Christian Aid, and Ibis.
Achievements:			
Sustainable Aid through Voluntary Establishment Save-Ghana	Wed Address: www.saveghana.org SAVE-Ghana Head Office Gwollu PO Box 74 Tumu Sissala East District Upper West Region	Working with the poverty-stricken and vulnerable children, their families and communities in their journey to a life full of dignity, justice, peace and hope”.	Agriculture and Food Security Environmental Conservation Primary Health Care and HIV/AIDS Good Governance and Gender Equity

	Ghana West Africa Telephone + 233 - 3920 - 21247 Cell Phone + 233 - 2088 - 30901 Email info@saveghana.org		
Action Aid	Webaddress: www.actionaidghana.org	Action Aid supports basic needs and rights of the poor .	Education Women's rights Food rights (agriculture) Emergency and conflict Alliances: Abantu for Development; Women in law and development in Africa; The Ark Foundation
Achievements: Work with more than 1 million people living in 279 communities in Upper East, Upper West, Northern, Brong Ahafo Volta and Greater Accra. Work with government, communities , partners to make policies that enhance the quality of life or change policies and practices that affect their lives negatively. Heavy investments in education.. Support women's groups and communities to increase yields.Ensure access to safe drinking water. Have seven publications on varied areas of work.			
PLAN International	Web address:www.plan-international.org Plan Ghana No. 10, Yiyiwa Street Abelenkpe Accra Ghana Tel: 233 (030) -2773370/ 2778039/ 2764405 Fax: 233 (030) -2776102 E-mail: ghana.co@planinternational.org	Plan aims to achieve lasting improvements in the quality of life of deprived children in developing countries, through a process that unites people across cultures and adds meaning and value to their lives. Enable deprived children, their families and their communities to meet their basic needs	Education Health Water and Sanitation Economic Security Emergencies Child Participation Sexual Health
Achievements: PLAN International's programmes have benefitted 28,379 children in 300 communities across the country. Have completed the construction of 8 irrigation dams in the dry Tumu programme area.Strengthened community-based water management structures to ensure effective use of the dams to enhance livelihoods. Support Village Savings and Loans Associations			
Development Partners			
World Health Organization	Web Address: www.afro.who.org	The mission of the WHO Ghana	Outbreaks and Crisis ie disease

	Contact: WHO Representative PO Box M.B.142 Accra	Country Office is to promote the attainment of the highest sustainable level of health by all people living in Ghana through collaboration with the government and other partners in health development and the provision of technical and logistic support to country programmes.	outbreaks. Mortality and burden of Health including life tables ans non communicable diseases. Health Service coverage including maternal health Health systems-national health accounts Nutrition Risk factors-Alcohol, tobacco
Achievements: • Child and Maternal health • Expanded program on Immunisation, HIV/AIDS, Tuberculosis and Malaria • Essential Drugs and Medicines • Non communicable Disease prevention and control and Health Promotion(supported Ghana's 5 year rolling plan of accelerated control of measles in accordance with WHO /AFRO EPI –5-yr strategic plan(2001-2005)with the focus of reducing measles mortality to near zero from 2001.Since 2003,Ghana has not recorded any deaths due to measles. • Elimination of maternal and neonatal tetanus. (This has been effectively eliminated).			

USAID	**Mission Director:** Cheryl Anderson **Local Address:** USAID/Ghana E45/3 Independence Avenue P.O. Box 1630 Accra Ghana Tel: 233-21-780580, 228440 Fax: 233-21-231937		Health Education Economic Growth Governance
Achievements: USAID programs ensured that local activities are harmonized with central government policies and that local governments increase their capacity to plan, budget, and implement effectively with citizen input. USAID health program provides technical and financial resources to address family planning, reproductive health, HIV/AIDS, maternal and child health, malaria, tuberculosis, water and sanitation, and nutrition. USAID has constructed 55 community boreholes. In addition to bringing necessary water infrastructure, USAID's Water, Sanitation and Hygiene project emphasizes capacity building to support local management so communities are empowered to ensure long-term benefits and sustainability. Future Aims: USAID is planning initiatives that will be especially critical as oil and gas production will require heightened attention by local governments. USAID			

is assisting the Ministry of Education in developing additional classroom and district education support facilities. A bi-ministerial working group supported by USAID is developing a strategy to expand the social safety net for 33,000 vulnerable children in late primary and junior high school. USAID technical assistance is being provided to help the Government of Ghana develop plans for strengthening the regulatory framework and increasing its capacity to manage oil and gas resources while maximizing revenues and ensuring their effective management.			
DFID	Web Address: http://www.dfid.gov.uk/ghana. Address: DFID Ghana, British High Commission, Osu Link, PO Box GP 296, Accra, Ghana Enquiries: enquiry@dfid.gov.uk		-Ensuring that the government of Ghana's resources are well managed for the benefit of all citizens -Encouraging enterprise and wealth creation -Ensuring quality education services -Reducing maternal mortality and child deaths Alliances: Savannah Accelerated Development Authority, World Bank
Achievements: Ghana PRBS 2009-10 Improved the effectiveness of the government budget in delivering services, stimulating economic growth and reducing poverty. General Budget Support 2010-11: Improved the comprehensiveness and effectiveness of the government budget in delivering services and results			

Annex 4 - SDH policies and policy reviews in Ghana

RESPONSIBLE MINISTRY	NAME & YEAR OF POLICY DOCUMENT	SDH-RELEVANT COMPONENTS	POLICY REVIEW DATE
Ministry Of Health	National Health Policy "Creating Wealth through Health" 2007-2011	Healthy Lifestyles and the Environment Health Reproduction and nutrition services Governance and Financing	1997 to 2002: Medium Term Health Strategy (MTHS) document and a 5-Year Programme of Work (5YPOW) guided health development in Ghana 2002-2006: 5-Year Programme of Work 2006- National health policy
	National Drug Policy 2nd Edition 2004	Quality Assurance -Quality of drugs -Drug advertisement and promotion Local manufacture of pharmaceutical and traditional medicinal products Rational Drug Use -Education and training -Drug Information -Patient compliance and Self medication -Pharmacovigilance Emerging Diseases and pharmaceuticals	1st Edition 1999
	National Health Insurance Regulations 2004	-Registration and operation of schemes -District Mutual Health Insurance Schemes -Private Commercial and Private Mutual Health Insurance schemes -Private commercial and private mutual health insurance schemes	

	Human Resource Policy and Strategies for the health sector 2007-2011	-Human Resource for Health Research systems -Complementary Health Care -Human Resource for Health Education Training and Development	2002-2006: Human Resources for the Health; Five year policy and strategy document.
Ministry of Women and Children's Affairs	Empowering women and Children 2010-2013	-Domestic Violence -Human Trafficking -Gender Responsive skills and -Community Development -Gender Issues	2010
Government of Ghana National Population Council	National Population Policy 1994	-Maternal and Child Health -Family Planning and Fertility Regulation -Health and Welfare -Food and Nutrition -Empowerment of Women -Education -Role of men in family welfare	1969: National Population policy adopted.

		-The Aged and Persons with disability -Internal Migration and Spatial distribution of the population -Environmental Programs -Housing Strategies -Poverty Reduction	
Ministry of Water Resources Works and Housing	National Water Policy 2007	-Integrated Water Resources management -Access to water -Water for food security -Water for non-consumptive and	Formulation commenced in 2004

		other uses	
Ministry of Local Government and Rural development	Environmental Sanitation Policy 1999	-Solid Waste Management -Liquid Waste Management - Industrial Wastes - Public Cleansing -Vector and Pest Control -Food Hygiene - Environmental Sanitation Education - Sanitary Inspection and Law Enforcement -Disposal of the Dead -Control of Rearing and Straying of Animals	Reprinted in 2001
The Ministry of Environment and Science and Technology	National Science, technology and Innovation policy February, 2010	Agriculture -Promote the research and application of new technologies including safe biotechnology, which hold potential for increasing productivity; - Reduce pre-harvest and post-harvest losses in agricultural production in both cash and food crops; - Strengthen the production of non-traditional export commodities to enhance the diversification of the economy; **Health** -Promotion of preventive and regenerative health care; -Support biomedical research in prevalent diseases in the areas of prevention, diagnosis, therapy and management; - Improve access and services in the general health care delivery system;	2000: Science and Technology policy document adopted

		-Promote technologies in support of sanitation, environmental and occupational health; - Promote and support research into plant medicine to complement allopathic medicine including the commercialization of the research results. - Establish specialized health centres to promote health tourism. **Industry** Promote and facilitate recyclable materials technologies, and application to minimize industrial waste in the environment; **Environment** -Develop an efficient integrated waste management system for using the principle of waste as a resource. - Promote the use of clean technologies in production systems. -Develop the STI capacity to monitor, predict and mitigate the adverse effects of natural phenomena such as earthquakes, floods, droughts, desertification and bushfires. -Encourage and support science and technology interventions that promote sustainable environmental conservation and management **Human Settlements** Encourage the use of STI to minimize the impact of natural disasters; - Encourage, through constant education and legislation, the	

		greening of human settlements -Emphasize sound environmental management in human settlement for sustainability of human societies. **Building and Construction** Ensure the standardization of building, design and construction materials for rationalizing their use and public safety especially in the informal sector **Nuclear Science and Technology** Establish a national regulatory framework for ionizing and non-ionizing radiations to ensure public safety. **Sports and Recreation** Promote research and development in sports medicine and nutrition, physical education and other disciplines to produce high caliber of sportsmen and sportswomen including the physically challenged; - Facilitate the development of recreation as a health maintenance factor; - Encourage STI courses related to sports at all levels of education **Roads and Transport** Promote R&D in the road and transportation system.	
Environmental Protection Agency	Environmental Assessment Regulation 1999	**Limits for stationary plants:** Ambient air; workplace environment **Petroleum Hydrocarbon sub sector:** Service and filling stations **Environmental Action Plan**: Environmental Health and safety Water Supply	

		Occupational Health and Safety Community Relations	
Ministry Of Transport	National Road Safety Policy December 2009	-Road traffic crashes -Road traffic crashes and road safety activities in Ghana -Key road safety challenges in Ghana -The road transport industry The Driver -The vehicle -The road infrastructure -Non motorized transport -Pedestrian safety and vulnerable road users -Road safety legislation enforcement -Post Road traffic crash care -Funding for road safety Issues -Research into Road Safety Issues -Inter-agency collaboration and coordination -Human resource Development for Road safety activities -Road safety awareness -National Vision for Road safety	1999-2007 : Implementation of Road safety interventions
Ministry of Roads and Highways	Road Traffic Act 2004	-Dangerous Driving -Meaning of dangerous driving -Careless and inconsiderate driving -Driving under the influence of alcohol or drugs -Driving when alcohol concentration is above prescribed limit -Failure to provide breath for test -Seatbelts and other safety equipment -Wearing of protective crash helmets -Prohibition of parking of motor vehicles on verges, central	

		reservations footways, place reserved for invalids -Causing danger to road-users -Tampering with motor vehicles -Leaving vehicles or trailers in dangerous positions -Drivers to comply with traffic signs -Dangerous cycling -Directions to pedestrians -Careless and inconsiderate cycling -Cycling under the influence of alcohol or drugs -Highway code -Driving with uncorrected defective eyesight -Use of vehicle in a dangerous condition	
Ministry of Energy	National Energy Policy February 2010	Waste to energy (deriving energy from waste) Energy and the environment Energy and Gender (women)	
Ministry of Youth and Sports	National Youth Policy of Ghana August 2010 Theme: Towards an empowered youth impacting positively on national development	Health HIV and AIDS -Drugs and substance abuse -Poor hygienic practices	
Ministry of Trade and Industry	Ghana Industrial Policy 2009	Quality health in Industrial Development -Occupational Health and Safety -Environmental sustainability	

Ministry of Employment and Social welfare	Persons with Disability Act 2006; Act 715	Health Programmes and Health care facilities	
	National Ageing Policy 2010	-Ageing and fundamental human Rights -Ageing and Poverty -Old age and health challenges -Ageing and the living environment -Ageing and Gender -Reducing Poverty among Older Persons -Improving Health, Nutrition and well-being of older persons -Improving Housing and Living Environment 0f older people -Improving income security and enhanced social welfare for older persons.	