



SAMA DRAFT DOCUMENT ON CLIMATE CHANGE AND HEALTH

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The Mounting Challenge of Climate Change

1. Climate change presents the most urgent and far reaching challenge of our time. The time of only speaking the right words is over and action is needed.

The past president of SAMA, Prof Edward J Coetzee, in his article published in the CME March 2012 edition, had this to say:

“We hope that health professionals will support these statements [in the Durban Declaration] through practical action in their own lives, communities and practices and through membership of these professional bodies advocate for the necessary action by government and international bodies”.

2. Climate change and its consequences are now inevitable; climate change is occurring at an unforeseen rate across the world and quite conspicuously **in South Africa**. As a nation we recently witnessed uncharacteristic weather and climatic patterns in South Africa, such as unusual snow and flash floods that wreaked devastation in many provinces. Because of the 2010/2011 heavy rains and floods, the National Disaster Management Center estimated that about eighty five (85) people lost their lives and 13 000 houses were damaged by the floods, while the Agricultural Ministry estimated losses of at least US\$280 million were experienced in that sector.
3. In South Africa, bush encroachment into productive grasslands in summer rainfall regions of South Africa has implications for agricultural activities such as cattle and sheep ranching, wildlife management and other ecosystem components. The then Minister on Environmental Affairs predicted in 2005 that “In a hotter and drier climate maize production would decrease by up to 20%, mostly in the drier western regions of the country”. The Environmental Affairs Ministry also predicted that that “climate change could make Mpumalanga, Limpopo, North West, KwaZulu-Natal and even Gauteng malaria zones by 2050 if no control measures are implemented”.
4. Human health is a key concern in climate change, and one of the priority areas of concern identified by the United Nations Framework Convention on Climate Change (UNFCCC).
5. According to the Lancet journal, climate change has become the biggest global health threat of the 21st century¹
6. Climate change exacerbates health inequalities and if the effects of climate change are not addressed quickly, the attainment of the Millennium Development Goals (MDGs) in South Africa will be hindered.
7. The World Health Organization predicts that unmitigated climate change will lead to significant increases in illness and death brought about by environmental changes.

¹ “Managing the Health Effects of Climate Change” The Lancet, Volume 373, Issue 9676, Pages 1693---1733, 16May 2009.

8. The World Medical Association, through its **Declaration of Delhi on Health and Climate Change**, has urged physicians and medical associations to be fully involved in the development of policies to prevent or reduce the adverse health impacts of climate change.
9. Climate change has extensive impact on almost all spheres of human livelihood- the environment, health, agriculture, the economy, and development.
10. There is strong evidence that action on climate change can deliver significant and immediate benefits to health.
11. Global warming and climate change are, sadly, **anthropogenic**, ie, human activity is primarily responsible for the increase in Green House Gas concentration.
12. Scientific data indicates that the Earth is warming faster than at any other recorded time in history. There is a growing consensus among scientists that a greater than 2°C increase in global temperatures above pre-industrial levels would have dangerous global impacts.
13. Greenhouse gas (GHG) emissions are the driving force behind this climate alteration. GHG emissions increased by 70% during 1970-2004, and CO2 emissions grew by approximately 80%. Of great concern is that even with optimal climate change policies and sustainable development systems, global GHG emissions and thus atmospheric concentrations will likely continue to increase over the coming decades before levelling off and decreasing.
14. The continent of Africa is among the regions identified by UNFCCC as one of the greatest sufferers of the consequences of climate change, a fact also acknowledged in the Libreville Declaration, and further elaborated in the Joint Statement on Climate change from the 26 November 2010 meeting of African Ministers of Environment and Health, held in Luanda, Angola (the Luanda Statement).
15. The Intergovernmental Panel on Climate Change (IPCC) also takes note that climate change is contributing to the global burden of disease and premature deaths; and adverse health impacts will be greatest in low-income countries or societies.

THE CENTRALITY OF THE HEALTH SECTOR

16. Because of its size and influence, the health sector can play a unique leadership role in mitigating the consequences of climate change.
17. **The Durban Declaration** from the Global Climate and Health Summit that was held alongside COP17 in 2011 made the following appeal and commitment:
 - 17.1 “Ensure greater Health sector representation on national delegations as well as within key mechanisms of the UNFCCC, recognizing the role of the World Health Organization as the voice for public health within the UN system”.
 - 17.2 “We will engage and inform our constituencies of millions of doctors, nurses, public health workers, hospitals, health systems and health policy makers about the health risks from climate change, and the health benefits of climate action. As health professionals, we will also serve as messengers to our patients, our communities and our governments

about the major health impacts of climate change and the steps they can take to reverse their impact”.

18. The World Health Organisation estimates that the warming and precipitation trends due to human-induced climate change of the past 30 years already claim over 150,000 lives annually .Because climate change will exacerbate health inequities, the World Medical Association recommends that resources that are transferred to developing countries for climate change must include designated funds to support the strengthening of health systems.
19. The Minister of Health, Dr Aaron Motsoaledi, addressing the Health Summit that took place on the sidelines of COP 17, rightly pointed out that the reengineering of Primary Health Care (in the course of NHI implementation) needs to factor in the impact of climate change. The National Department of health has also recently launched a National Adaptation Plan on Climate Change, which is an essential element in the nation’s response to climate change.
20. The health burden imposed by climate change presents an opportunity to promote a public health and preventative approach in healthcare delivery in South Africa.
21. As a visible demonstration of how serious and practical health professionals can take their ‘going green’ commitment, the World Medical Association (WMA) has established a Working Group on Greening of WMA meetings.
22. Ironically, the negative contribution of the health sector to climate change through pollution of the earth is less obvious to many. Health systems include large hospitals that employ many people, are green house gas producing (eg carbon dioxide from coal-fired steam boilers; waste anaesthetic gas), are highly energy consuming and use large quantities of water in procedures such as renal dialysis.

Healthcare procedures also produce other green house gases such as nitrous oxide and various refrigerants. Also, the WHO estimates that 60% of the carbon footprint of England’s National Health Service (NHS) is due to procurement of products that subsequently are not used, particularly pharmaceuticals

Climate Change Impacts and Vulnerabilities

23. Although there remains important gaps in the exact mechanisms or quantified effects of climate change on health, the IPCC has predicted that *“even the minimum predicted shifts in climate change for the 21st century are likely to be significant and disruptive ”*.
24. While the impact of climate change cuts across all aspects of life, it is the poorest of the poor who suffer the most.
25. The Intergovernmental Panel on Climate Change identifies those at greater risk to be, in all countries, the urban poor, the elderly and children, traditional societies, subsistence farmers, and coastal populations.

26. South Africa is vulnerable to climate change due to its geographic location and its socio economic status, and its immediate neighbours are especially vulnerable. Adverse impacts on South Africa's water supply and agricultural yields are expected. Rainfall patterns are changing, and prolonged droughts and other extreme weather events are likely to occur with increased frequency and intensity. Storm power has been increasing, raising the risks of exposure to physical injury and longer-term consequences. Rising temperatures will have increasing negative effects on crop yield and possibly human and animal health. Food security will become a greater priority and challenge, along with increased pressure on already scarce water resources.
27. Well documented precedents of 'environmental refugees' displaced by famine, drought and flooding, are already familiar and are expected to increase in frequency, with health and other development implications. It is expected that displaced populations within the country and the region could pose a future challenge to South Africa.

Addressing the causes and consequences

28. As global warming and climate change are anthropogenic, ie, human activity is primarily responsible for the increase in Green House Gas concentration, a lot of effort would need to be put towards behaviour change even it this may entail legal instruments and enforcements.
29. Climate change response actions fall under two broad categories: **mitigation** and **adaptation**. Mitigation efforts are actions that aim to reduce warming and GHG emissions and thus reduce human-induced climate change. Adaptation efforts are actions in response to changes (or expected changes), to reduce the negative effects of the changing environment on people.
30. In South Africa, mitigation efforts are concentrated in the high emitting sectors such as Energy, Mining, Industry, and Transport.
31. Because the health sector in some way contributes to green house gas emissions and therefore climate change, the traditionally **adaptive** role that the health sector has been urged to play must be balanced with the sector's **mitigation** interventions such as climate friendly energy use (eg conversion to wind and solar power), water use, chemical consumption, food use, waste production and so forth. A leaf can be taken out of the NHS, which has created a "Route Map" for greening its hospitals.
32. South Africa's energy mix as detailed in the Integrated Electricity Resource Plan 2010-2030 includes **nuclear energy** (22.6%). Currently South Africa has one nuclear power station (Koeberg in Cape Town) generating about 6.5% of its electricity. Cabinet approved the Nuclear Energy Policy for South Africa in June 2008
33. **Fracking** , which has been approved to go ahead the Karoo, is carbon and water intensive and has consequences on availability of drinkable water.

National and Regional Commitments and Priorities

The South African government has endeavoured and continues to endeavour, to develop appropriate policy responses to climate change and recognises the need to make a transition to **climate-resilient** and low carbon economy and society. This is achieved by employing both adaptation and mitigation strategies.

34. South Africa has committed to participate in the implementation of the Libreville Declaration on Health and Environment in Africa. The declaration was adopted in August of 2008 by ministers of health and ministers of the environment from 52 African countries (including South Africa) to establishing a health and environment strategic alliance for addressing related issues. The declaration aims to develop and coordinate actions by the health and environment sectors within the development planning processes in order to effectively promote public health and ecosystem integrity, specifically with a view to achieve the MDGs. In November of 2010, African ministers committed to begin the implementation of the Libreville declaration on Health and Environment in Africa, which is referred to as the Luanda Commitment. In addition to several other components of the declaration, the ministers prioritized the following for Africa in terms of health and environment:

- Provision of safe drinking water
- Provision of sanitation and hygiene services
- Management of environmental and health risks related to climate variability
- Sustainable management of forests and wetlands
- Management of water, soil and air pollution, and biodiversity conservation
- Vector control and management of chemicals and wastes
- Food safety and food security including the management of genetically modified organisms in food production
- Environmental health of children and women
- Health in the workplace
- Management of natural and human-induced disasters

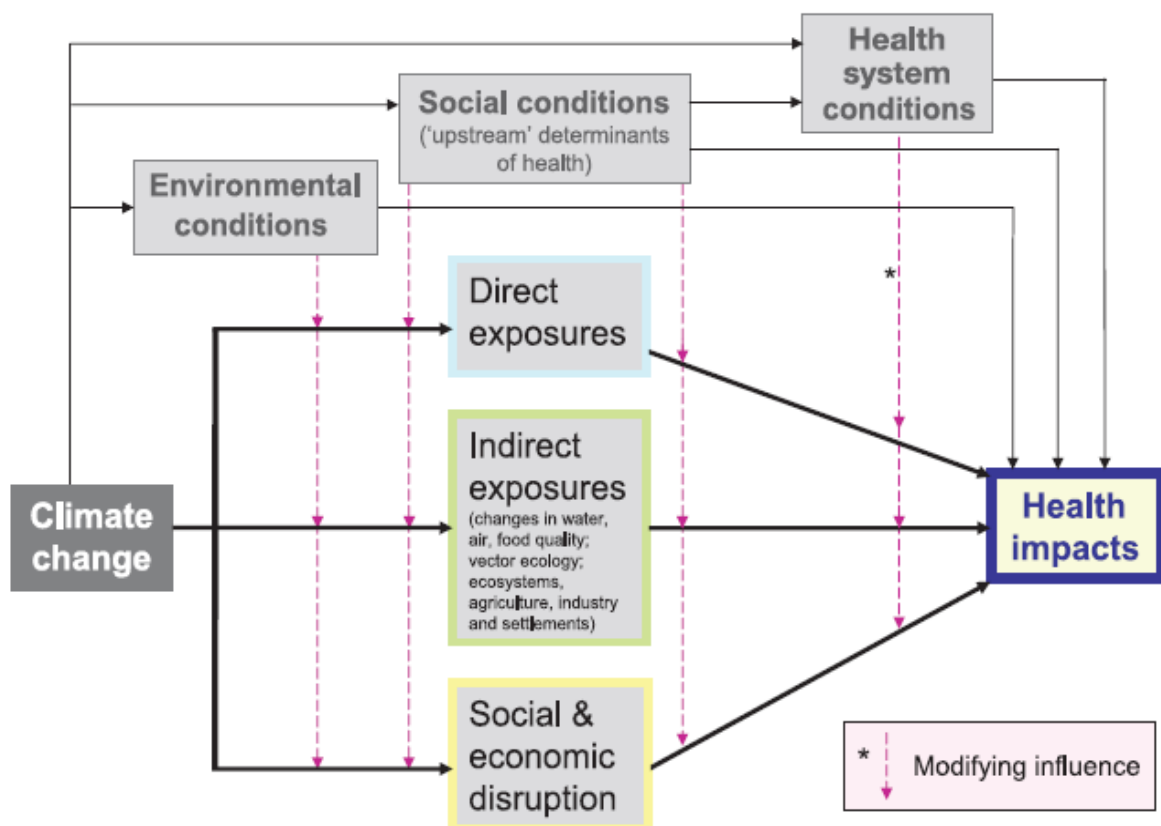
35. The achievement of South Africa's climate change response objective is guided by the principles set out in the Constitution, the Bill of Rights, the National Environmental Management Act (NEMA), the MDGs and the UNFCCC.

In addition of being committed to the Libreville Declaration, South Africa, as part of its efforts to meet the climate challenge, has taken a number of other significant steps, including but not limited to:

- South Africa ratified both the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. The Kyoto Protocol is a binding agreement that commits industrialized nations (called 'Annex 1' nations).
- South Africa has a National Climate Change Response White Paper which identifies the health sector as one of the five key priorities of government (the other four being: Water, Agriculture and forestry, Biodiversity and Human settlements)
- The National Department of Health has an Adaptation Plan on Climate Change
- A National Framework for Disaster Risk Management exists

The Linkages Between Climate Change and Human Health

36. Below is a schematic diagram² of pathways by which climate change affects health:



37. According to the IPCC and WHO, climate change currently contributes significantly to the global burden of disease and premature deaths, with the greatest impact in sub-Saharan Africa. These

² Source: 4th Assessment Report of the Intergovernmental Panel on Climate Change, 2007 Chapter 8

effects are projected to increase globally. Altered epidemiology of important vector borne diseases such as malaria has attracted attention and has been relatively well studied. However, the greatest impacts on human health in southern Africa are likely to be those related to nutrition, and water, referring to both access to adequate quantity and quality of water. Extreme weather will add to the health stressors and the burden of chronic and acute diseases and injury.

Threats to human health arise from the direct and indirect impacts of climate change on food and water supplies, as well as a complex web of proximal and distal drivers which can affect health. South Africa's poorest people are most vulnerable to the impact of climate change. Already adversely impacted by the socio-economic drivers of health, and suffering high burdens of infectious and chronic disease, climate change exerts additional pressure on these members of society. Therefore, the most important consideration for South Africa is its adaptive capacity for and by populations living in poverty.

The IPCC projects the climate change related human health impacts as follows

- Social and health inequalities due to possible desertification, natural disasters, changes in agriculture, feeding and water policy that will have consequences on both human health and human resources in health;
- Mixed effects on malaria; in some places the geographical range will contract, elsewhere the geographical range will expand and the transmission season may be changed;
- Increased malnutrition and consequent disorders, including those relating to child growth and development;
- Increased numbers of people suffering from death, disease and injury from heat waves, floods, storms, fires and droughts;
- Continued change in the range of some infectious disease vectors;
- Increased cardio-respiratory morbidity and mortality associated with ground-level ozone;
- Increased burden of diarrheal diseases; and
- Increased numbers of people at risk of dengue

The Role of the Health System

It is utterly evident that Health as a sector has been sidelined in climate discussions and initiatives, and health professionals have delayed in recognising the serious consequences for health as a result of climate. It is cause for concern that many people – including health professionals- have viewed climate change from a distance and are not conscious of the linkages between climate change and health aspects such as diseases and death.

One of the often cited reasons why health has had a back seat status was because the agenda gets dominated by environmental and economic considerations which place focus on sectors that are both highly-carbon emitting and at the same time key to the economy of South Africa. These are the Mining, Energy and Transport sectors. Health stakeholders have also exploited the fact that health is implicated in almost every climate change aspect, such that health cannot be given explicit attention on its own; but this justification has been criticised by some as a mere excuse for apathy .

Health systems across the world have felt the bitter sting of climate ravages over the years. Health systems across the world have felt the bitter sting of climate ravages over the years. Through shifting climate patterns, health systems have borne a greater burden of pressure due to the spread of cholera, malaria, dengue and other diseases; the compromising of drinking water, agricultural production and food security; an increase in extreme weather events, eg floods, droughts, heat waves and more. According to the World Health Organisation, a high number of deaths and disease globally are due to avoidable environmental risks- including urban outdoor pollution, indoor smoke from the burning of solid fuels and biomass in poor countries; unsafe water, sanitation and hygiene; chemical exposure; and occupational diseases. The greatest burden falls crushingly on health systems of developing countries and poorer segments of the society.

Health system develops a sufficient amount of **resilience** and **adaptive capacity** in order to shield human and animal health stands from climate-related threats. By definition, *Adaptive Capacity* means the ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences. The WHO has noted that public health interventions, coupled with promotion of adaptation measures in health-related sectors such as agriculture and water management can go a long way in averting the anticipated impacts on health.

The health system needs to be strengthened through implementation of a variety of **adaptive** responses, such as:

- Improved monitoring and surveillance of infectious diseases especially in susceptible areas
- Greater emphasis on *prevention* of climate-sensitive diseases
- Scaling up water and sanitation services and providing point- of- use disinfection
- Strengthening of institutional capacity
- Supporting response measures in other sectors, that have health co-benefits, eg cycling initiatives
- Research and development

Medical doctors are well positioned to lead by example

“Do not misjudge the force of the medical profession. People trust doctors. Doctors, not economists, ought to be used in public argument...”

Those were the words of Professor Nicholas Stern, of the London School of Economics, addressing a side event at COP17. An economist himself, Professor Stern recognises the centrality of doctors as a critical resource in the climate battle. SAMA sees the vital role of health workers such as doctors, as a key component of the health system, as being that of, *inter alia*, raising awareness and contributing the necessary capacity. Indeed societies put a high premium on the profession of doctors and this profession can offer an effective prescription to the climate ailment:, ie, beginning in their workplaces and surgeries, doctors can sensitize their patients and colleagues to the

challenges and solutions in climate change. The WMA also urges the medical profession to encourage advocacy for environmental protection, reduction of green house gas production, sustainable development and green adaptation practices within the health system and in their communities. WMA also insists that physicians must be more involved in the development of **policies** to protect the health of all their patients.

Although in South Africa the call for medical doctors' to get involved in issues of climate change comes at a time when more weighty issues are competing for doctors attention—such as rollout of the National Health Insurance, there is scope for making room for climate change considerations. SAMA hopes in the coming months to amplify awareness among its members about the links between climate change and health. In line with calls from key international health authorities, SAMA also wants to heed the challenge to incorporate the climate change topic in medical education, including making the topic part of Continual Professional Development (CPD) training.

How SAMA Can Contribute

SAMA doctors must use their knowledge, authority and influence in society to make a strong case for action against climate change.

- I. SAMA congratulates the government for all its policy processes to deal with climate change
- II. SAMA commends the government for identifying **Human Health** as one of the priority sectors in responding to climate change.
- III. The Association is committed to seeing the resources of medical knowledge and expertise being put to use in any identified national strategies to avert adverse effects of climate change in South Africa.
- IV. SAMA regrets the fact that, as a developing nation, South Africa is a victim of human actions of industrialized nations that are major emitters of carbon.
- V. SAMA is committed to participate as far as it can, in all national efforts in climate change prevention, adaptation, or mitigation.
- VI. SAMA recognizes that doctors, like any other citizen, have personal responsibilities, on a day to day basis, to reduce harmful actions in their workplaces or homes, to contribute to a greener South Africa.
- VII. South Africa has an energy intensive, fossil-fuel powered economy. So, because of the economic implications involved in South Africa shifting to a low-carbon economy (renewable energy), SAMA is not sure whether this policy will be met with ready enthusiasm by other stakeholders (especially industry), and whether this policy (or legislation thereof) will be implemented without negatively impacting on other factors such as unemployment, and economic and industrial output

SAMA, in alignment with the WMA's position, strongly advocates and support or commits itself to the following:

In terms of **LEADERSHIP AND ADVOCACY**:

To ensure the following:

1. A set of goals for environmental protection, reduction of GHGs, sustainable development and green adaptation and mitigation practices. These are primarily in the context of safe water and waste management.
2. Mechanisms are developed to reduce inequalities in health that are associated with climate change. In particular, adequate resources should be designated to strengthening public health systems.
3. Involvement of physicians and medical associations in the development of all policies created to prevent or reduce the health impacts of climate change,
4. The ability of patients and civilians to adapt to climate change and extreme weather events is improved, through information and education programs, disaster risk mitigation and disaster preparedness.
5. Design a plan for environmental refugees within South Africa and its regional neighbours

In terms of **EDUCATION AND CAPACITY BUILDING**, SAMA recognises the following needs:

1. That South Africa's healthcare community needs to build professional awareness of the importance of the environment and climate change to personal, community and societal health
2. That routine health training on environmental health/medicine and public health should be developed for all students in health related disciplines
3. Support for the development of tools that assess levels of impact and encourages physicians to evaluate their patients for risk of environment and climate change
4. Encourage and support community climate change health impact assessments, and to widely disseminate the results, and incorporate the results into future planning for mitigation and adaptation
5. Encourage physicians to work in public health and all roles in emergency planning and response to extreme weather, including the training of other physicians while noting that climate change will be experienced mostly through the changing rate and intensity of exposure to extreme weather
6. Provide training for climate change-related emergency response, particularly for those living in more isolated regions.

In terms of **SURVEILLANCE AND RESEARCH**, SAMA encourages its members and South Africa's broader medical and health care fraternity to:

1. Address the gaps in research regarding climate change and health by undertaking in-depth studies
2. Develop and improve the collection of statistics and the registration of births and deaths, in recognition of the greater vulnerability of impoverished populations to climate change impacts

3. Strengthen surveillance systems and include event alerts for physicians to be aware of climate-related events and diseases as they unfold.

In terms of **COLLABORATION**, SAMA will use its influence to facilitate and encourage:

1. Collaboration between government departments, NGOs and other health professionals to develop a stronger knowledge base around climate change in the country, along with strategies for climate change action in terms of mitigation and adaptation
2. Incorporation of national medical associations and physicians into emergency planning and response
3. Strengthen public health systems in order to improve the capacity of communities to adapt to the impacts of climate change

It is essential for South Africa to adopt specific mitigation and adaptation strategies that specifically apply to climate change and its effects on human health. If GHG emissions are not rapidly reduced on a global scale, climate-related serious and potentially catastrophic public health issues will increase. Recognising that sufficiently rapid reductions in GHG emission may not happen for economic and technological reasons, SAMA encourages and supports strategies for health and climate change to ensure that South Africa's effectively responds to the health impacts of climate change.

Important aspects for such strategies should include the following:

1. Localized disaster management plans for specific regions based on potential negative health outcomes in those areas. The plans should also incorporate appropriate health and medical response measures.
2. Strong and supported communication connections between hospitals, major medical centres and local weather forecasters and emergency response organizations, to maximise efficiency in responses and use of health resources during times of extreme weather events
3. Measures targeted to the needs of vulnerable population groups, who have the lowest adaptive capacity to climate change events
4. Measures targeted to health and medical workforce needs in rural areas
5. Enhanced awareness of the effects extreme weather may have on mental health
6. Programs to promote education and awareness of health professionals about the links between health and climate change, specifically in terms of the risks associated with new and emerging vector-borne diseases
7. Measures to prevent exotic disease vectors from becoming established in South Africa
8. Preparation to cope with any influx of temporarily and permanently dislocated populations due to climate-related physical events and economic conditions

Individual commitments

Doctors, as responsible global citizens can individually make a difference by making an effort to reduce their carbon footprint in their places of work and private lives. Doctors must be climate responsible and should strive to become “Green Doctors” who influence their patients to do likewise.

Some suggested practical “green’ activities include:

- Switch off lights when not in use
- Turn off air conditioners when leaving the building/ office.
- Print only when necessary, using both sides of the paper
- Avoid reckless water usage
- Set your computer on “sleep” when not in use
- Try to use electronic instead of paper correspondence
- Bike or walk to work instead of driving

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