

**Inputs for OHCHR's Analytical Study on the Impacts of Climate Change on the
Enjoyment of the Right to Health (Human Rights Council Resolution 29/15)**

Contribution by Hashemite Kingdom of Jordan

It is widely accepted that climate change is occurring because of the accumulation of greenhouse gases in the atmosphere arising from the combustion of fossil fuels. Over the past 100 years, average global surface temperatures have increased by about 0.74°C; most of this increase has occurred in the past 50 years. Despite the mitigation policies that are now being implemented in the world, some degree of global climate change is unavoidable.

Climate change may affect health through a range of pathways, for example as a result of increased frequency and intensity of heat waves, reduction in cold related deaths, increased floods and droughts, changes in the distribution of vector-borne diseases and effects on the risk of disasters and malnutrition. Overall, the effects of climate change on health are likely to be negative, with populations in low-income countries being mostly vulnerable.

Safeguarding and enhancing Human Rights has played an integral part in the reform process in the Hashemite Kingdom of Jordan and has continued to be a vital instrument for the democratization process as well. A number of guarantees are available to ensure the respect for Human Rights and to assure their effective enjoyment. The main guarantees include the Jordanian Constitution, and the recent constitutional amendments, which is a key document that guarantees protection of the full range of civil, political, economic, social, and cultural rights and freedoms. In addition, Jordan has ratified most of the international Human Rights charters, and Human Rights have been incorporated into its domestic laws, with incessant steps to perfect this legislative policy.

In view of that, a standing Human Rights committee was formed comprising members from a number of ministries and institutions. This Committee is responsible for promoting Human Rights and following up on international reports about Jordan. Moreover, Human Rights departments were established in a number of ministries. (For more information see: <http://www.jordanembassyus.org/politics/human-rights-and-political-freedom>)

1. Please describe, in your view, the relationship between climate change and the enjoyment.....ect

Climate change poses a considerable threat to public health. In the sixty-first session of the World Health Assembly (WHA) held in May 2008, climate change was identified as a fundamental threat to public health. Later in October 2008, the World Health Organization (WHO) Eastern Mediterranean Regional Committee issued Resolution

(EM/RC55/R.8) on Climate Change and Health, which aims at protecting health from the effects of climate change, and urges Member States to implement the endorsed Regional Framework for Health Sector Action to Protect Health from the Effects of Climate Change. In 2014, high-level health delegates from all regions of the world agreed unanimously that climate change poses “unacceptable risks” to global public health. The Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report declared that climate change contributes to the global burden of disease and premature death. The Convention on the Rights of the Child provides that States shall respond appropriately to combat disease and malnutrition “through the provision of adequate nutritious foods and clean drinking water, taking into consideration the dangers and risks of environmental pollution”.

Climate change will without doubt put at risk the basic determinants and requirements for maintaining health, which are clean air, clean and adequate water, sufficient food, and shelter. Health, and consequently, the enjoyment of the right to health, is directly and indirectly related to the impacts of climate change. These impacts on human health can be direct impacts, such as mortality and morbidity from extreme weather events; or indirect impacts resulting from longer-term climatic changes that affect the geographic distribution of vector-borne diseases, the disease transmission seasons, the incidence of food and water borne diseases, cardiovascular and respiratory diseases, and malnutrition. By and large, the effects of climate change on health are likely to be negative in particular in developing and low-income countries with negative implications for their achievement of the health-related Millennium Development Goals and for health equity. The groups who are likely to bear most of the resulting disease burden are children under five years of age and the poor, especially women. In addition, health effects are expected to be more severe for elderly people and people with pre-existing medical conditions.

The right to health implies the enjoyment of good physical and mental health, appropriate health care services and facilities, and conditions which enable people to live a healthy life including adequate food and nutrition, housing, safe drinking water and adequate sanitation, clean air, and a healthy environment.

Protecting the right to health with regard to climate change adverse impacts requires comprehensive measures, including mitigating the adverse impacts on the underlying determinants of health and giving priority to protecting vulnerable individuals and communities. Consequently, mitigation and adaptation are the two main strategies to address climate change and the right to health. The developed countries should take the lead in mitigating GHG and combating climate change by reducing emission levels and stabilizing greenhouse gas concentrations in the atmosphere, focusing on the adverse effects on health. In addition, the developed countries should consider the needs of the developing countries to strengthen their capacities to adapt to climate change and

enhance the resilience of the health system to cope with the ensuing risks and impacts on health.

2. Please share a summary of any relevant data on the impacts of climate change etc.).....;,

The Jordanian government represented by the Ministry of Health (MOH) is committed to implementing the WHA and the Regional Committee resolutions of 2008 on protecting health from climate change. In fulfilling its commitment to implementing these resolutions, the MOH developed the National Climate Change Health Adaptation Strategy and Plan of Action in 2011-2013, with the technical assistance of WHO/Centre for Environmental Health Action.

The current health related vulnerabilities were assessed, as well as coping capacities. Vulnerable populations and regions were also identified. The impact of climate change on six climate-sensitive health issues, namely, air-borne and respiratory diseases, water and food-borne diseases, vector-borne diseases, nutrition, heat waves, and occupational health was studied. Health vulnerability and adaptation assessment to climate change over the next 25-30 years was carried out.

The various GCM and statistical models projected higher temperature and lower precipitation as a result of climate change with projected increase in rainfall intensity during December-February of the rainy season. The assessment of climate change burden on respiratory diseases reveals that the most visible effect would be on chronic respiratory diseases including bronchial asthma and COPD. There are no effects on acute infectious respiratory diseases; on the contrary, the assessment illustrates a positive effect of the predicted increase in temperature and decrease in humidity.

The increase in temperature due to climate change is likely to be associated with increased survival and abundance of microorganisms; thus, increased water and food-borne diseases. The expected decrease in precipitation will lead to decreased availability of water, which is already very scarce, and may lead to the consumption and use of unsafe (contaminated) water for drinking and other uses, causing many water and food-borne diseases.

Vector Borne Diseases (VBDs) risk is expected to increase by increasing temperature. Areas with scarce water like the Eastern Desert will become an area of higher risk due to water harvesting projects. Water projects will certainly have impacts on the intermediate hosts or vectors responsible for the transmission of malaria, schistosomiasis and leishmaniasis.

Access to nutritious food is expected to be reduced; dietary quality and eventually quantity declined, and micronutrient malnutrition (or hidden hunger) increased as indirect impacts of climate change. In terms of food security, Jordan is self-sufficient in

vegetables, fruit, and white meat. The Security Risk Index of 2011, based on the key elements of food security identified by FAO, classifies Jordan as a medium risk country. In 2011, an assessment of climate change impacts on food security shows that by year 2030, an increase of 1°C in air temperature and a 10% decrease in precipitation, would result in yield reduction of 7% for wheat, 18% for barley, 5% for vegetables, apple, and olive. A 2°C increase in air temperature and 20% decrease in precipitation, by year 2050, would decrease yield by 21% for wheat, 35% for barley, and 10% for, vegetables, apple, and olive. The average net irrigation requirements for the different crops would also increase by 6 and 12% in years 2030 and 2050, respectively. Based on the projected water resources, expected reduction in crop yield under climate change, the trends of urbanization and land use change and the population growth, self-sufficiency degree (SSD) of many food items will decrease dramatically in the future and will depend on available imports of forage and important food items.

There is an increasing trend in the number of heat waves in all regions (Jordan Valley, Mountainous areas, and Eastern desert regions) during the period 1980-2010, with the maximum number of heat waves found in year 2010 in all regions. The Maximum number of heat waves was (9) and occurred in Shoubak (Mountainous region); the recorded maximum temperature exceeded the normal minimum temperature by 11.5°C. The expected increase of heat waves due to climate change will cause an increase in a spectrum of disorders such as sunburn and fatigue, heat rash, heat cramps, heat syncope, heat exhaustion, and heat stroke. The most serious of these are heat exhaustion and heat stroke, which can lead to death. In addition, exposure to hot weather is expected to exacerbate existing chronic conditions.

Climate change is expected to alter outdoor workers' exposure to solar ultraviolet radiation (UVR) to cause a range of health impacts. The greatest burdens result from UVR-induced cortical cataracts, cutaneous malignant melanoma, and sunburn. Heat stress due to high temperature and humidity can lead to an increase in deaths or chronic ill health after heat strokes. Both outdoor and indoor workers are at risk of heatstroke. Indoor (chemical industries) workers and farmers may be exposed to higher levels of air pollutants due to increased temperatures.

In regions suffering from political instability and tensions, climate change is likely to act as a "threat multiplier" aggravating water scarcity and tensions within and between the nations sharing hydrological resources, geography, and political boundaries. The Syrian and Iraqi refugees will increase the stress on the sustainable use of natural resources and ability to improve life standards in Jordan. A study conducted in 2011 in the context of the UN/FAO activities for helping the developing countries towards the achievement of MDGs shows that climate change effects impose significant additional stress on ecological and socioeconomic systems in Jordan. The socioeconomic impacts of climate change are related to water and agriculture as the most sensitive resource to climate

change; employment in agriculture will increase the demand for water due to high temperature while the agricultural productivity will decrease due to drought. This will influence the stability of income from agriculture and lead to income insecurity for full time workers and families who depend on agriculture as a main source of income. For more information see: <http://www.moh.gov.jo/AR/Strategies/Pages/strategy.aspx>, <http://unfccc.int/resource/docs/natc/jornc3.pdf>

3. Please describe existing national commitments, legislation and policy frameworks.....ect

Jordan has submitted its First, Second, and Third National Communication report on Climate Change to the UNFCCC. The TNC report, 2014, describes the projected impacts of Climate Change on Jordan, a comprehensive mitigation assessment and a detailed inventory of GHG emissions, as well as comprehensive vulnerability assessments for major developmental sectors in Jordan identifying cost effective opportunities for mitigation and adaptation that Jordan will pursue with the support of the international community.

The health sector can respond to prevent the adverse impacts of climate change on the right to health in a number of ways by preparing for extreme events (e.g. heat waves), surveillance, monitoring, responding to infectious disease, increasing awareness, and by providing extra support for the communities. The health sector's adaptation strategy and plan of action, and EWS would have long-term potential for delivering improved health outcomes and preventing the adverse impacts of climate change on the right to health. The Strategy provides a roadmap to the health sector, as well as the many involved public agencies and organizations, to work jointly to improve the health of the Jordanian population, in particular the vulnerable groups in rural, desert, remote areas, and poverty pockets, and the environments in which they live, work, and play. The health sector's adaptation measures include regulatory/legislative, capacity building, public education, awareness and communication, surveillance and monitoring, medical intervention, as well as infrastructure development measures. These measures would strengthen the preparedness and resilience of the health sector, develop climate-informed disease control programs and surveillance systems using meteorological services to target vector control in time and space, and establish an early warning system to trigger prompt public health intervention when certain variables exceed a defined threshold. (For more information see: <http://www.moh.gov.jo/AR/Strategies/Pages/strategy.aspx>, <http://unfccc.int/resource/docs/natc/jornc2.pdf>, <http://unfccc.int/resource/docs/natc/jornc3.pdf>)

In September 2015, Jordan submitted its Intended Nationally Determined Contributions (INDCs) to the UNFCCC. Jordan nationally determines to reduce its greenhouse gas

emissions by a bulk of 14% until 2030. This contribution of GHGs reduction will be unconditionally fulfilled at, maximally, 1.5 % by the Country's own means compared to a business as usual scenario level. However, Jordan, conditionally and subject to availability of international financial aid and support to means of implementation, commits to reduce its GHGs emissions by additional, at least, 12.5 % by 2030.

The targets above are accompanied by a diverse combination of numerous GHGs cut-oriented actions in all involved sectors of emissions (energy, transport, water, waste management, industries, and agriculture) in addition to the adaptation actions in targeted sectors including the health sector. These actions (policies, strategies, legislations, measures, etc) are articulated in the INDCs report at: <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Jordan/1/Jordan%20INDCs%20Final.pdf>

In mid 2015, the Government of Jordan has launched Jordan's 2025 National Visions and Strategy, which charts a path for the future and determines the integrated economic and social framework that will govern the economic and social policies based on providing opportunities for all. Jordan 2025 includes more than 400 policies and procedures with performance indicators, which will lead to the reduction of GHGs and will be implemented through a participatory approach between the government, business sector, and civil society. Most importantly, the 2025 National Vision and Strategy has set an 11% Key Performance Indicators (KPIs)-style "targets" for renewable energy share in the total energy mix in 2025 as well as increasing the percentage of the contribution of natural gas in the energy mix to 39%.

In 2013, Jordan developed its National Climate Change Policy (2013-2020). The provisions of this Climate Change Policy are being integrated/ mainstreamed in environmental, social, and economic policies and legislation in the Country. In particular, the Policy's provision will be integrated in the National Green Growth Plan and Implementation Roadmap, which is currently under development and will be launched in 2016 covering six sectors (energy, water, waste, transport, tourism, and agriculture). A large share of the objectives of the Policy will be implemented through sector strategies under the responsibility of the sector's ministries (energy, water, agriculture, health, and others). The National Climate Change Committee is mandated, among other responsibilities, to monitor the progress in the implementation of the Climate Change Policy.

4. Please describe any relevant national accountability and oversight mechanisms.....ect

During the past few decades, Jordan has achieved great results in providing the right to healthcare to a large number of citizens. Jordanians benefit from a relatively modern health system that is accessible and, in effect, provides health services coverage to virtually everyone. It is estimated that total health expenditures in Jordan is at or around

9% of GDP—far higher than other low-middle income countries, and comparable with levels typically found in many developed countries.

The MOH plans to increase the percentage of insured individuals and increase the number of the covered citizens under the umbrella of civil insurance program to include beneficiaries of the National Aid Fund enrolled without subscription fees: under-privileged people, the handicapped, residents of the poorest and remote areas, and the social security network. Thus, the rate of people covered by the civil insurance program will reach about 47% in 2017.

Jordan has made significant progress over the years in a number of important health indicators. Child immunization is currently universal, access to improved drinking water is near 100 %, and more than 70% of households have improved sanitation facilities. One area that stands out among these indicators, however, is the fertility rate. Since 2005, it has increased slightly, rather than declined. A reduction in the fertility rate has been identified in the National Agenda as a priority. Due to its high importance and influence on families and societies, family planning is one of the primary health care elements on which the MoH focuses. Family planning programs plays a major role in improving maternal and child health and reducing maternal and infant mortality and morbidity.

The Health System Strengthening project (HSS), supported by the USAID, assists the MoH to build the capacity of health workers and sustain improvements in the quality of health care at the local community, health center, hospital, governorate, and central government levels. For more information see:

<http://www.moh.gov.jo/EN/Pages/default.aspx> Strategy of the Ministry of Health (2013-2017).

<http://gnrd.net/seemore.php?id=277>

5. Please describe any concrete mitigation and adaptation measures being taken.....ect

In view of the human right to health, apart from climate change, the MOH, with the support of WHO, has introduced the Healthy Villages Program, a Community Based Initiative (CBI), in 1996, to foster a holistic approach to health management through enabling rural populations to protect and improve their health, and promoting local actions by the community members to build healthy environments and promote healthy behaviors. Improving children health, empowering women's role in health and development, and early detection of non-communicable diseases are core objective of this program. This community-based initiative is an adaptation measure to the adverse health and socioeconomic impacts of climate change on rural populations.

<http://www.moh.gov.jo/EN/Strategies/Pages/default.aspx>

The policy of the Government of Jordan in the energy sector is shaped through the adoption of the Updated Master Strategy of Energy Sector in Jordan for the period 2007-2020. The main goals of the Strategy include expanding the development of renewable energy projects, promoting energy conservation, energy efficiency, and awareness. The 2012 Energy Efficiency and Renewable Energy Law no. 13 is also a key enabler toward climate change mitigation, providing incentives for sustainable energy solutions as Jordan seeks to increase renewable energy from 2% of overall energy in 2013 to 10 % in 2020, and to improve energy efficiency by 20 % by 2020.

Several solar energy projects are being implemented by the industrial sector, as well as smaller scale projects by the private sector. In addition, a number of projects based on renewable energy sources are being implemented to improve the energy use efficiency in water utilities. The Ministry of Water and Irrigation's (MWI) Energy Efficiency and Renewable Energy Policy for the Water Sector (2015) seeks to achieve a 15 % reduction in energy consumption of billed water by the year 2025 through the introduction of economically feasible and environment-friendly power generation systems based on renewable energy sources, including biogas from sludge.

The transport sector is the second source (after the energy sector) of GHGs emissions in Jordan with a share of 16%. One of the major objectives of the long-term strategy of the Ministry of Transport (2014) is to increase the total number of commuters using public transport from 13% in 2010 to 25% by 2025. Work is underway to introduce Zero Emission Electric Vehicles (ZEV) and implement the national bus rapid transit (BRT) system and the railway system, which will contribute to cutting down GHGs emissions.

The health sector can respond to the adverse impacts of climate change with regard to the above-mentioned health issues in a number of ways by preparing for extreme events (e.g. heat waves), surveillance, monitoring, responding to infectious disease, increasing awareness, and by providing extra support for the communities. The adaptation actions/measures/ interventions for each of these climate-sensitive health issues can be classified into 7 major categories: Regulatory/ legislative; Capacity building; Public education and communication; Surveillance and monitoring; Medical intervention; Infrastructure development; Research and further information.

00 Jordan's National Climate Change Health Adaptation Strategy and Plan of Action – Dec 2012.

It was recognized that the lack of detailed time-series data on certain health issues and data on influencing factors other than climate change did not allow for a comprehensive and quantitative assessment of health impacts. Nevertheless, good understanding of current activities and programs, their adequacy with respect to health under climate

change scenarios, and a range of adaptation measures, early warning systems, and required supporting research emerged. The outcomes provide a proactive approach to protect the health of communities in Jordan from adverse impacts associated with climate change, and form the basis for future planning and decision-making.

A resilient health sector with adequate infrastructure and widespread access to primary healthcare services is fundamental to reduce the population's vulnerability to the impacts of the changing patterns of diseases due to climate change. Health professionals must be trained to better understand the potential impacts of climate change on health. Improving health systems is a clear "no-regrets" option for adaptation.