**Climate Change and Agriculture and Animal Health in Jordan**

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Although Jordan contributes less than 20 million tons of CO2eq of Green House Gases (GHGs), it has signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and ratified it in 1993. Jordan has strong commitment to the objectives developed by the international and regional agreements and international cooperation to respond to the threats of climate changes. The Ministry of Environment, relatively newly established, has become the national focal point for climate change issues and UNFCCC. A GEF-UNDP supported programme was implemented for national capacity building in documenting national emissions of GHGs.

Climate change induces great impact on the different fields of agriculture; forestry, water availability, crops and animal productivity and health. Jordan is among the poorest countries in the world, with only 147 cubic meters per person per year in 2010. Some trends studies have shown that there has been a slight increase in the mean annual temperature, the mean annual maximum temperature tends to increase slightly, but the mean annual minimum temperature tends to show higher increase. It also showed that by 2040 the mean temperature is expected to increase by 1.7C and a change in rainfall of 10% may give a change of about 5% in irrigation needs, while an increase of evaporation of 10% (increase of temperature of around +2 ºC) will increase irrigation needs by about 18%. These expected changes will affect/induce (storms, drought, floods, sand storms, dust….) adversely crops, water availability, animal feed, forest and animal production and diseases. It will also affect the growth of microorganisms leading to several diseases in humans and animals. It was reported that a decrease of 35 mm in precipitation, will decrease the income of the household by JD100. Furthermore, in the low rain areas (Badia region-less than 350mm), if the rain fall decreased by 20%, the income expected to be decreased by 200JD.

Jordan contributed about 28717gigagrams (Gg) or 28.72 million tonnes (Mt) of CO2 equivalent (CO2eq.) of GHGs to the atmosphere, equal to 0.1% of the global CO2. Agriculture as a sector in Jordan contributed (1318Gg CO2 eq.), 4.6%; compared to Tunisia-24.4%, Turkey 7.3%, Lebanon 12.5%. The breakdown of GHG emission is Carbon dioxide (about 24003Gg CO2), 83.58%, Methane about (3087Gg CO2 eq.), 10.75%; and Nitrous oxide (about 1627Gg CO2 eq.), 5.67%. Baseline emissions for the agriculture activities for the years (2007-2040) were mainly CH4 and N2O resulting from enteric fermentation and manure.

Climate and environmental changes have been associated and linked to several animal diseases. On the top of the list are Blue Tongue (BT), Rift Valley Fever (RVF) and West Nile Fever (WNF). All of which have been shown to be insects born, and their epidemiological profile has been altered and considered among the Transboundary Animal Diseases (TADs), threatening many countries and may be continent.