|  |  |  |
| --- | --- | --- |
|  |  |  |
| **MINISTERUL** **AGRICULTURII,****DEZVOLTĂRII REGIONALE****ȘI MEDIULUI****AL REPUBLICII MOLDOVA** |  | **МИНИСТЕРСТВО****СЕЛЬСКОГО ХОЗЯЙСТВА, РЕГИОНАЛЬНОГО РАЗВИТИЯ И ОКРУЖАЮЩЕЙ СРЕДЫ РЕСПУБЛИКИ МОЛДОВА** |
|  |

**Replies by the Ministry of Agriculture, Regional Development and Environment of the Republic of Moldova to the questionnaire of the Special Rapporteur on human rights and the environment**

The extreme events related to climate change are the heat and cold waves, droughts, landslides, torrential rains and floods. Climate change affects all the development areas of a state. Its effects are not limited to a single sector. At national level, agriculture is the most affected sector; however, the impact on the health sector is also significant, and measures are needed to increase the resilience of the sector to meet the new challenges caused by extreme weather events conditioned by climate change. Climate change and extreme climate events have a direct and indirect impact on health. Frequently, the effects arising from the impact in some sectors have an impact on other sectors. At the same time, extreme events can affect agriculture, forestry and industry, thus causing food security problems and poor sanitation, which, in their turn, can lead (indirectly) to serious impact on health in the short and long term. It is necessary to investigate different aspects of climate variability, as it influences differently the health of the population. The high and low temperature of ambient air causes different natural focal diseases. The reaction of the human body is different at temperature variations.

The thermal extremes (maximum and minimum temperature) both during the daytime and during the night have more pronounced effects on the population. Thermal extremes have a different impact on health in different seasons. Extremely high temperatures affect the urban population to a greater extent. The changes in the body are also different when the air temperature is combined with relative air humidity and wind speed.

The state of health of the human body is influenced by the lack of precipitation and abundant precipitation of short and longterm duration. Lack of rainfall or a reduction in the amount of seasonal rainfall is dangerous to agriculture, which indirectly poses health hazards through malnutrition, unsafe food. Abundant precipitation leads to floods that affect housing, living conditions, and contribute to increase in vector-borne diseases. Each of these climatic variables requires a different level of qualification in terms of climate modelling and has varying degrees of predictability as related to climate change, such data being essential for building climate scenarios. Shocks associated with extreme weather events or the accumulation of a series of events or a prolonged event (for example - high temperatures, low temperatures, floods, droughts) can lead to stress. Risk assessment requires the transition from description of extremes to description of hazards.

Climate hazards are events and combinations of events that can cause damage to health and living conditions. Depending on the adopted approach, the hazards (risks) can be described in two ways:

1. The approach based on natural hazards, where the focus is on the climate hazard itself;
2. The vulnerability-based approach that highlights the damage caused by a hazard.

The approach based on natural hazards is to establish a level of risk, such as the peak wind speed, the extreme temperature threshold, at which the changes in the health condition increase the vulnerability, either in space or in time. Different social groups will show different degrees of vulnerability depending on their physical condition and on their socioeconomic capacity. The vulnerability-based approach allows establishing criteria according to the level of hazard and its magnitude. Climate change does not lead to the emergence of new ways of action by the environment, but tends to exacerbate the effect of environmental determinants of climate-conditioned health. The following hazards can be recorded as the likely consequences of climate change:

1. Increase in the number of intestinal infections, which have a considerable seasonal incidence, with regular registration in many countries over the last few years;
2. Resurgence of some diseases (malaria, yellow fever);
3. Pronounced fluctuation of daily and weekly morbidity;
4. Change in the nature and level of hospitalization in conditions of warmer summers, milder winters and a more flexible regional climate;
5. Changes in qualitative and quantitative assessments of trauma and morbidity projections.

The impact assessment of current climate can be used to determine how a climatic hazard acts on society, or to examine vulnerability, while finding out the climatic hazards involved. Impact can be assessed by qualitative and quantitative methods. Out of the extreme events, associated with climate change, extreme temperatures have the most pronounced and obvious influence on the population.

The impact assessment of events and the assessment of extreme events variability can be achieved by the statistical analysis of relatively short historical data. Thus, we conducted a study of the number of deaths (2001- 2010) and EMS calls (2007-2010) in Chisinau municipality. The study provided an analysis of periods of extreme high and low temperatures. During the summer of 2007, the number of extremely hot days caused by the apparent temperature was very high in the Republic of Moldova and it had increased over the period July-August up to 20 days. The apparent temperature values in the summer of 2007 have reached the first degree of precaution when fatigue can occur due to sun exposure and prolonged physical activity, while continued activity under such conditions could lead to heat cramps. The persistent warm weather, which has settled for a long time, has contributed to the accumulation of heat and consequently has led to an increase in the number of days with discomfort. The results of the research carried out during the hot period of 2007 showed that 191 cases of excess deaths were recorded in Chisinau municipality, including during the summer - 164 cases of excess deaths corresponding to 25 cases and 22 cases, respectively, in 100,000 inhabitants. The share of excess deaths (as compared to RP) is obviously higher in summer (11.3%) than in the warm period (6.4%).

In the structure of deaths according to natural focal diseases, there were excess deaths during the warm period of 2007 as compared to the reference period. The analysis revealed the highest number of excess deaths for circulatory system diseases - 140 excess deaths as compared to the reference period, most of which were recorded during the summer months (139 cases). A lower number of excess deaths during the warm period were recorded for tumors (23 cases), endocrine diseases (13 cases), mental and behavioral disorders (9 cases), digestive diseases (9 cases), infectious and parasitic diseases (7 cases), nervous system diseases (6 cases), respiratory diseases (5 cases). Not all of these excess deaths can be dependent on high temperatures, as only some of the natural focal diseases show excess deaths in summer months as well. Thus, during the summer months there are excess deaths for parasitic and infectious diseases (10 cases), digestive diseases (10 cases), respiratory diseases (8 cases), the number of excess cases being higher as compared to the warm period, which shows a significantly higher number than for the reference period.

Though Republic of Moldova faces multiple and varied health threats from climate change impacts and increased risk from environmental conditions, health sector policies do not specifically mention climate change issues. In terms of the environment and climate change, the stated objectives are:

1. develop sound and cost-effective interventions that ensure personal protection from communicable diseases and address their environmental determinants;
2. develop a reliable surveillance system for preparedness and response to epidemics;
3. strengthen the capacity of the health sector to respond to the health consequences of emergencies and disasters.

At the systemic level, the assessment identified partial (and improving) harmonization with international standards and widespread public access to medical institutions as sectoral strengths. At the same time, systemic level impediments to addressing climate adaptation through the health sector include:

1. lack of a national strategy to address climate related health impacts;
2. need to streamlining sectoral policies and agencies to reduce duplication of mandates and activities;
3. lack of a clearly defined cross-sectoral mechanism for coordination of adaptation related policies;
4. limited ability to expand service network in the rural areas;
5. limited and insufficient support to organizations and implementation support;
6. limited climate related awareness and knowledge among professionals;
7. limited staffing, equipment, and financing of the public health system;
8. limited training for public health workers and service providers.