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**Press Brief
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World Food Day event to discuss health implications of climate change

The health effects of climate change on food and water safety and nutrition are the subject of a seminar, held in Rome, Italy today, that was jointly organized by the WHO Regional Office for Europe, the Food and Agriculture Organization of the United Nations (FAO) and the European Food Safety Authority (EFSA), with the support of the Italian Ministry of Labour, Health and Social Affairs. The seminar is held to mark this year's World Food Day, whose theme is the challenges of climate change and bioenergy.

Challenges to nutrition and food and water safety are projected to grow with climate change. While climate change will affect everybody, everyone will not be equally affected. According to the recent WHO publication *Protecting health in Europe from climate change*,¹ more than 60 million people in the eastern part of the WHO European Region live in absolute poverty. Climate change can worsen health inequities within and among countries and put additional stress on poorer groups. The global cost of climate change is projected to be up to 5% of gross domestic product (GDP) by the end of this century. Thus, climate change threatens to undermine progress made towards the Millennium Development Goals: poverty cannot be eliminated while environmental degradation exacerbates malnutrition and food- and waterborne disease.

Consensus is growing on the necessity to implement effective measures to reduce risks and exposure and strong measures to adapt to climate change to reduce effects and help people cope with new threats. Nevertheless, health and equity should be at the core of any policy on climate change. Most of the actions causing climate change originate from the developed world, but the less developed world is likely to bear the biggest burden. As WHO stresses, action taken today and in the next couple of decades in energy, agriculture and land use are essential to curb the problem, but should take account of the effects on human health and the needs of the most vulnerable populations.

Climate change will have considerable implications for risk-assessment bodies, such as the FAO/WHO Joint Expert Committee on Food Additives (JECFA), the FAO/WHO Joint Expert Meetings on Microbiological Risk Assessment (JEMRA) and EFSA, which could be asked to give scientific advice on emerging food safety risks linked to climate-related changes. Changing patterns and practices of crop production could lead to the increased use of agrochemicals, presenting new challenges to risk assessors. The distribution and spread of plant and animal diseases could also be affected; recent outbreaks of bluetongue disease in northern Europe – a region previously untouched by the disease – could be a possible indicator of things to come. Climate change could also have important consequences for nutrition and food security.

¹ *Protecting health in Europe from climate change*. Copenhagen, WHO Regional Office for Europe, 2008 (http://www.euro.who.int/InformationSources/Publications/Catalogue/20080403_1).

Statements of commitment

Dr Marc Danzon, WHO Regional Director for Europe, says: “In the face of what we know about the serious threats posed by climate change to health, the question today is not whether public health action is necessary, but what to do and how to do it. Health systems should respond by helping to strengthen disease control and health protection. Action includes ensuring clean water and sanitation, safe and adequate food, disease surveillance and response, and disaster preparedness; increasing health professionals’ awareness of climate-related diseases; delivering accurate and timely information to citizens; and advocating to other sectors reduced emissions that can benefit health. The available knowledge and experience need to be used to adapt to climate change and support the populations facing the greatest risks. The earlier we act, the higher the benefits and the lower the costs.”

“Climate change can be expected to present a variety of new challenges in the area of food and feed safety, as well as in related areas such as plant and animal health,” says Ms Catherine Geslain-Lanéelle, EFSA Executive Director. “EFSA stands ready to assess future risks in the food supply to help protect consumers’ health, and has already taken significant steps in this area: for example, through the creation of a dedicated Emerging Risks Unit. Given the scale of the challenge facing us, EFSA and other risk-assessment bodies will need to work closely not only with each other but also with international organizations, Member States and other partners to share relevant information and develop appropriate systems to identify, analyse and tackle emerging risks brought about by climate change.”

Dr Ezzeddine Boutrif, Director of the Nutrition and Consumer Protection Division of FAO, says: “Climate-related changes have major implications for food production, security and safety, and consequently for nutrition. Effective public health protection from food safety hazards requires proactive management based on an increasingly clear understanding of climate-related impacts at all stages of the food chain. Recognizing, understanding and preparing for the effects of climate change on food security, food safety and nutrition require strengthened interdisciplinary approaches, given the interactions among human, animal and plant health, the environment and food hygiene. To respond to these challenges, FAO extended the EMPRES [Emergency Prevention System for Transboundary Animals and Plant Pests and Diseases] programme to include food safety. EMPRES food safety will enhance FAO’s capacity to collect and analyse intelligence for the early detection of food safety problems and to develop guidance for managing emerging risks. Earlier this year, FAO published papers on the effects of climate change on food safety² and nutrition³ to raise awareness of the issue and facilitate international cooperation on implementing strategies to address it.”

Dr Silvio Borrello, Director of the Directorate-General for Food Safety and Nutrition, Ministry of Labour, Health and Social Policy, Italy, says: “The Ministry attaches great importance to the issue of climate change and its health impacts on food and water safety and nutrition. More particularly, we would like to draw attention to the possible consequences for human health linked to the entrance or presence in our countries of disease vectors, as well as the possible occurrence of diseases typical of other climates. Further, we wish to underline the potential risks for animal health, with possible repercussions on food security and, as a consequence, on food supply.”

“The environmental effects of climate change are entailing emerging risks for human health. The Italian Ministry for the Environment plays a key role in reducing these effects through mitigation and adaptation policies requiring global approaches and interventions,” says Dr Corrado Clini, Director of the Department for Environmental Research and Development, Ministry for the Environment, Land and Sea, Italy. “To face and reduce environmental, social and health impacts related to climate change, the Ministry will keep working – along with the health ministry – not only on new preventive actions

² *Climate change: implications for food safety*. Rome, Food and Agriculture Organization of the United Nations, 2008 (<http://www.fao.org/docrep/010/i0195e/i0195e00.htm>).

³ *Impact of climate change and bioenergy on nutrition*. Rome, Food and Agriculture Organization of the United Nations, 2008 (http://www.fao.org/ag/agn/agns/files/HLC2_Food_Safety_Bioenergy_Climate_Change.pdf).

but also on other relevant sectoral policies: energy, transport, technological development, agriculture. In this framework, the Ministry for the Environment has proposed climate change as one of the main issue to be addressed during the WHO ministerial conference environment and health to be held in Italy in 2009.”

Facts and figures on health effects

The fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC)⁴ said that health security is seriously at risk as a result of the increase of global average surface temperature by about 0.74 °C over the last 100 years. The projected temperature increase for Europe between the ends of the 20th and 21st centuries is 2.3–6.0 °C. Climate change will expose populations to risks through changing weather patterns and the consequent changes in water, air, food quality and quantity, ecosystems, agriculture, livelihoods and infrastructure.

Crop production is extremely susceptible to climate change. In the European Region, food productivity is projected to decrease in the Mediterranean area, south-eastern Europe and central Asia, where food security is at risk. Crop yields could decrease up to 30% in central Asia by the middle of the 21st century. This may lead to a worsening of malnutrition, especially among the rural poor, whose family income is closely linked to food production. Loss of livelihood is a major trigger for population movements, particularly rural-to-urban migration, which can lead to increases in diarrhoeal and other communicable diseases and poor nutritional status.

Climate change also raises the issue of food safety. Higher temperatures favour the growth of bacteria in food. Infections with *Salmonella* spp. rise by 5–10% for each one-degree increase in weekly temperature, at ambient temperatures above 5 °C. Hot weather can favour refrigeration failure and the emergence of flies and other pests. Climate change may affect zoonoses (diseases transmitted between vertebrate animals and human beings): in some areas, this may result in the establishment of new diseases.

Water stress is projected to increase over central and southern Europe and central Asia, affecting 16–44 million additional people by 2080. Projected reductions in summer water flows of up to 80% will result in the loss of fresh water and increased potential for contamination. The quality of coastal water is endangered, putting bathers and seafood eaters at risk of infection. Access to safe water and sanitation, which is unequal in the Region, may worsen. In central Asia, around 70% of the total population has access to a safe water supply, but only 25% of the rural population. This disparity contributes to the diarrhoea-related deaths of 13 500 children every year.

Geographically, the populations most at risk are the rural poor, and people living in big cities and mountainous, water-stressed and coastal areas. The Mediterranean is a recognized hot spot for climate change. The region is already characterized by scarce water resources, which are unevenly distributed within countries. With climate change, a 25% decrease in winter rains is likely to hit this area.

In particular, Italy has experienced a 14% drop in precipitation in the last five decades. Water supply can become even more difficult than it is today in Puglia, Basilicata, Sicily and Sardinia, owing to both the increasing scarcity of water and the malfunctioning of supply systems. The further decrease in average precipitation could require the reuse of wastewater and the desalinization of seawater. Further, the rise in sea level will entail risks for coastal areas. A study from the Goddard Institute for Space Studies of the National Aeronautics and Space Administration (NASA) in the United States showed that roughly 4500 km² of Italian coastal areas are at risk of floods. Water stress could increase by 25% during this century.

⁴ IPCC fourth assessment report: climate change 2007. Geneva, IPCC, 2007 (<http://www.ipcc.ch/ipccreports/assessments-reports.htm>).

Further information on climate change and the joint seminar connected with World Food Day (16 October 2008) is available on the web sites of the WHO Regional Office for Europe (<http://www.euro.who.int/foodsafety>), FAO (http://www.fao.org/ag/agn/index_en.stm) and EFSA (<http://www.efsa.europa.eu>).

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