Chernobyl Resolution on Wildfires and Human Security
Challenges and Priorities for Action to address Problems of Wildfires burning on Terrain Contaminated by Radioactivity, Unexploded Ordnance (UXO) and Land Mines

Rationale and Background: Threats Arising from Wildfires burning on Contaminated Territories

In several countries of Eurasia forests and other lands are contaminated by various types of hazardous chemical and radioactive pollution or residuals of armed conflicts, e.g. unexploded ordnance and landmines. Wildfires occurring in such contaminated terrain are resulting in secondary damages, such as chemical and radioactive air pollution and explosion of unexploded ordnance (artillery grenades, bombs) and landmines on active or abandoned mined areas.

The territories most affected by radioactive pollution have been contaminated by the release of radionuclides during the failure of the Chernobyl Nuclear Power Plant in 1986. Wildfires burning on contaminated terrain in the Chornobyl Exclusion zone in Ukraine, in Belarus or in Russia result in lifting of radionuclides deposited on vegetation and organic layers and their uncontrolled emission and fallout.

Unexploded Ordnance (UXO) is found on several hundred thousand hectares of forests and other lands throughout Western, Eastern and Southeastern Europe. Remnants of World War I battles along the frontlines of 1917 in Southern Macedonia have repeatedly created problems, e.g. during the fire season of 2007 when more than 70 incidents of explosions of ammunition triggered by forest fires were noted. In Germany, the battlegrounds of the final phase of World War II in Brandenburg State around Berlin are still highly contaminated by hundred thousand tons of unexploded artillery grenades and bombs. In addition, former military exercise areas and shooting ranges, with some of them dating back to the early 1900s, some established after World War II, are posing high risk to civilian populations and especially firefighters. In Southeast Europe, notably in former armed conflict grounds in former Yugoslavia, active land mines are limiting access, forest and fire management in large areas. In Bosnia and Herzegovina alone more than 200,000 ha of forests are contaminated by land mines. Land mines are also found in the disputed territories in the Southern Caucasus, The combat grounds in and around the Nagorno-Karabakh region represent one of the major UXO-polluted terrains worldwide. During the armed conflict in Georgia in August 2008 a number of forest fires occurred as a consequence of military activities in several sites of the country.

Besides radioactive pollution and explosives there are other threats related to environmental pollution and fires, e.g. the lifting of mercury deposited in organic layers by wildfires. In addition, the air pollution generated by vegetation fire smoke is a phenomenon, which has influenced the global environment and society significantly since the Middle Ages. In the recent decades, increasing application of fire as a tool for land-use change has resulted in more frequent occurrence of extended fire and smoke episodes with consequences on human health and security. Some of these events have been associated with droughts that are attributed to inter-annual climate variability and regional climate change. In metropolitan or industrial areas, the impacts of vegetation fire smoke may be coupled with the emission burden from fossil fuel burning and other technogenic sources, resulting in increasing vulnerability of humans. The transboundary effects of vegetation fire smoke pollution are a driving argument for developing international policies; to address the underlying causes for avoiding excessive fire application and to establish sound fire and smoke management practices and protocols of cooperation in wildland fire management at international level.

On 6-8 October 2009 an Advanced Seminar “Wildfires and Human Security: Fire Management on Terrain Contaminated by Radioactivity, Unexploded Ordnance (UXO) and Land Mines” was held in Kyiv and Chornobyl, Ukraine. The seminar was conducted by the Global Fire Monitoring Center (GFMC) in the frame of the activities of the Council of Europe (CoE) and the joint project “Enhancing National Capacity on fire Management and Risk Reduction in the South Caucasus” (Environment and Security Initiative [ENVSEC]), the Organization for Security and Cooperation in Europe (OSCE), the UNISDR Regional

Southeast Europe / Caucasus and Central Asia Wildland Fire Networks and the UNECE / FAO Team of Specialists on Forest Fire.

The presentation of the seminar – the first of its kind worldwide – covered the phenomena and problems arising from fires burning in radioactively contaminated terrain in the Eurasia Biota. Most severe problems are in the territories of Ukraine, Russia, and Belarus, which were highly contaminated by the failure of Reactor 4 of the Chornobyl Nuclear Power Plant back in 1986. Traces of radioactivity are found in emissions from wildfires burning in Central Asia and are transported long-range and intercontinental. Wildfire incidents in the U.S.A. have threatened nuclear test facilities but so far have not resulted in severe contamination.

Reports from Germany, the Southern Caucasus countries Armenia and Azerbaijan, the Near East countries Lebanon and Israel, the Balkan countries Bosnia and Herzegovina, Croatia and FYROM Macedonia revealed the magnitude of unexploded ammunition and land mine contamination on forests and other lands, remnants from armed conflicts dating back as long as World War I. Reports on fires burning in on former military exercise and shooting ranges reveal that unexploded ordnance are activated and have repeatedly resulted in casualties of firefighters.

Problems and Challenges for Fire Management

The problems and challenges for managing fire on contaminated terrain within Europe and at global level are demanding and calling for action. Therefore the participants of the Advanced Seminar concluded the following resolution:

The participants of the consultation:

Recognizing the magnitude of terrain contaminated by hazardous chemical materials, radioactivity, land mines and unexploded ordnance in Europe, adjoining countries of Eurasia and worldwide;

Expressing concern about the asymmetric consequences of wildfires burning on contaminated terrains in human health and security;

Noting that there are insufficient public and political awareness, policies and programmes in place to identify, publicly discuss and address the prevention and management of secondary effects of wildfires burning on contaminated terrain;

Noting an increasing vulnerability of the environment and societies to the consequences of wildfires burning on contaminated terrain;

Noting that the already observed and furthermore expected future effects of human-caused climate change will result in increase frequency and severity of droughts wildfires in some ecosystems and regions which are aggravating the threats to human health and security arising from wildfires;

Noting that armed conflicts in various parts of the world have resulted in collateral damages by accidental or targeted burning of valuable natural ecosystems, agricultural and forest lands;

Concluding from the analyses and reports of the countries presented at the Advanced Seminar that there are gaps in targeted fundamental research, development of policies, sound management practices and relevant implementation strategies and programmes concerning the reduction of adverse effects of hazardous / asymmetric fires;

Expressing the intention to overcome **current gaps and shortages** in:

- Consistent information and statistics about fires burning on contaminated terrain, their causes and their effects
- Applied research in social sciences and humanities, including finances for research
- Integration of social, economic, environmental considerations and institutions in developing tangible policies and practices related to fire management on contaminated terrain
- Availability of adequate safe fire early warning, monitoring and suppression technologies
- Training in the safe and efficient use of resources for suppression of hazardous wildfires (for example, appropriate equipment for fire suppression, wildland fire safety on hazardous terrain)

- Training in the appropriate use of fire (for example, prescribed burning for fuel reduction and nature conservation on terrain contaminated with unexploded ordnance)
- Compatible approaches and exchange of expertise between countries affected

Recalling the recommendations of the International Wildland Fire Summit (Sydney, 2003), the UN-ISDR Wildland Fire Advisory Group / Global Wildland Fire Network (2004), and the FAO Ministerial Meeting on Forests (2005) with respect to the management of wildland fires and the strategy to strengthen international cooperation in wildland fire management;

Endorsing the efforts of the United Nations International Strategy for Disaster Reduction (UN-ISDR) and its Wildland Fire Advisory Group to assist and strengthen the efforts of United Nations bodies, other international organizations, and non-governmental organizations, to reduce the negative impacts of wildland fires;

Endorsing the United Nations guidelines and recommended practices for fire management, notably the WHO / WMO / UNEP Health Guidelines for Vegetation Fire Events and the UN Fire Management Voluntary Guidelines;

Supporting the objectives of the UNISDR Global Wildland Fire Network (GWFN) and the Global Fire Monitoring Center (GFMC) to systematically increase the intra- and inter-regional cooperation in wildland fire management globally;

Expressing gratitude to the host and sponsors of the seminar, notably the National University of Life and Environmental Sciences of Ukraine, the Ministry of Ukraine of Emergencies and Affairs of Population Protection from the Consequences of Chernobyl Catastrophe, the Global Fire Monitoring Center (GFMC), the Council of Europe (CoE), Secretariat of the Euro-Mediterranean Major Hazards Agreement, the Organization for Security and Co-operation in Europe (OSCE), the Environment and Security Initiative (ENVSEC), the UNISDR Regional Southeast Europe / Caucasus and Central Asia Wildland Fire Networks and the UNECE / FAO Team of Specialists on Forest Fire, for the preparation and organisation of the seminar;

Recommend to governments, international organizations and non-government organizations the following action for cooperation on wildland fire research and management on terrain contaminated by radioactivity, hazardous chemicals, unexploded ordnance, land mines and fires occurring during armed conflicts:

- Develop consistent information and statistics about fires burning on contaminated terrain, their causes and their effects;
- Initiate and financially support applied research in social sciences and humanities on the consequences of fires burning on contaminated terrain;
- Develop policies and practices related to fire management on contaminated terrain that take into account social, economic, environmental considerations and institutional responsibilities;
- Give highest priority in setting up fire early warning and monitoring of fires burning on contaminated terrain and provide safe fire suppression technologies, both ground-based and aerial;
- Introduce training in the safe and efficient use of resources for suppression of hazardous wildfires;
- Introduce training in the appropriate use of fire (for example, prescribed burning for fuel reduction and nature conservation on terrain contaminated with unexploded ordnance);
- Develop compatible approaches and exchange of expertise between countries affected;
- Support the establishment of an international expert group under the auspices of the UNISDR Global Wildland Fire Network in cooperation with the UNEP / UNOCHA Joint Environment Unit to be available for assisting nations and international organizations in the prevention, preparedness, response and impact assessment of fires burning on contaminated terrain and during armed conflicts;
- Support the concept of the development of an Environmental Emergencies Center under the auspices of the United Nations, to support nations in the prevention, preparedness and management of fires burning on contaminated terrain and during armed conflicts.

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