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Disasters as Symptoms of Human Interaction with its Physical Environment

Written contribution

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‘Failing to Prepare is Preparing to Fail’

BACKGROUND

Global challenges such as environmental degradation, extreme poverty, urbanization, water scarcity, rising need for energy, migration and population growth disproportionately affect the world's vulnerable populations. In addition, various disasters further aggravate economic and social situation. Climate change adaptation is on the disaster management agenda, as it may contribute to an increase in the intensity and unpredictability of extreme hydrological and meteorological events. Environmental emergencies are also on the rise due to these global challenges and the impact of industrialization.

Natural disasters

The OSCE region has seen dramatic increase in the frequency and magnitude of natural and man-made disasters that severely affect lives, livelihoods and the environment. Disasters and emergencies cause the death and displacement of many people, as well as substantial economic, social and environmental damage. They can undermine the security and stability of communities and individual countries of the OSCE region. The increasing interaction of people with physical environment carries with it a significant risk of disasters, whether triggered by man or nature. Such risk is expected to further increase in the future due to the presence of more hazards (both natural and technological) and the increasing vulnerability of society (urbanization, interconnectedness). In addition to material losses, disasters can lead to

mass internal and transboundary displacements of population (“environmental refugees”), which in their turn would further affect the security and stability. As more and more people and assets are located in areas of high risk, there is an increasing need for measures to be taken at the national and local levels to improve risk management and preparedness for various disasters.

OSCE countries are affected mostly by floods, earthquakes, forest fires, extreme weather conditions, as well as industrial/technological accidents. Landslides and mudslides are happening in mountainous regions. Causes of harmless natural events becoming disasters are well known to specialists. Among them are unsustainable development practices, population growth and density, rapid urbanization, inadequate land management, poor urban and spatial planning, ecosystem degradation (including deforestation), uncontrolled construction, as well as infrastructure failures and human errors.

Human-induced emergencies

Rapid industrialization carries with it a significant risk of environmental disasters, whether triggered by man or nature. The OSCE community is more and more concerned about frequent environmental emergencies, such as industrial and technological accidents, chemical and oil spills, acute pollution, retention dam failures, as well as forest fires.

A number of serious accidents in OSCE countries galvanized the international community to identify ways to reduce the likelihood of such accidents, and reduce impacts of accidents that might nonetheless happen. The occurrence of industrial disasters in recent years, as well as the growing concern about potential consequences of climate change, underscores the continuing importance of supporting communities’ efforts to increase awareness and preparedness for specific hazards they face.

Virtually all OSCE countries have facilities with the potential for significant chemical accidents (i.e., fixed facilities where hazardous chemicals are produced, used, stored or otherwise handled, including facilities used in the transport of hazardous substances such as port areas). Some hazardous installations may be obvious, such as a refinery or a large manufacturing plant. But significant chemical accidents can also occur at places which may not immediately appear to pose a risk. Chemical accidents can have devastating impacts on human health and the environment. There have also been many examples of transboundary environmental impacts in OSCE region, especially when accidents occur near international waterways or close to borders. Such emergencies have negative effects on security and stability in the region.

Industrial accidents can also have significant and lasting economic consequences for the community near the accident, affecting not only the enterprise where the accident occurred but also neighbouring enterprises and others along the economic chain.

Despite many efforts to prevent and reduce accidents, human-induced emergencies are increasing in both frequency and magnitude, posing a permanent threat to both human beings

and nature, and will continue to occur in the foreseeable future. In spite of this trend, many governments have not yet developed adequate national infrastructures and local capacities to cope with such disasters.

Affected countries

Less developed countries are often at greater risk of adverse effects from various disasters and emergencies, because there are fewer regulations or incomplete enforcement of existing rules, inadequate resources for prevention, preparedness and response, and limited number of staff with technical training. All countries are becoming more industrialized and, often, new hazardous installations are being located in communities that had not previously faced chemical risks. Furthermore, without strict land-use planning rules, industrial facilities are located in areas prone to natural disasters (such as earthquakes, floods and hurricanes). Industrial areas act as a magnet for housing and other developments and, therefore, there are often homes, schools, shopping districts, and transport facilities close to the boundaries of hazardous installations.

High exposure to hazards places less developed countries at particular risk to natural disasters and environmental emergencies. The most industrialized countries are also not spared from such risks. The Great East Japan earthquake and tsunami sent a clear message that developed countries are also vulnerable to such severe disasters.

Disaster Risk Reduction and Preparedness

As more and more people and assets in the OSCE region are located in areas of high risk, there is an increasing need for measures to be taken at the national and local levels to improve risk management and preparedness for various disasters. As preparedness for effective response was identified as one of the specific gaps and challenges in the Hyogo Framework for Action (HFA), new investments need to incorporate disaster risk reduction and mitigation measures, otherwise exposure to risk will continue to rise. Priority five of the Hyogo Framework for Action specifically focuses on the need to strengthen disaster preparedness for effective response at all levels. Implementing Priority five requires a common understanding of what constitutes an effective disaster preparedness system - including an understanding of disaster risk factors.

Huge international funds are diverted into emergency relief, which does not resolve any underlying problem, instead of preventing disasters and helping vulnerable communities to be prepared for them. The economic case for greater investment in disaster prevention and preparedness is prominently standing out in modern international relations.

While the international community has well developed mechanisms for responding to emergencies and humanitarian needs, emphasis is now shifting towards the development of national and local capacities for emergency preparedness and response planning, particularly in vulnerable low- and middle-income countries. In many of these countries indeed, the rate

of industrial growth has outpaced governments' ability to develop or maintain the infrastructure and other services required to cope with such disasters. In addition, the poorest and most vulnerable nations are disproportionately affected by disasters as they often have insufficient resources to invest in appropriate preparedness measures. Many of these require technical assistance and capacity development to identify potential environmental risks, develop preparedness and response plans, and conduct training and real-time simulation exercises.

Unfortunately, it is often realized only after a disaster that money spent on preparedness would have prevented many losses from occurring, and would also have represented substantial savings in the amount needed for response. Preparedness requires long-term, comprehensive and systematic engagement.

The international humanitarian system has historically not strongly focused on strengthening national preparedness capacity. The above-described context however impels more active, coherent and coordinated efforts in this area, with stronger engagement between humanitarian and development actors.

In order for preparedness efforts to be comprehensively strengthened, specific roles of all relevant actors, including civil society, need to be respected.

Efficient solutions of preventing and mitigating both natural and man-made disasters exist. Nevertheless, emergencies are ever increasing in magnitude and frequency. In our attempts to improve the disaster risk reduction we are facing problems of conflicting priorities, lack of political will, as well as lack of awareness at different levels (including the local level).

It is recognized that successful disaster management cannot completely prevent crisis situations, as zero risk does not exist. In this connection, adequate preparedness becomes a key issue. Much more should be done in raising the awareness of disasters, their impacts and the importance of preparedness. Communities and local people are in the forefront of responding to various emergencies. Reducing risk at the local level therefore is fundamental. The issue of emergency preparedness is too large to be addressed by any single entity, and it requires the concerted efforts of all sectors of an increasingly interconnected global society. In this connection, OSCE could play an important role in international cooperation on disaster risk and crisis management.

GAPS AND NEEDS

The increasing incidence and severity of natural disasters and environmental emergencies continue to seriously affect populations, hamper the attainment of sustainable development goals and disrupt security and stability. Much more should be done in the OSCE region in raising the awareness of disasters, their impacts and the importance of preparedness. It is important to ensure the necessary high-level political engagement in the important area of disaster management, generate ideas and support the development of concrete initiatives on key issues, facilitate the creation of multi-stakeholder coalitions to launch such initiatives.

Communities and local people are in the forefront of responding to various emergencies including man-made disasters. Reducing risk at the local level therefore is fundamental. The importance of involving local governments and communities in the design and implementation of preparedness measures is generally recognized. However, such practice is far from being universally applied. Particularly local authorities in the less wealthy nations have limited resources and many competing needs (e.g., education, access to safe drinking water, housing, etc.).

There are still some important gaps in the awareness and understanding of disaster risks, which decrease the efficiency of emergency prevention and preparedness, especially at local level. Among these:

- many important stakeholders (such as the civil society, NGOs, private sector, professional associations and foundations) are not sufficiently involved in preparedness for various disasters;
- inadequate information sharing and collaboration among emergency stakeholders at different levels, and hence flawed coordination of prevention and preparedness;
- unclear division of responsibilities and competencies in preparedness at national and local levels;
- prevention and preparedness for emergencies are not yet perceived as critical elements of security and stability process, and not sufficiently integrated into sustainable development programmes and strategies.

There is a number of identified needs concerning improvement of advocacy with regard to disaster risk reduction, in particular needs for:

- concerted and effective awareness building with regard to prevention and preparedness for emergencies at local level;
- exchange of experience and ideas on ways in which impacts of natural disasters and environmental emergencies can be avoided or overcome;
- advocacy towards Governments and other stakeholders to accept DRR as part and parcel of the security and stability process;
- advocacy among industrial companies and their associations with a view to fully include preparedness of local communities for emergencies into their Corporate Social Responsibility policies and practices.

Private sector

A constructive dialogue and partnerships between principal stakeholders and the industries in the area of disaster risk reduction can be a powerful lever for achieving their respective missions. In particular, it is important to engage business sector in improving the preparedness of the communities in which they live and work. Helping local populations to improve their own abilities in disaster management by establishing local mechanisms and processes for identifying, assessing, preventing, preparing and responding to various potential industrial

accidents, cannot be done without the private sector's active involvement. In this connection, it is imperative to enhance dialogues with the private sector, so as to promote the integration of preparedness for environmental emergencies at local level in corporate policies and practices.

It is believed that industrial and private business partners will benefit, in particular, from knowledge and capacity building on local emergency preparedness. They will also benefit from a better communication with the local authorities, which would reinforce corporate social responsibility actions, and create an improved image as a result of their transparency and actions taken to protect population from accidents. This process will promote awareness for environmental emergencies and responsible practices among industries.

Partnership with the private sector also aims to encourage changes at the company and sectorial level in how disaster risk is managed by businesses in order to prevent emergencies and minimize human, environmental and economic losses from accidents.

The private sector plays a critical role at community level, and there are clear benefits to businesses in improving environmental emergency preparedness by applying best practices and addressing civil society's concerns.

Thus, a pragmatic dialogue and partnership with the private sector should be one of the cornerstones of disaster prevention and preparedness.

Cooperation with specialized organizations

The issue of disaster management and emergency preparedness requires the concerted efforts of all sectors of an increasingly interconnected global society. Among many technical organizations, UN Environment Programme (UNEP) and UN Office for the Coordination of Humanitarian Affairs (OCHA) could be singled out. It is important to create a close cooperation with them towards creating a synergy and to setting up a comprehensive system to preparedness for emergencies.

In UNEP, a special process "Awareness and Preparedness for Emergencies at Local Level" (APELL) has been developed to assist communities in preventing and preparing for industrial accidents. This process is a methodological tool focusing on the local level for identifying possible industrial hazards, raising awareness, and establishing or building local capacity for immediate, multi-party responses in the event that an emergency occurs. It is known that in order to foster the implementation of further activities related to APELL, UNEP is exploring opportunities for cooperation with organizations active in the field of local emergency preparedness and/or with a global outreach and potential to become active partners in the promotion of local level emergency preparedness. It should be noted that APELL methodology is also applicable to natural disasters.

In OCHA, a new preparedness tool "Environmental Emergencies Center" (EEC) has been developed. Its aim is to support national and local capacity-development activities in

responding to industrial and technological accidents, and the environmental impacts of natural disasters and complex emergencies. The Center offers online and in-person training for emergency planners, disaster managers, national and local authorities in vulnerable low- and middle-income countries who must plan for and respond to these types of emergencies.

CONCLUSIONS AND RECOMMENDATIONS

Reduction of disaster risks will significantly contribute to increased security and stability in the region. OSCE has a vast experience in promoting and advocating for important international issues. The organization, with its comprehensive and cross-dimensional security concept, could become an excellent platform to enhance dialogues with governments, non-governmental organizations, civil society, and the private sector, so as to mainstream the issue of disasters and emergencies into the overall process of sustainable development. OSCE could garner the necessary political and financial support to facilitate a coherent approach to preventing and preparing for natural disasters and human-induced emergencies. In particular, OSCE could provide an important contribution to the on-going consultations and discussions on the post-2015 framework for disaster risk reduction (DRR), by building a political imperative for disaster risk management.

Specifically, OSCE could play an important role in raising awareness on the inherent link between disaster risk reduction, sustainable development, and security and stability. In this regard, it could develop a deliberate and sustained effort to advocate on relevant issues, build support and understanding in order to change attitudes, and improve policies or practices.

Taking into account the OSCE's political mandate, it could ensure the necessary high-level political engagement in the important area of disaster risk reduction and facilitate the creation of multi-stakeholder coalitions. OSCE would work in close cooperation with relevant partners in NGO community, Governments, the UN system, private sector and industrial companies with a view to creating a synergy and contribute to setting up a comprehensive system for preventing and preparing for various disasters and emergencies.

OSCE could play an important role in promoting the work of specialized organizations, such as UNEP's Awareness and Preparedness for Emergencies at Local Level (APELL) programme, and its methodology.

OSCE activities in this area would generate a broader involvement of civil society, concerned industries, private sector, corporate associations and non-governmental organizations in international efforts to address risk management and preparedness for disasters. In particular, as a result of the implementation of such a programme, local capacities would be significantly reinforced to enable them to adequately respond to emergencies without the need for international assistance.

Related activities in OSCE could be carried out mainly by means of networking, creating synergies, exchanging information and best practices, consultations, providing access to specialized expertise and knowledge, initiating and implementing capacity building projects at

local level, convening conferences and workshops, and carrying out training courses and simulation exercises.

It is recommended to use, in particular, the following principals in possible OSCE activities in the area of DRR:

- A political shift must be embraced to make disaster risk reduction, including prevention and preparedness, an essential component of security and stability in the region.
- The necessity to fully integrate prevention and preparedness for emergencies into sustainable development activities.
- The recognition that national impact can only be achieved when action takes place at the local level.
- The leading role played by local authorities and communities in identifying hazards, vulnerabilities, risks and available capacity on the ground.
- The importance of reinforcing local level preparedness through better coordination and capacity development.
- The key role of the private sector, especially chemical and mining companies, in all issues related to industrial and technological accidents.

Specifically, the following could be accomplished by 2015 and beyond:

- Understanding and general consensus on the role of disaster risk reduction in strengthening security and stability in OSCE region;
- Increased awareness of the risks of various disasters in OSCE participating countries, and understanding that reducing risks at the local level is fundamental.
- Recognition of the importance of closely involving local governments, communities and industry in the design and implementation stages of prevention and preparedness measures in the context of security and stability.
- Increased engagement with industry, in particular in relation to local level preparedness to industrial/technological accidents.
- Improved dialogue between various stakeholders and actors involved in emergency prevention and preparedness, especially at the local level.

ANNEX

**RECENT NATURAL DISASTERS AND INDUSTRIAL ACCIDENTS
IN OSCE REGION**

SELECTED CASES

FLOODS

1997

Armenia

2001

Croatia

2002

Albania, Austria, Belgium, Czech Republic, Germany

2004

Bosnia and Herzegovina

2008

Kazakhstan

2010

Azerbaijan, Montenegro, Tajikistan

2011

The Mississippi floods, USA

France, Italy, Ireland

2012

Ukraine, United Kingdom, Ireland

2013

Germany, Czech Republic, Austria, Italy, Switzerland, Slovakia, Belarus, Poland, Hungary,
Serbia

Canada, USA

Russian Federation, Far East

EARTHQUAKES

1988

Spitak, Armenia

1995

Neftegor'sk, Sakhalin Island, Russian Federation

1999
Izmit, Turkey

2002
Uzbekistan

2006
Kyrgyzstan

2009
Aquila, Italy

STORMS

2005
Hurricane Katrina, USA

2012
Hurricane Sandy, USA

2013
France, Belgium, United Kingdom, the Netherlands, Germany, Poland, Scandinavian countries

INDUSTRIAL ACCIDENTS

Schweizerhalle chemical spill, Switzerland, 1986

Donana mining waste disaster, Spain, 1998

Izmit refinery damage and fire, Turkey, 1999

Baia Mare toxic waste spill, Romania, 2000

Toulouse AZF fertilizer plant explosion, France, 2001

Ajka alumina sludge spill, Hungary, 2010

West fertilizer plant explosion, Texas, USA, 2013