

## *Varia*

### International Symposium “Natural Cataclysms and Global Problems of the Modern Civilization” (Baku, 24-27 September 2007)

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The International Symposium “Natural Cataclysms and Global Problems of the Modern Civilization” occurred under the aegis of the International Academy of Science, Health and Ecology (main office is in Vienna, Austria) and the Azerbaijan Ministry of Emergency Situations. It was held in Baku, the capital of Azerbaijan, during 4 autumn sunny days in the late September 2007. The scientific activities of the Symposium took place in the Business Centre of the city.

Mr. K. Heydarov, Minister of Emergency Situations of Azerbaijan, and Prof. W. Kofler, President of the International Council of Scientific Development/International Academy of Science, Health and Ecology, Austria, opened the Symposium.

Scientists and representatives of governmental, international and public bodies of about 30 countries took participation in the activities of the Symposium. They tried to integrate efforts toward identifying of the common world problems related to reduction of the negative influence of the natural cataclysms and the various effects of the very rapid modern civilization’s evolution.

In these circumstances, the independent and the joint destructive manifestations of the nature and the civilization development attracted the attention of about 360 authors and more than 250 representatives from Austria, Azerbaijan, Brazil, Bulgaria, China, Denmark, France, Germany, Hungary, India, Indonesia, Iran, Israel, Italy, Japan, Kazakhstan, Kyrgyzstan, Moldova, Norway, Pakistan, UK, Ukraine, Uzbekistan and Vietnam. Prominent international and national agencies as well as famous scientists

and specialists engaged in these problems attended the meetings and shared their viewpoints on the topics of the Symposium.

The most important world subjects were discussed in four sections: Geosphere and Space (main topics: Seismic Risks, Global Change Room), Biosphere (main topics: Radionuclides and Electromagnetic Waves in the Environment, Soil and Sustainability), Technosphere (main topics: Pollution and its Analysis, Chemical Problems) and Noosphere (main topics: Culture and Responsibility, Health Promotion and Prevention, Health and Environment).

The present authors had the honour to be invited to participate in the works of the first Section. A certain number of reports presented at this session gave information on recent severe earthquakes. One of them completely demolished mountainous settlements in Pakistan on 8 October 2005 (Mw 7.6). A number of reports concerned the vulnerability of the human population, biological and geological environment in similar cases. There were reports about earthquake forecasting’s attempts in Pakistan, on establishing of geoelectric resistance variations in a borehole at the Caspian coast before the long-distance 26 December 2004 Sumatra earthquake (Mw 9.3). Some other reports showed good acquaintance with the assessment and mitigation of the seismic risk (Uzbekistan, Kyrgyzstan). Several authors represented the state activities after damaging earthquakes as well arranged and conducted with competence.

Our attention was attracted by two lectures about successful short-term seismic prognoses based on geochemical monitoring in boreholes spread

throughout Azerbaijan. The authors pretended that the successful geochemical prognoses reached the value of 85%. These respectable results were obtained in Baku in the Seismogeochemical department of the Azerbaijan Academy of Sciences guided by Prof. Dr. A. G. Gasanov and Dr. R. A. Keramova.

The subjects of our two reports were the Bulgarian technogenic-tectonic earthquakes and the scientific activities related to the field study and the local organization aiming to reduce the seismic consequences in the future. The local organization includes mutual connections between the seismological centre and responsible governmental bodies.

The main scientific part of the Symposium was preceded and followed by Plenary Sessions with lectures. The lectures were devoted to topics of the scientific-technological development related to its possibilities of studying and mitigating disasters. Several of them were very impressive. The lecture of Prof. A. Ishfaq, President of the Pakistan Academy of Sciences, directed the attention to the presence of scientific and technological progress, on the one hand, and very terrible effects from various calamities, on the other hand. Dr J. Jelev, Former President of the Republic of Bulgaria, President of the Balkan Political Club, traced the historical tendencies of the human strategy in the fight against natural calamities. Acad. V. Khain, the over 90-year famous Russian geologist, academician of RAS and lecturer in Moscow State University, put accent on the role of catastrophic events in the history of the Earth. Mr. R. Koll, General Public Prosecutor of Tyrol, proposed an international collaboration in dealing with disasters. Mr. G. Fumarola, President of European Federation of Clean Air and Environmental Protection Associations, discussed the relationships between the climate change and the human activity, Mr. R. Steinacker, Vice-President of the International Academy of Science – the role of the flooding hazard, Prof. G. Georgiev, Sofia University, – the significance of the energy supply in the 21<sup>st</sup> century, Prof. N. V. Koronovskiy, RAS, – the destruction of Minoan culture as a result of the eruption of the volcano Santorin (Greece). Prof. E. Khalilov, Azerbaijan, proposed very new data and interesting interpretations about the Caspian Atlantis.

The Symposium greetings were expressed during the plenary sessions by high-ranking persons: Prof. Mr. Sudjarwadi – Rector of University Gajah Mada, Indonesia, Acad. V. Khain – Russian Academy of Sciences and Moscow State University, Prof. M. Kerimov – President of the Academy of Sciences of Azerbaijan, Mr. G. Zerbo – Vice-President of IUAPPA (International Union of Air Pollution Prevention and Environmental Protection Associations), Mr. R. Lobato – President of ABEPPOLAR (Associacao

Brasileira de Ecologia e de Preventcao a Poluicao das Aguas edo Ar) and s.o.

It chanced us to embrace an offer to visit the Seismogeochemical Laboratory of the Seismological Centre by the Azerbaijan Academy of Sciences in Baku led by Prof. Dr. A. G. Gasanov and Dr. R. A. Keramova. It is the place where successful short-time prognoses of catastrophic and destructive earthquakes in the Hymalayan tectonic belt are created. The monitoring in Baku and the country as a whole is well organized. The groundwater samples are obtained from a number of boreholes which penetrate to 900 m under the Earth surface. Eleven groundwater components are regularly tested and analyzed. The results are illustrated by graphs. In the course of investigations appropriate empirical relations are applied. Based on 20 years experience, specific critical combinations of characteristics for different seismotectonic active zones have been extracted. At present, every appearance of critical situation in the geochemical information is the reason to send an official note to the government for the forthcoming strong seismic event. The earthquake forecast refers to a period of 1–12 days.

Finally the Symposium accepted the Baku resolution. The resolution declares new manifestations of partnership in the disaster management. The cooperation of Indonesian and Azerbaijan universities on the basis of earthquake prediction and aseismic building research projects represents one important Symposium offer. The emphasis is put on the adequate participation of the governments and the scientists at solving regional disaster problems and/or global problems of the modern civilization. Now these two kinds of problems go upward. It is important to develop the science without borders for common approaches to world and regional disaster problems in the interest of the welfare of the population. An initiative for a governmental and scientific cooperation between Baku (Azerbaijan), Islamabad (Pakistan) and Yogyakarta (Indonesia) was proposed. The activity of the foundation in the region of the Black and the Caspian Sea headed by its President Dr. Zh. Zhelev represents a decision with importance for Bulgaria. All these ideas are excellent examples of application of the scientific and technological power in life. In this way, the governments might control the transfer of the scientific and technological achievements into the practice.

The International Symposium and the meeting with the colleagues from the world permit very useful exchange of information and experience among experts. The Symposium stimulates the next scientific and social works for mitigation of natural cataclysms and the development of the civilization in good harmony with the Earth evolution.