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## **Symposium**

### ***Building Safer & Resilient Society against Mega Disaster***

#### ***- Report from Japan on 3.11 -***

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## **PROGRAMME**

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### **Opening 9:00 - 9:40**

Opening Address: Dr Hideki Fukuda, President of Kobe University

Speech: HE Mr Kojiro Shiojiri, Ambassador of Japan to the European Union

Speech: Mrs Manuela Soares, Director of the Environment Directorate, Directorate-General for Research and Innovation, European Commission

Speech: Ms Paola Albrito, Head of Europe Office, UN International Strategy for Disaster Reduction

Speech: Prof Paul De Knop, President of Vrije Universiteit Brussel

### **Part I: Report on the GEJET 10:00 - 12:00**

“Summary on the great East Japan earthquake and tsunami”

Prof Shoichi Yoshioka, Research Center for Urban Safety and Security, Kobe University

“The Behavior of 3.11 Tsunamis in the Sendai Plain and the Damage to the Disaster Prevention System”

Prof Akira Mano, Disaster Control Research Center, Tohoku University

“Present Status of Japanese Nuclear Power Plants and Radiation Disaster”

Prof Keiji Oda, Graduate School of Maritime Sciences, Kobe University

“Damage situations of ground, infrastructures and others”

Prof Yasuo Tanaka, Research Center for Urban Safety and Security, Kobe University

### **Part II: Impact of the GEJET 13:00 - 15:00**

“Waste management toward restoration”

Prof Masanobu Ishikawa, Graduate School of Economics, Kobe University

“A Process of Improvement of Law and Institution in Disaster Management: Lessons from East Japan”

Prof Yuka Kaneko, Graduate School of International Cooperation Studies, Kobe University

“Collaboration for generating Hope”

Prof Masayoshi Morioka, Graduate School of Human Development and Environment, Kobe University

“Community recovery of Tohoku disaster hit area and recovery supports from outside”

Prof Yoshiteru Murosaki, Kwansei Gakuin University, Prof Emeritus of Kobe University

### **Part III: Panel Discussion 15:30 - 17:40**

Chair:

Prof Hiroshi Takeda, Kobe University

Panelists:

Speakers from part I & II and;

Dr Denis Peter, European Commission

Prof Hormoz Modaresi, BRGM

Prof Jochen Zschau, GFZ German Research Centre for Geosciences

Prof David Alexander, Global Risk Forum GRF Davos

Opening Address by **Dr Hideki Fukuda**

President of Kobe University



Dear honorable guests, ladies and gentlemen,

As the President of Kobe University, it is my great pleasure and honour to welcome you to this symposium. Today, we have many distinguished guests in attendance, and I would like to express my sincere gratitude to several particular honourable individuals; His

Excellency Ambassador Kojiro Shiojiri, Mission of Japan to the EU, Ms Manuela Soares, Director of Environment Directorate of the European Commission, Ms Paola Albrito, Head of Europe Office of the ISDR of the United Nations and President Paul De Knop, Vrije Universiteit Brussel.

Representatives from such organizations make this symposium a truly international event, and I am very grateful for everyone's participation. This is the second Kobe University Brussels European Centre Symposium, and it follows the first meeting that took place here in Brussels last March.

Today, we are here to discuss a devastating disaster, the Great East Japan Earthquake and Tsunami, GEJET for short, that struck Japan on March 11th, just a few days after our first symposium. As many of you may remember, in the very early morning of January 17th 1995, Kobe City, which is the hometown of our university, was shaken violently by a very strong earthquake. This earthquake, known as "the Kobe Earthquake" resulted in the loss of over 6,400 lives and economic costs of more than 10 trillion yen (900 million euro). We thought, at that time, that it was the greatest natural disaster that Japan had ever faced. However, in the afternoon of March 11th, an even greater catastrophe hit the country.

Residents of Kobe were speechless as we watched the news of this tragedy on television, remembering the sorrow and pain we experienced during the Kobe Earthquake. The connection felt through this emergency was so strong that one NGO group of volunteers in Kobe dispatched a reconnaissance team, which included two Kobe University students, to Miyagi prefecture that very evening. Since that day, numerous similar excursions from Kobe have followed.

The disaster also caused severe damage to universities in the region. One of which was Tohoku University, a leading national

university. Today, Prof Mano of Tohoku University is here with us to share their experiences and the current challenges they face in the devastated areas. In order to help the recovery and reconstruction from GEJET, Kobe University has published a list of recommendations for strategic reconstruction plans partly based on lessons from the Kobe Earthquake. Additionally, Kobe University is going to sign a MoU with Tohoku University to support reconstruction of the region with a vision of creating a league of academic alliances in order to implement scientific and cultural knowledge to rebuild and even improve our society.

An academic alliance between two regions such as Tohoku and Kobe in Japan does not allow us to fully apply the comprehensive lessons learned from this disaster and build a safer and more secure global society. Sharing the knowledge of lessons learned from this disaster with global partners is extremely important to implement such academic endeavors. It is our hope that during this Symposium, all participants will take this opportunity to thoroughly discuss what we can learn from this disaster.

I thank you all again for participating in today's Symposium and hope this is the beginning of increased collaboration between the people of Europe and Japan. Thank you very much.

Speech by **HE Mr Kojiro Shiojiri**  
Ambassador of Japan to the European Union



Good morning. Distinguished guest, ladies and gentlemen. Last September, the Kobe University Brussels European Centre was opened. It was the first time any Japanese national university established an office in Brussels, the capital of Europe. It is an important landmark in Japan-EU Academic Cooperation. I would like

to offer my congratulations to the centre on its first anniversary.

Since the disaster in Japan last March, our people have been struggling very hard to overcome the aftermath. I would like to sincerely express gratitude to our European friends for your strong support.

Several days after the disaster hit, a CNN journalist, making a live broadcast from the affected area in Tohoku, described the scene in front of him. He depicted it as a war between the worst of Mother Nature versus the best of human nature. That war is still continuing. We live to continue to fight and we will never give up.

In a recent policy speech, new Japanese Prime Minister Noda quoted the words of Fukushima high school students, delivered from the bottom of their hearts. "To be born in Fukushima, grow up in Fukushima and work in Fukushima, to get married in Fukushima, have children in Fukushima and bring up those children in Fukushima, to see our grandchildren in Fukushima, to see our great grandchildren in Fukushima and to end our days in Fukushima. That is our dream." Our task is to make those students realize their dream.

I would like to read a piece of haiku, short Japanese poem, which I made myself. EU President Herman Van Rompuy who was also present for the first European Centre symposium is a haiku master. I would like to follow him.

After dark night  
Beam of hope  
Shines for everyone

I hope this symposium will give a beam of for hope to everyone.

Thank you very much.

Speech by **Mrs Manuela Soares**

Director of the Environment Directorate,  
Directorate-General for Research and Innovation,  
European Commission



Good morning. Mr Ambassador, Mr President, ladies and gentlemen. I'm very pleased to have been invited to the second symposium of the Kobe University Brussels European Centre and on behalf of the European Commission, I would like to welcome you today in Brussels.

The whole world was shocked by the tragic event of March 2011, but amazed at the bravery of the Japanese people. In this context and on behalf of the European Union, I would like to extend my deepest sympathies to the people and government of Japan. But the time has now come to move forward and develop solutions for disaster preparedness and prevention. And this will require a collective effort from key players, such as scientists, authorities and policy makers and this is also where international cooperation plays an important role.

In this respect, Kobe is certainly a global preference. In January, 2005, ten years after the devastating Kobe earthquake, the United Nation General Assembly convened a world conference on disaster risk reduction in Kobe. The conference took stock of progress made of disaster risk reduction and set up a plan for the next 10 years. The outcome of the UN conference, the Hyogo Declaration and Hyogo Framework for Action 2005 to 2015, shows a commitment from the international community to address disaster risk reduction and to engage in a resulted oriented plan of action. This plan has two priorities; first, to identify assess and monitor disaster risks and enhance early warning systems; and second, to use knowledge, innovation and education to build a culture of safety and resilience at all levels.

The partnership between Europe and Japan is a good example of how research can be improved through international or bilateral cooperation. The last European Union-Japan Summit in May marked the 20th anniversary of summits between the two sides, highlighting the importance of further enhancing the EU-Japan partnership by strengthening science and technology cooperation. The recent Science and Technology Cooperation Agreement, which entered into force on the 29th of March, established measures for a more structured and objective based science and technology cooperation partnership. The first EU-Japan Joint Committee meeting on Scientific and Technological Cooperation held in Tokyo last June, already focused on two important areas of research, renewable energy and critical raw materials.

As the next step, of course, considerable efforts at the global level will need to be made in order to address nuclear safety. But other challenges which we are currently facing include climate change, natural hazards and disaster preparedness as well as prevention. These were highlighted as topics of concern at the EU-Japan May Summit and are addressed in the environmental research programme under the Seventh Framework Program of Research and Development, which I am responsible for.

Cooperation with Japan on climate issues exists for quite some time. The climate change research and science workshop that is co-organised by the Environment Research Programme and the Japan Agency for Marine-Earth Science and Technology takes place every two years. The 6th workshop is due to take place in Brussels on 10th of October. This will be an opportunity for participants to discuss the long and short term impacts of climate change and extreme events. Later on today, my colleague, Dennis Peter, will provide you with an overview of the commission's work on natural hazards. Information on the next call for proposals, which cover the things being discussed here today, will also be made available.

I'd like also to mention that Japanese research institutions and scientists regularly take part in our programmes. Kobe University is a partner in, for instance, one project called "SYNER-G", which looks at seismic vulnerability. The Japan Meteorological Agency is working on a project on early warning systems, "REAKT" project. The examples of these two EU-funded projects will be presented also by the scientists this afternoon. Information exchange and improvements in our scientific research are shared because they are essential for risk management and in supporting awareness and capacity building.

I hope that this event will provide us with a clear understanding of the challenges that still lie ahead. Research in the international context can boost science and improve policy. It will also contribute to sound risk management concepts as well as tools enabling society to become more resilient.

Finally, let me just give you a very brief insight into the new framework programme for research and innovation that we call now Horizon 2020. It has three main objectives. The first is to raise the excellence of the research base needed to generate a higher number of world-class scientific breakthroughs. Strengthen Europe's science base and European research area means among others, reinforcing the whole of European Research Council, promoting planning, preparation and construction of large-scale research infrastructure and equipping the next generation of researchers with innovative skills. The second objective is to boost competitiveness and promote innovation by broadening support across the full innovation cycle, including proof of concept, testing, piloting, demonstration. By securing a strong position in key enabling technologies such as ICT, nanotechnology or advanced

materials, and also by strengthening industry participation, in particular, small and medium enterprises, and establishing formal, public-private partnerships. The third objective is to tackle societal challenges by contributing to the use of visions, policy objectives in areas such as climate change, resource deficiency, healthy aging and energy transport among others, and also engaging citizens as well as civil society in the research and innovation chain. The multi-annual financial framework recently presented by the Commission shows that investment in the research and innovation will be significantly increased for the period 2014 to 2020. Horizon 2020, with its proposed budget of 80 billion euro, intends to boost Europe's global competitiveness and help create jobs for the future. International cooperation will play a central role in its implementation. And disaster risk reduction, addressed from different perspectives, will certainly find support within this research effort, creating results which will be of direct benefit to our society.

Thank you very much for your attention and I wish you a very productive meeting.

Speech by **Ms Paola Albrito**

Head of Europe Office, UN International Strategy for Disaster Reduction



Good morning, ladies and gentlemen. It is a great pleasure to be here today, representing the United Nations International Strategy for Disaster Reduction. I would like to congratulate Kobe University for organising and hosting this important event. From the second half of 2009 to the first half of 2010, 285

disasters killed and affected more than 158 million people, claimed 232 thousand lives, and caused U.S. dollars 51.4 billion of economic damages. These were the numbers before the greatest Japan earthquake, the earthquake in Christchurch, New Zealand and the flood in Australia. What are some of the facts? Disasters cause vulnerability to natural hazards, kill more people in developing than in developed countries, and more poor people in rich countries. But the Global Assessment Report on Disaster Risk Reduction for 2011, it shares some positive findings in this regard. Globally, mortality risk of floods and tropical cyclones is now going to be down. Why? Because vulnerability reduction has been affected. For example, mortality rate from tropical cyclones in East Asia and the Pacific, which concentrates about 44 percent of the people exposed per

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year, is now 50 percent lower than in 1980, in absolute terms, and a third lower per capita.

Early warning systems save life. In Japan, a number of media demonstrated that more than 90 percent of the total population of the inundated area evacuated successfully. Thanks to the mixture of measures of drills and awareness activities combined with issues of early warning. Vulnerability to hazards is very high and rapid increasing in the developed country, with adverse impact on their economy. Again, the Global Assessment Report 2011 points out that economic loss risk is continuing to increase, particularly in wealthier countries. In 2010, the economic loss risk to floods in the OECD, which concentrates about 53 percent of the global GDP expose per year, is about 170 percent more than in 1990. Economic loss risk in the OECD is rising faster than GDP per capita. Meaning, that the risk of losing wealth in weather related disasters is increasing faster than the wealth that is being created.

Disaster risk has become an acute and increasing urban problem. Poorly planned urban environments, weak urban governance and old and aging and fragile physical infrastructure and gaps in the basic services, including rapid urban growth, have increased pressure on the urban environment and thus, also exposure to disaster risks. Cities today, are major agents of economic opportunity, education and cultural life. 100 cities today are in control of 30 percent of the world economy. The need for maintenance and upkeep of the city are crucial safety measure for the citizens. In Japan, the majority of buildings were proved as earthquake resilient, so that only a few people were fatally trapped under fallen buildings.

Disaster risk reduction is not only a concern of state and local governments, but also every citizen concerns and responsibility. Lives and livelihood can be saved when disaster risk reduction is made a priority at the local level, at the national, and at the international level. Reality is that without proper risk reduction awareness or policies and measure in place by national and local governments, and with more population settling in exposed and high-risk areas and climate change expected to further increase our exposure, we are poisoned for disasters that will increasingly affect sustainability and development gains around the world in the coming years and decades.

The Fukushima situation has generated debate and reflection on safety in regards to nuclear power. Some countries are re-examining their preferences and policy on energy sources in response to the events in Japan. The international community is a key role in leading calls for countries to reassess all critical facilities, especially nuclear power plants, against large scale hazards, and to revise or scale up assumptions within their disaster management plans. In Japan, with its high level infrastructure standards and preparedness could not withstand major disasters. Other parts of the world could equally be as vulnerable, if not more,

to similar or worse disasters.

Advancing in addressing vulnerability to disasters requires a hand-in-hand approach between scientific community, education and decision makers. The priority three of the Hyogo Framework for Action adopted in Kobe in Japan in 2005 as an outcome of the world conference dedicated to this topic, points out some key activities to ensure the scientific advances are integrated in educational efforts and in addressing informed decision. Last week, UNISDR and the European Commission Directorate-General for Research and Innovation, and EUR-OPA Major Hazards Agreement of the Council of Europe, organized a workshop which aims to promote dialogue between the scientific and policy makers community towards more effective measures to adopt a climate through G and R. This dialogue needs to continue if we want to reduce people risk.

Japan in this context, is regarded as a role model with high investments in disaster risk management and risk reduction. The destruction and death toll would have been worse had Japan not fostered a culture of preparedness accompanied by risk reduction choices. The Kobe University contributes in moving forward this knowledge, and their presence in Brussels represents an extension of education and knowledge in the field of risk reduction. UNISDR collaborates with Kobe University in the context of an overall partnership between UNISDR and Japan, further enhanced by the presence of our UNISDR sub-regional office in Kobe. The city is equally hosting the International Global Platform of the International Strategy for Disaster Reduction. Following the Great East Japan Earthquake, the platform has established an expert group meeting called Towards Greater Reconstruction from Great East Japan Earthquake, with chance to provide valuable advice based on experiences gained from large scale disasters in the world to Japanese experts working for recovery and reconstruction in Japan. And to gain precious lessons from this painful disaster experience in Japan and to make them useful for disaster risk reduction in other countries.

Finally, I would like to congratulate Japan that has announced the intention to host the next World Conference on Disaster Risk Reduction that will take place in 2015. I look forward to continuing our collaboration and I wish this symposium a very productive outcome. Thank you.

Speech by **Prof Paul De Knop**  
President of Vrije Universiteit Brussel



Dear Mr President, dear Ambassador, Mrs Soares and Mrs Albrito, dear colleagues, ladies and gentlemen, dear students, on behalf of the Vrije Universiteit Brussel, I welcome you all at our university. We are very honoured to have the esteemed representatives of Kobe University, as well as the Japanese

Ambassador to the EU and important representatives of the European Commission as our guests today.

On top of that, I'm very pleased that Kobe University has chosen our university as the location for its university symposium. The VUB is an excellent choice for a symposium that will try to improve the mutual understanding about the earthquake and tsunami between the EU and Japan.

Today, you're in the auditorium of hope, the auditorium of the future, since it's our room where all the PhDs are defended.

May this room also be for you a guarantee for success.

When we refer to Brussels, we often call it the "Capital of Europe". This city has a long history of hosting the institutions of the European Union within its European Quarter, the headquarters of the NATO, and many other national and international institutions and companies. And in the middle, between all these important organizations, the Vrije Universiteit Brussel is located on two parkland campuses. So, we can literally say that we have the world at our doorstep. We consider this unique position in Brussels a major opportunity.

Nowadays, major global trends require the universities to take up new responsibilities. One of them is that, due to the effects of globalization, universities have the responsibility to educate students to global citizens.

Two years ago, I proposed the university an overall strategic plan for the period 2009 to 2012. One of the strategic entities of this plan was becoming a real international university. Today, this strategic entity is getting shape. The Brussels University Alliance, and initiative of our French-speaking sister university, ULB and VUB to join forces to enhance the international profile of Brussels. It's a new step in the international ambitions of the VUB. With it, the Brussels universities aim at achieving a greater international visibility and impact through developing high international quality standards and through using European and international dimension of Brussels. The support of the second Kobe University Symposium in Brussels by VUB and ULB, is just one of the many manifestations of this new

enhanced collaboration. But we do more than just that. On a larger scale, we will focus on an increase of the internationalization of the education. In order to attract international talent, the Vrije Universiteit Brussel will offer a sufficient number of English taught programs, exceeding the present number. We will also conduct intensive promotion of incoming and outgoing mobility of students, researchers and staff. And one of the things I hope even to realize is to set up an international student hotel on campus. We believe that the intake of international students, researchers and staff contributes to a dynamic exchange of knowledge and skills. And where else can you achieve this better than in Brussels, a city with such a wide variety of people and cultures. That is why we also stimulate our own students, researchers and staff to engage in mobility, to provide them with competences that better qualify them to work in a globalizing world. As a result, internationalization will form an important part of the new strategic plan I will present to my Board of Governance, strategic plan for the years 2012 to 2016.

Ladies and gentlemen, I am a firm believer that stronger collaborations between academic institutions in Europe and in Asia, and specifically Japan, can contribute to a better mutual understanding. That is why I am very pleased that it's a compliment to do a symposium. Kobe University offers a half-day interactive workshop for students in Belgium and in Japan through teleconferencing. Prior to the video conference session, students in Belgium will be provided with testimonials of field observations from their Japanese counterparts in the region of the Great East Japan Earthquake and Tsunami. The images of the devastating tsunami have shocked us all. And although we already saw many images of the destructive forces of nature on television, in the newspapers or on the internet; there are many stories yet to be told. A better understanding of the impact of these large scale events is, indeed, necessary. New media and technologies provide us with all kinds of possibilities there. Let us use them for the best.

Ladies and gentlemen, dear colleagues, let me conclude by wishing you all a very inspiring symposium. I'm sure that Brussels and our VUB campus will offer you a very stimulating environment to make it a remarkable symposium. Thank you very much.