

C o n t e n t s

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Programme

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I n t r o d u c t i o n

The International Recovery Forum is an annual event organized by the International Recovery Platform (IRP) to help ensure that disaster risk reduction approaches are systematically incorporated into the design of emergency preparedness, response, and recovery programs in accordance with the strategic goal of the Hyogo Framework for Action. The Forum provides an opportunity for policymakers and practitioners to get together and exchange experiences from recent recovery operations to address gaps in recovery practices and resources. Based on the challenges emerging from recent disasters, the theme for the Forum in 2009 is “Building Back Better and Greener”. The central issue is how to improve recovery processes, where environment is both a driver of disaster (e.g. environmental degradation weakens resilience) and a casualty of disaster (e.g. impacts of relief and recovery operations to environment). Recovery processes must assure the sustainability of future generations’ lives while reducing the risks to people today. The International Recovery Forum 2009 has engaged with Governments that are recently affected by disasters and key regional and international actors involved in recovery operations to draw lessons and good practices and to translate these into sound guidance. The Forum has contributed towards more coordinated actions on a number of key efforts by Government to implement the Hyogo Framework for Action, particularly the implementation of integrated environmental and natural resource management approaches that incorporate disaster risk reduction.

D a t e : 26 (Mon.), 27 (Tue.) January 2009

V e n u e : Kobe Portopia Hotel “Ohwada”

Organizers : International Recovery Platform (IRP) Secretariat, Cabinet Office of Japan, Hyogo Prefecture, Asian Disaster Reduction Center (ADRC), United Nations International Strategy for Disaster Reduction Secretariat (UNISDR), United Nations Development Programme (UNDP), International Labor Organization (ILO), The World Bank, United Nations Environment Programme (UNEP)

Under the Auspices of : Ministry of Foreign Affairs of Japan, Disaster Reduction Alliance (DRA), NHK

Participants : More than 250 participants from 28 countries and 10 international organizations

Working Language : English

P r o g r a m m e

DAY1 ; 26 (Mon.) January

- 10:00-10:40 Opening Remarks: Mr. Naofumi Taguchi, Deputy Director General for Disaster Management Cabinet Office of Japan
Ms. Helena Molin Valdes, Deputy Director, UNISDR
Mr. Toshizo Ido, Governor, Hyogo Prefecture
- 10:40-11:30 Keynote Speech: “Environmentally Sound Recovery: From an Economist's Perspective”, Dr. Toshihiko Hayashi, Professor of Economics, The Open University of Japan
Director of Research, Hyogo Earthquake Memorial 21st Century Research Institute
- 11:30-12:00 Current recovery status report 1- Myanmar (Cyclone Nargis)
-H.E. Maj-Gen Maung Maung Swe, Minister for Social Welfare, Relief and Resettlement
- 14:00-16:20 Country Presentations by high level representatives:
“Resilient recovery processes that take into account ecosystem and ecosystem service”
-H.E. Jean Max Bellerive, Minister for Planning and External Cooperation, Republic of Haiti
-H.E. Amin Faisal, Minister of Defence and National Security, Republic of Maldives
-H.E. Vladimir Bozhko, Minister for Emergency Situations, Republic of Kazakhstan
-H.E. Maria Lorena Cajas, Subsecretaria de Gestion de Riesgos del Ministerio Coordinador, Republic of Ecuador
-Mr. Shaukat Nawaz Tahir, Senior Member / Additional Secretary, National Disaster Management Authority, Islamic Republic of Pakistan
- 16:40-17:00 Current recovery status report 2-China (Wenchuan Earthquake)
Recovery efforts with integrating environment concerns - from UN perspectives
-Ms. Constance Thomas, on behalf of the UN Resident Coordinator in China
- 17:00-17:30 Wrap up of Day 1: Mr. Koji Suzuki, Executive Director, ADRC

O p e n i n g R e m a r k s



Mr. Naofumi Taguchi

Deputy Director
General for Disaster
Management,

Cabinet Office of
Japan

Opening Remarks

Mr. Naofumi Taguchi

Every year, in the corners of the world, we witness the frequent disasters. Taking the example last year in May, two major disasters occurred. Cyclone Nargis in Myanmar and Sichuan earthquake in China. Similarly, in many parts of the world, natural disasters are frequently happening.

In this juncture, I would like to express my heartfelt condolences to those victims. In case of Japan, because of the geographical location of the land, it is prone to the natural disasters. Fourteen years ago, on 17th of January, we were hit by the Great Hanshin-Awaji earthquake, in which we lost some 6,400 souls. Last year alone, there were two major earthquakes in the northern part of Japan. There were a series of the local intense deluge, which have created a lot of damages for the country. However, the Government and the Japanese people have been learning lessons from the past disasters and tragedies. Throughout Japan, we came up with various measures to consolidate and reinforce the measures against the disasters.

50 years ago, in 1959, Ise-wan (Ise Bay) typhoon hit in the center part of Japan, in Aichi Prefecture. The death toll reached 5,000 people. Having this tragic lesson, we started to legislate the Basic Disaster Law at the same time introduced the various laws and rules for the future disaster prevention. Both the local government and national government and private sectors have decided to coordinate and cooperate in an integrated manner to mitigate the impacts disasters. Through various knowledge and technologies we have accumulated, Japan is eager & share its experience in the field of international disaster prevention. Four years ago, we sponsored UN World Conference on Disaster Prevention and Reduction, right here in Kobe City, Hyogo Prefecture, with the participation of approximately 4,000 participants from 168 countries all around world. At that time, Hyogo Framework for Action (HFA) was adopted. Indeed, it has become the basic guideline for international disaster prevention for 10 years. The HFA provided a unique opportunity to promote a strategic and systematic approach to reducing vulnerabilities and risks to hazards for the disaster stricken countries and regions. It underscored the need for, building the resilience of nations and communities to disasters through international cooperation. In order to have further international cooperation among international agencies and governments, IRP secretariat has been established to facilitate information sharing to support the restoration and reconstruction. It regularly conducts the International Recovery Forum, as well as various recovery actions, such as, experiences of the disasters, making communities more resilient, and better approaches on rehabilitation and reconstruction.

In this Forum, the theme is “Building Back Better and Greener” highlighting the recent environmental issues, such as climate change. In such circumstances, whenever we talk about recovery from the disasters, we should never forget to take into consideration the environmental issues. In today’s forum, I believe we will have excellent presentations and discussions by policymakers and experts who are well-versed with disaster prevention and environments from international organizations. They are equipped with knowledge on disaster restoration and recovery. Through this forum, we will gain deeper understanding of the term “build back better than before from the actual experiences of participants and expert opinions of panelists and discussants.”

Opening Remarks

Ms. Helena Molin Valdes

Last week in Europe, there were several deaths due to falling roofs, strong winds, and heavy snow. This is why we are here. On behalf of Salvano Briceno, Director of the International Strategy for Disaster Reduction and our new assistant secretary-general, I would like to bring a few things regarding recovery efforts, development activities, response, and relief that we are undertaking.

It's a great pleasure to be here again in Kobe. This year is marked as the 14th anniversary of the Great Hanshin-Awaji Earthquake. Every January, this is remembered, and it's an important reminder for all of us, not only the tragedy, but in particular, the great effort to help give a rebirth to such a wonderful city as Kobe in Hyogo Prefecture. We also are here to mark the fourth anniversary of the adoption of the Hyogo Framework for Action, building the resilience of community and nations to disaster. Exactly four years ago, this important landmark plan and framework was adopted by more than 160 governments, and many organizations and agencies, just in the aftermath of the big Indian Ocean tsunami disaster. The International Recovery Platform was one of the many very concrete constellations and partnerships that were born out of this world conference.

The government of Japan has been one of the main supporters and drivers of bringing a culture of building back better to the world and a supporter of the International Recovery Platform. Japan, of course, is one of our real examples in the world that does not only talking about these issues but actually practicing them, both in laws and in professional capacities. Japan is helping other countries to introduce these practices. The International Recovery Forum is a very appropriate forum for us to take this forward. Well, we have four years gone after we adopted the Hyogo Framework for action at the world conference, here at this very same facility, Portopia Hotel. We have witnessed and reposted a lot of achievements. Governments and countries have started to change policies and have started to introduce legislative changes to introduce risk reduction measures and land use planning such as building codes. We have seen a lot of community actions, specifically in terms of awareness raising and educational initiatives. We have had a couple of campaigns, both when it comes to building safer schools, introduced risk reduction content into school curricula, and now we have a campaign on safer hospitals, and yesterday, there was an opportunity for some of you to join a discussion on this. We have many of our organizations in the UN, starting with our secretary-general, who have started to introduce much more systematic policies and programs within our own organizations to tackle these problems. Some of us are members of the International Recovery Platform.

However, this is not enough. We know that the slogan of building back better, which was born after the tsunami disaster in 2004, has not really been turned into practice yet. It sounds like a very good slogan, but how is it actually done? These are issues we would tackle during these two days forum, again. We need to continue working together to sustain the momentum. On 16th to 19th of June this year, we will have the second session of the global platform for disaster risk reduction, which is the main forum of following up our commitments to the Hyogo Framework for Action. It's a call to all of you, and your governments as well to come to Geneva for this particular platform or send representatives from different nations and different disciplines and ministries to together move forward on introducing risk reduction. We are going to assess both progress, in particular, the critical gaps that we still have in front of us to introduce disaster risk reduction into recovery and into poverty alleviation strategies. This is a very important date, both the one we have today here in the forum and the global platform to actually formulate very concrete recommendations and findings that could



Ms. Helena Molin Valdes

Deputy Director
International Strategy for
Disaster Reduction
(UN/ISDR)

be fed into the new climate change agreements that are being negotiated right now as we speak and will be adopted in Copenhagen in December 2009. So this is a call for you all to keep this in mind as well.

The International Recovery Platform is one of the many thematic platforms of the ISDR system. Following the world conference in 2005, there have been many efforts to organize a more effective international system to address all the different priority areas of Hyogo Framework. As you might recall, we have five big priority areas, going from institutional and policy commitments, through early warning risk assessments, education, awareness raising, recovery efforts, and environmental and institutional efforts to reduce the underlying risk factors, as well as to have effective response going through effective preparedness efforts. This is the Hyogo Framework for Action commitment. Many platforms have been set up. The International Recovery Platform was one of the first ones, and it has its secretariat based and hosted here in Kobe, supported by Japan, the Hyogo Prefecture, ADRC, ILO, UNDP, the UNISDR secretariat, and collaborating with many other organizations of the UN system and the World Bank. Some other governments, such as Italy and Switzerland, are also contributing to the IRP, call it International Recovery Platform.

The purpose of the platform is manifold, but the most important purpose is to bring coherence to the many players that are engaged in recovery efforts, and to harness knowledge and information collected and learned from different recovery operations and experiences. In addition to all the member organizations of the platform, which have different types of operational responsibilities, but through the International Recovery Platform, we intend to work together to develop and apply harmonized methodologies and assessments, to promote an open platform for learning and knowledge sharing. This International Recovery Forum is one of the pillars of the International Recovery Platform's knowledge sharing and lessons learned function. We look forward to the results of the discussions here.

In the global platform, recovery will be one of the topics to be discussed. There will be high level sessions that will focus more on policy learning. It will facilitate a very systematic review assessing progress, engaging with governments, and regional organizations, UN agencies, and the different thematic platforms, to assess progress and gaps. The findings will be very helpful to set the new agenda from the coming two years. We hope that the forum here today and tomorrow will bring some of the specificities for that particular discussion that will be needed in terms of taking some decisions, which could be brought forward to the global platform.

I encourage everyone to be open-minded when we have our discussions over these coming days. Together with my colleagues from both the UNISDR and the other agencies, certainly look forward to learn and hear from your experience and take that forward into our own programming and planning for the future. I would like to conclude by wishing us all success, not only today but also for the future to start building back better and to continue this effort of reducing disasters and build a safer world.

Opening Remarks

Mr. Toshizo Ido, Governor of Hyogo Prefecture

One of the programs of IRP, has been the holding of International Recovery Forum for the disaster prevention. This is an opportunity to report and discuss recent disaster situation and an opportunity to promote cooperation among the related international organizations and local organizations for sharing the information. This Forum is important for setting up the mechanism to build a better society, which is resilient to disasters. Last year, at the time of the Sichuan earthquake, there was also the major damages and we response quickly after the earthquake, expressing the condolences and sympathy, extended our cooperation and assistance to them. In case of the recovery and reconstruction situation of Hanshin-Awaji earthquake, there are a lot of lessons to be learned. Every year, there are a lot of people visits Kobe. Whenever we receive those guests, we mention four points of recovery processes. First, recovery process has to respond to the issues and challenges that are changing from time to time. Right after the disaster, you have to be engaged in the rescue of the victims and quick evacuation. After some time, you have to create the tentative evacuation places, tentative housing have to be provided for the short-term living. After some time, the prefabricated tentative houses are needed to provide shelter support. We then move into the full-fledged recovery and reconstruction, where we have to give the assistance to the people so that they would be able to secure their houses and also start to construct infrastructures needed for the industries. Second thing, which I always emphasized is the community level restoration and recovery. It is based on people to people connection and interaction. During livelihood recovery and restoration, we must not forget the rebuilding of the communities. Third, mental and psychological care must be provided. After being stricken by the disasters, some people are suffering psychological trauma, especially children. There has to be the thorough mental care for the victims. Such care has to be done in a very long period of time. Lastly, measures to minimize the damage of disaster have to be put in place. If it happens, we have to be prepared through the disaster reduction process. Even if you are stricken and damaged, you have to be prepared to take quick measures for recovery. Such preparedness is needed.

That has to be considered in the society and in the community. Disaster preparedness has to be incorporated in the community programs and daily lives to establish a culture, which is resilient to the disasters. Our experience on the Great Hanshin-Awaji Earthquake 15 years ago have to a great deal of lessons. The lessons we learned from that earthquake have to be communicated to the people in the world. I believe this is the responsibility and accountability for the victims and affected people. Communication, handing down our experiences, is our big mission. Today, in this very forum, the representatives of the countries which are stricken by various disaster are going to share their reports, international measures, countermeasures and directions. IRP is taking the initiative, in supporting this forum, and in the very place of the earthquake-stricken place, Kobe, we have got the opportunity to communicate our wishes and our thoughts to the world. We hope that we will be able to get the constructive fruits out of the discussions coming in this forum. I would like to conclude my remarks. I hope you will be able to take time to come to outside of this place to look at the recovered and reconstructed city and streets of Kobe. Thank you very much.



Mr. Toshizo Ido,

Governor of Hyogo
Prefecture

Keynote Speech



Toshihiko Hayashi

Professor of Economics
of Open University of
Japan

Director of Research,
Hyogo Earthquake
Memorial 21st Century
Research Institute

Special Major:
Microeconomics and
public policies

Keynote Speech

Mr. Toshihiko Hayashi

In today's forum, I would like to focus on the following points. First, an overview of recovery from an economist's perspective; Second, environmentally sound recovery, what it should mean, and from an economist's perspective; Third, international disaster recovery fund, a proposal; Fourth, instituting incentives.

Regarding economic dimensions of disasters, it is well-known that disasters' direct impacts include loss of physical assets, bridges, highways, houses, buildings, and also human capital. Here, I'm using economists' jargon, the human capital. Normally, it is said, the number of deaths, but looking at it from the economist's point of view, it means human capital. The loss of businesses and also for local governments, communities, the finance and the immediate responses become very acute. Then the indirect and long-lasting effects come. Business opportunities are lost, economic development is delayed, and financing the whole process of recovery puts a heavy burden on families, individuals, companies, and local governments and national governments. I took the data from emergency management database, and this is the human and economic dimensions of the disasters throughout the world. The world's disasters, the five-year period, starting from 1974 to 1978 until 2004-2007, the red bars indicate economic damages, which are increasing over the years. And the blue bars are the number of deaths. The early decades, 70s, 80s, we can see so many deaths caused by natural disasters. They are declining, but fluctuate from one year to the other.

Now, let me do some experimentation. Using this simple calculation, we can get some assessment of what is the extent of human capital loss. The formula I'm using here is number of deaths times per-capita GDP, times 20, assuming that the people died because of disaster at the age of 40, and 20 more years of productive years they lost. Assuming that this is the simplest formula we can use, look at the second line. 9/11, US, 2001, a man-made disaster, but they put forth this number: 8.7 billion dollars. They use it for actual purposes of making compensation for the dead people and families, based on some insurance principle, and other cases, we haven't used this conversion or economic calculation. But if I may, Kobe, 1995, 14 years, 6434 lives were lost, and applying this formula, it comes to 5 billion dollars. And in the case of Aceh 2004, the number comes to 3.9 billion dollars; In Sichuan earthquake 2008, the number comes to 4 billion dollars. All I'm saying is that it's a significant magnitude, and of course, it is small compared to economic damages. And as the economic development takes place, the number of deaths caused by natural disasters is declining. However, the economic damage is increasing. So if I may, put all together, and add human capital loss and economic damages, and this is the picture we get. The total economic damage, including the loss of human capital, and physical capital, are on the rise.

However, there is a regional disparity. Not all parts of the world are similarly affected by natural disasters. As you can see from this, the Europe, this purple line, is relatively less prone to natural disasters. Well, I'm using the number of human capital loss plus physical capital loss. In Africa, the damage is heavy, but it fluctuates widely. Asia is relatively frequented by natural disasters. And this peak is of course the Great Hanshin-Awaji Earthquake in 1995. Even in Americas, the damage is increasing. Americas, which I mean is both North America and South America. So there is regional disparity, which means that there is a difference in attitude, towards the importance of natural disasters, damages caused by them, and importance of recovery processes. The next graph shows that the world total damage, as percentage of GDP the world total damage. Again, this is a combination of the physical capital loss and the human capital loss, and calculated as a ratio between that number and the GDP of the world as a whole. Then, this is the picture we get. It

comes to 0.15% to 0.25%. This is the damage within five-year period, like 1999-2003. During this five-year period, we had damages caused by natural disasters. And divided by 5 to reduce it to annual rate, and then divide that with the world GDP per annum, then we get this picture. The important thing, which I would like to call your attention, is that the damage is increasing.

I calculated how much outlays are needed for restoration as percent of world GDP. That was the physical damage. The loss of stock, the yellow bars I showed you before, that represent the loss of stock, but this is the flow concept. Each year, how much money will be needed to restore the damages inflicted upon by natural disasters, and assuming that it takes ten years to recover the damages, then this is the annual outlays we need for the recovery process. Again, I'm taking the world as a whole. Then, the number comes to 0.2 percent to 0.45 percent, and on the average, 0.04 percent of annual GDP, need to be allocated for recovery every year. Please bear this number in your mind; 0.04 percent of GDP. This is the kind of money, the magnitude of resources we need for natural disaster recovery.

As for environmental restoration, the tragedy is that we don't have a well-developed methodology for measurement and assessment. In order to establish a concrete program, we need to have some concrete numbers. How much it costs, how long it takes, how it should be financed? But as for the environmental damage, it is very difficult to come up with a convincing number for each community. We can talk about qualitative importance of the extent of the damages done on natural environment, and the damage may extend from the moment the disaster occurs, to ten years later, 50 years later, 100 years later, or longer, it's a long-lasting damage. And the economists do not have a decent method of quantifying this long-range extent of the damage into concrete numbers, so that we can tell people how much we need to restore the environmental capital. But there is a need to estimate the environmental damages, and this is one of the very important questions left for us economists, and for you in policymaking arena, for everybody.

It is relatively easy to talk about the climate change but it is very difficult to come up with a scientific methodology to estimate how much damage is done to the environment by natural disasters, individual case of natural disaster. This is what we need to emphasize, and put more resources to develop, and all I'm saying here is that so far, in my knowledge, we don't have very decent method to come up with this calculation. Well, this is something advanced by United Nations document, International Strategy for Disaster Reduction, 2002, and "risk" is defined as hazards times vulnerability divided by capacity. Well, I think this is correct, but again, the important thing is how we measure hazards, how we measure vulnerability, how we measure capacity.

Currently, this is the conceptual framework in which we should be working, and I fully agree with this formula. But then, when it comes to complete numbers, it's very difficult to pin down what is involved. The next diagram shows the similar -- this is taken from a similar document, and environmental drivers of disaster risk, such as climate change, loss of natural defense, environmental degradation, all these, contribute to the risks of disaster. And once the disaster happens, then the releases of hazardous materials, and debris and damages to natural resources are done, and environmental infrastructure is damaged, and relief and recovery operations often times pay less attention to environment than is necessary or required or understood in present-day knowledge. So this feedback into the disaster causing the climate change and natural defense and so forth, and so this goes around and around. Well, this is understandable. It's a very beautiful Conceptual Framework. But to go from here, we need some steps to convert human lives into economic numbers. I can see many faces in this room of saying it cannot be done. The human lives should be valued at infinity. So converting that into economic damage is sheer nonsense. Well, I can see your faces are telling me that, but nevertheless, it could be -- I mean, it has been done convert the value of human lives into economic damages. Now, how many people know of any research that came up with the actual numbers of these environmental damages caused by a natural disaster?

Again, I think we don't have a decent methodology to do that. So, from now on, instead of going into conceptual framework of what is necessary to understand the environmental, or greener. recovery, I'd like to go into specific case, which I'm familiar, and that is the case of the great Hanshin-Awaji earthquake. Well, that is a movie clip taken from the exhibit at the earthquake center, close from here. And you noticed, this is a computer graphic, demonstration, and some pictures are real. The rest of them are computer graphics. You haven't seen any blood, dead people, or if you were there, you could feel the different smell and coldness, lack of toilets, many people were flocking together. The actual scenes were more serious than this computer graphics.

Affected people, the number came to 316,678. The number of debris demolished by cities came to 20 million tons. This is the most important environmental concern for the Hanshin-Awaji earthquake. 20 million tons of debris, concrete blocks, wooden parts and railroads' remains on. This is the eight years worth of the disposal waste produced by the city of Kobe. The eight years' waste happened in just 15 seconds of earth tremor. The estimated economic damages came to 100 billion dollars. Kobe was a well-developed, modern city, with high-rise buildings and highways and a subway system, and modern port facilities and so forth. All were destroyed. The total economic damage came to 100 billion dollars. Immediately after the great earthquake, people poured into the city, into the affected areas, as volunteers. We used to think that

these days youngsters didn't pay attention to their neighbors or what's happening in the country. But that was not so. Throughout the countryside, from the foreign countries as well, many people came to give their help for the recovery and for the rescue operation. Gift money poured in, and gift materials poured in, and the extent of this gift economy, it's not a market economy, it's a gift economy, by well-wishers, and they came to 7% of the market economy that existed before the earthquake. Well, it depends how you judge this magnitude. 7% is big or small, I think it's very big, and without this gift economy, the city would have had more hardship to recover from the damage. Another thing that we have to notice is that in this case of Hanshin-Awaji earthquake, we did not see any looting or corruption in the government. This is something that maybe, this is a kind of situation cannot be found elsewhere so easily. Usually, we can see from the TV if a disaster happens, frustrated local people rush to the local stores and try to recover as much materials as they want, or a big money is poured into recovery and restoration, and then it would be easy to imagine that there are some people who might wish to make the money into their personal profit, but those things did not happen in Kobe Earthquake. Why? Well, police are boasting that we did a better job than elsewhere. But I don't think that's the true reason. The scholars are still debating the reason why it was so. There were small cases of corruption and so forth, but on the whole, there was some kind of solidarity in people's mind. It's none of somebody else's concern. It's my concern. If things were different, I would be in the middle of the disaster. Another thing is that you might expect that during the course of recovery and restoration, we had much building activities going on. Construction, the public facilities, schools, and factories are rebuilt. Homes are rebuilt. So much money is poured into the recovery, and you might expect that we must have seen some price hike, price rise, in the affected area. The truth is, no. There was no price inflation in the affected area. People were afraid to raise their price simply because that perhaps they don't want to look like greedy, and they shared the sense of solidarity, well, here are people who lost everything. And here I am, and I'm trying to make money? No, that cannot be done. That was the kind of sense we shared together. So there was no price increasing in the affected area. But I must tell you in haste that prices rose in the area about 100 km away from the epicenter of the earthquake. Of course, there is much increasing in demand, and the supply was limited, and somehow, the prices might be adjusted for that. But that did not happen in the middle of the affected area. That happened in the outskirts. But it was not too much. The physical capital, lost in buildings, 58 billion dollars. The loss in stock in Port facilities, 10 billion dollars and industrial facilities, gas and electricity, 4.2 billion dollars. Well, gas and electricity are provided by private companies in this country, so they had to bear this much damage and rebuild the network of lifeline immediately. Railways, 3.4B schools, 3.4B and the combined total of economic damages came to 100 billion dollars. And indirect economic damages, the things are more intricate than simple loss and damage and destroying of houses. The capital is lost, productive capacity, or infrastructure, lifeline, lost, and that caused lost production. Production facilities were damaged. No materials were brought in, into the factories in the affected area. So the production was lost. And that led to lost employment. There was less jobs available because companies & offices were not producing any more job.

The population moved out from the affected area, to the nearby, or to the relatives' place, to the other branches of the company. Since there were less people than before, there was a decline in demand in the local area. The shops could not sell, because there were fewer customers. Railroads, even though they built back could not find passengers to ride on them. So the demand declined. This added to the lost of employment opportunity. This goes in vicious circle. Remember, in the process of urbanization, this circle was the other way that worked in reverse. This is the process of urbanization. People moved from the countryside into big cities, looking for jobs, opportunities, business opportunities, and in order to cater for the needs of the newly coming inhabitants, the town prospers, commercial activity prospers, and buildings, insurance companies, all the service industry develops, and that will again affect the employment from other areas. So this is the case of urbanization. But in the case of disaster, this cycle moves in the opposite direction. The negative urbanization, or vicious circle, sets in. In order to bring it back to the standard level of living that the area was enjoying before the disaster, becomes a formidable job.

How much it cost recovery from the Hanshin-Awaji earthquake. There are many estimates, unsettled still today. If you look at the value-added statistics, GDP, local GDP of the affected areas, we notice that immediately after the earthquake, the aggregate demand goes up, reflecting the construction demand, and the rebuilding of the town and houses. It gradually declines to the original position. So we use the method of cutting out the pre-disaster level of local GDP, and take that out from the actual movement of GDP, and we estimated the residual of what actually happened, and what actually would happen if there were no earthquakes. The number came for the five-year period from immediately after the earthquake. The number came to 7.7 billion dollars, In case of Kobe, 70% of that was provided by private sector. Individual families used their savings to rebuild their houses, to purchase a new apartment, and to finance their personal restoration, getting new appliances, etc. So the money, 70% of the money, was provided by the private sector, and although it was huge, the public sector, governments, they provided, accounted for 30% of the reconstruction cost. This tells you another important message: it is very important to have a strong private sector in the area. This is the best preparation for the fast recovery for disasters. Fortunately enough, Kobe

had a well-developed private sector and they bore the burden of reconstruction by 70% of total. However, there is a long-run effect on local finance. Affected localities, such as Kobe City and Ashiya City are still suffering from the legacy of the disaster because they issued bonds to finance reconstruction to rebuild the infrastructure and bond has to be repaid. Interest should be repaid, and they are still suffering from that. As a result, they are heavily indebted still today. This must be paid by the next generation. So in fact it is felt by this generation and the next generation.

Let me pay some attention to the environmental threats. Emergency workers face toxic chemicals, like asbestos, but 14 years ago, not much attention was paid to that fact. There was least knowledge about asbestos and other toxic chemicals. Although people talked about it, and remember asbestos takes 15 years to cause lung cancer. We have passed the 14th anniversary of the earthquake. and maybe health effects will be felt by the emergency workers and people who stayed in the affected area for a time. The second thing is that huge debris such as 20 million tons cleanup was necessary. Rebuilding infrastructure was needed, and temporary housing should be built, and remodeling the city landscape was also called for. What happened? Most of them were used for landfill for manmade islands along the shore. In a sense, this area was lucky, because even before the earthquake, they had a basic plan to build manmade islands along the shore. They were under construction. So when the earthquake hit this area, the first idea people thought about was to bring the debris to a temporary depot and do the classify the debris into various concretes, wood blocks, and so forth, and eventually bring it to the manmade island to landfill the project. So it was relatively quick that this area could clean up the debris. If this area was in a mountainous area, if there is no seashore, I cannot imagine how we should have coped with 20 million tons of debris. No case of environmental degradation reported. For the more, case of no violation of the inland sea law -- this is the environmental law - was reported. However, the long-run effect is yet to be seen. The waste disposal scheme looked like this. Railroad, highways, wood debris, concrete debris, they are separated and what is inflammables and flammables. The concrete was destroyed into small pellets, metal recycled, and everything went into landfill for manmade islands. What happened in Kobe on the rebuilding infrastructure? The fallen part of the Hanshin highway was rebuilt in the same place, with reinforced structure. People debated whether it's a good idea to build an underground pass, or re-routing of the sea. This was vigorously debated to reduce the pollution, but this did not happen. The reason was the construction cost. There's a trade-off between the cost and the environmental concern. So I can say that people talked about it, debated it in policy formation process, but it never actualized. The temporary housing units, 48,300 units of temporary housing units were built by local governments in a number of locations, in different locations.

What did not happen in Kobe? As part of the revitalization plan, the idea of "restaurant on the sea", or pleasure island, were contemplated, but did not materialize. Can you see why? Restaurant on the sea, like those in Hong Kong, and other tourist attraction places, may be a good idea to attract people to help assist the local economies to revive, but the water disposal from those facilities will contaminate the inland sea of Seto. I mean, the sea we are facing here and because of the law prohibiting that, we cannot build a restaurant on the sea, or Pleasure Island. So this did not materialize. From the environmental point of view, maybe this was a success, but from the quick recovery, people wanted so earnestly, this looked like a drag on the recovery. Again, there was a trade-off between quick recovery and environmental concern.

Toxic chemicals like asbestos, we haven't seen the full effect, and also landfill, unchecked, more or less unchecked, although there is no serious case of health hazards reported, it went almost unchecked. The bottom line is that in reality -- I'm talking about the Hanshin-Awaji earthquake -- environment was not on the top priority of the list. If it happened today, maybe we will go to different routes for a greener recovery, but 14 years ago, the reality of the time was that the environment was not on the top priority list. These are the reports, 10 volumes of annual recovery report and the 10th anniversary inspection report, impressive as they may be, there is not a single chapter referring to environmental concerns. I'm not saying that people are dumb, didn't have knowledge about that, but the atmosphere of the affected people who wish for an early recovery, the entire surroundings of policymaking circles, including intellectuals and city officials, prefecture officials, and central government, did not pay much attention. It is lucky that we haven't observed any serious environmental deterioration due to the Hanshin-Awaji earthquake, but as I said, if it happened today, we may have done different things.

As an economist, I propose to establish an international disaster recovery fund, perhaps in the World Bank, as an independent fund. The World Bank can sell bonds to the market, or consortium private banks, and send the money to international disaster recovery fund. They use the money to purchase back the bond from the consortium of private banks, so in the end, they are the holders of the World Bank bond. The World Bank has to pay interest on that. International disaster recovery fund receives the interest paid to the World Bank. Maybe member countries pay in the interest used. The interest, membership dues, and recovery grants and loans are made from the international disaster recovery fund. Why am I talking about this? Well, I skipped, but in the case of the Hanshin-Awaji earthquake, we used similar scheme for catering individual needs and household needs. Big money for reconstruction of infrastructure are easy to come by, but small monies, for individual development, individual recovery, they are very difficult to come from the public money.

This scheme was used, so I'm proposing this: wouldn't it be a big burden? Well, look at Japan's ODA. Total is 15.1 billion dollars for fiscal 2008. As I mentioned before that it would cost 0.04% of GDP to cover the natural disaster damages each year. 0.04 percent of GDP for Japan comes to 2 billion dollars. This amounts to 30.2% of total ODA for the Japanese government. I would think, if you use imagination and creative thinking, it wouldn't be impossible to pay this much money into the newly established disaster recovery fund. With that fund, with a kind of permanent instrument, each country can depend on it. The good thing about that is not only finance, but also integration of human economic and environmental recovery is the key. These three concerns should be integrated and thematically implemented. Coordination of bottom-up approach, in every community, and the objective of greener build-back is necessary. We cannot say to individual country or individual community, that this is the way you should go about. Local communities have their own values. Their perspectives, their problems, and they want to do something based on the bottom-up approach. So they should be matched for coordination. If there are hundreds of donor communities, if there are hundreds of local communities, the coordination becomes formidable. One idea is to come up with one institution, international disaster recovery fund, for example, which does this coordination. It should give preference to greener and safer recovery. Maybe subsidized loans, maybe added amount to assist recovery, if the projects are green. Thank you very much for your attention.

Current Recovery Status Report 1
- Myanmar (Cyclone Nargis)



His Excellency Major General Maung Maung Swe

Minister for Social Welfare, Relief and Settlement

Current Recovery Status Report Cyclone Nargis 2008, Myanmar

Excellency Major-General Maung Maung Swe

Your excellencies, distinguished delegates, ladies and gentlemen, It is a great pleasure and honor for me to have this opportunity to share with you Myanmar's experiences in the recovery period after the Cyclone Nargis.

Myanmar is a multi-hazard prone country. It is prone to fire, storm, flood, earthquake, landslide, and epidemic diseases. According to the record of disaster outbreaks, within 10 years, it is found that 71% were fire, 10% were flood, 11% were storm, and the other were 8%. The 2004 tsunami was the first tsunami experience for Myanmar. The Cyclone Nargis hit Myanmar on 2nd and 3rd May, 2008, causing a lot of damages and loss of lives throughout the Irrawaddy Delta and Yangon Division. The Cyclone Nargis affected more than 50 townships, mainly in Yangon Division and Irrawaddy Division. Wind speeds was up to 200 km/h, accompanied by heavy rain, and a 3.6-meter strong surge, the damage was most severe in the Irrawaddy Delta region. In the aftermath of Cyclone Nargis, 84,537 persons were dead. 53,836 were missing, and 90,359 were injured. The number of totally damaged houses were 450,000, and partially damaged houses were 350,000 and 2.5 million people were affected. In the education sector, over 4,000 schools were damaged. Likewise, in health sector, 75% of the health facilities were also destroyed. In the agricultural sector, agricultural works were destroyed due to loss of crop, cattle, damage to paddy streams, seawater intrusion to paddy land, and damage of agricultural equipments.

With lessons from the 2004 Indian Ocean tsunami and the Sumatra earthquake, the government of Myanmar has established the National Disaster Preparedness Central Committee, chaired by the prime minister, since 2005. Under the Central Committee, there are 10 emergency disaster response sub-committees, who work in close cooperation.

Immediately after the Cyclone Nargis struck, the National Disaster Preparedness Central Committee held an emergency meeting, headed by the prime minister. The prime minister instructed to formulate and implement an immediate response to Nargis. The implementation plans were urgently prepared to meet the requirement set out for each subcommittee for the relief, recovery, rehabilitation, and reconstruction. For the close and effective supervision of relief and rehabilitation activities, in the most storm-hit townships, individual ministers were assigned in each area. With regard to responding Cyclone Nargis, the minister of social welfare, relief, and resettlement, has taken responsibilities as the secretary of the national natural disaster preparedness central committee, as well as the chairman of rehabilitation and reconstruction subcommittee.

The United Nations international planning conference was held in Yangon on 25th May 2008. The conference concluded with the government of providing humanitarian assistance to Cyclone Nargis-affected areas. The Tripartite Core Group (TCG) was formed on 21st May 2008 in response to the needs of the people affected by the Cyclone Nargis. The TCG comprises of nine members, three each from the government of Myanmar, ASEAN, and the United Nations.

Under the guidance of TCG, the post-Nargis joint assessment was conducted in cyclone-affected areas. To effectively carry out relief, rehabilitation, and reconstruction tasks after Nargis, 11 clusters have been established, comprising of government, UN agencies, and international non-government organizations. These clusters covered agriculture, health, education, nutrition, food, shelter, water and sanitation, protection, early recovery, logistics and emergency telecommunication, and disaster risk reduction. I would like to explain the emergency relief and post-recovery activities. Soon after Nargis, we promptly provided with food, shelter, and

medicine, to the storm-hit people. Under the leadership of the national natural disaster preparedness central committee, the government has made concerted efforts for the implementation of emergency relief and rehabilitation tasks in collaboration and cooperation with the Myanmar armed forces, Myanmar police force, Myanmar fire brigade, NGOs, such as human solidarity and development association, Myanmar women's affairs federation, Myanmar maternal and child welfare association, Myanmar red cross society, and local business companies, well-wishers, and the entire people, with national spirits. Consequently, early recovery tasks were successfully undertaken. Thanks to the effective and close collaboration and cooperation of the ministry of health and international medical teams, epidemic diseases were under control in the storm-affected areas. Similarly, the lives of storm-hit people were saved, due to the humanitarian assistance from international community. The current recovery, rehabilitation and reconstruction programs are being implemented in the storm-hit region with the aim of "build back better and greener." In order to construct the housing, there are seven guidelines laid down by the central committee. Some townships have been upgraded to district level, and new model villages have also been set up. For the rehabilitation of housing sector, the government has been constructing new villages, houses, which are at low cost. The government has planned to construct 10,017 houses. The durable wooden houses, roofed with sheets, along with concrete are being systematically constructed for resettlement of the Cyclone Nargis-affected people. Transportation is being provided by the government, and one house costs only 600,000 kyats. Up till now, 9037 houses have been constructed. Over 4000 schools were totally or partially destroyed by Cyclone Nargis, among them, 1250 schools are needed to be reconstructed. 921 schools are now being constructed with the support of Ministry of Education, donors, NGOs, INGOs, and local entrepreneurships. Some schools have been upgraded to post-primary schools, affiliated middle schools, sub-middle schools, sub-high schools, and high schools, in order to get access to education in the delta area. For the orphans, new training schools will be established in Labutta district, in the Irrawaddy Division, in order to provide education and vocational training. For vulnerable groups, assessment surveys on women, elderly, and persons with disabilities, are conducted by the department of social welfare, in collaboration with UN agencies, NGOs, and INGOs, so as to draw up the plan of action for women, older people, and disabled persons for rehabilitation programs. With regard to the health sector, rural health centers and sub-rural health centers are being constructed by the Ministry of Health, with the cooperation of rehabilitation and reconstruction sub-committee. Health clusters and other INGOs, out of totally damaged 380 arecye and sub-arecye and Ayeyarwaddy division, 263 have been constructed. A 200-bedded hospital each was built in Labutta and Thabaung and 100-bedded hospital, each, in Mawlamyinegyun and Bogale. Station hospitals and rural health care centers were upgraded. Right after Nargis, 69 private construction companies and local entrepreneurs are actively taking place in the renovation and reconstruction tasks for schools, hospitals, and community building, in the storm-hit region. I would like to share the livelihood recovery in the storm-hit areas. The main businesses in Ayeyarwaddy Division are agriculture, fishery, and salt production. In agricultural sector, agricultural works were destroyed due to loss of cleacight crop, cattle, damage to paddy strains, seawater intrusion into paddy land and damage of farm equipment. Now, in the rehabilitation period, the state, local, and international donors provided 3221 crop cattle, 9689 power tillers, 1.8 million baskets of paddy strains, and fuel for the rehabilitation of livelihoods of the storm-affected people. So, 97.08% of early vision was completed in Ayeyarwaddy division, and 113% in Yangon division, after the monsoon season. In fisheries sector, the state, in collaboration with local and international donors, provided fishing boats and fishing nets for the fishermen because their fishing boats and nets were damaged. A total of 10,025 fishing boats, and 26,650 fishing nets have been provided. As a result, the fishermen were able to start their livelihood.

In the aftermath of the storm, a total of 23,458 acres of salt fields, 24,214 tons of crude salt, and equipment for salt production were also destroyed. To make salt production in time, ministers and ministries concerned to supply finance, tractors, water pumps, tarpaulins, tents, and fuel to salt makers. Distinguished delegates, ladies and gentlemen, now, a network of five main roads is under construction in the coastal region for development of the region as well as a safer place in case of disaster. The five main roads project in coastal regions have been implemented up to the status of urban road in the rainy season, and these roads will be continued to upgrade as the gravel mixed roads. The road section close to villages will be built up to the height of 25-30 feet, and they will be used as a safer place in the event of disaster. Moreover, the state has selected 19 coastal sites to construct 20 coastal cyclone shelters. Those cyclone shelters are safer places as well as multipurpose centers.

A total number of 45 international non-governmental organizations are carrying out rehabilitation and reconstruction programs with the ministry of social welfare, relief, and resettlement. Those organizations are now implementing recovery programs, such as livelihood recovery, construction of shelters, schools, and rural health centers, protection of children and women, income generation, psychosocial supports, provision of furniture and stationery for schools, and disaster risk reduction programs. Concerning with disaster preparedness, Myanmar is promoting public awareness on disaster preparedness in Yangon division and Ayeyarwaddy division. Now, prime minister accompanied with ministers, are going to visit Rakhine state,

which is one of the coastal areas, in order to strengthen disaster preparedness tasks. The ministry of social welfare, relief, and resettlement, conducted capacity building trainings, and workshops on disaster risk reduction from national level to local level. As a national level, the ministry of social welfare, relief and resettlement, in cooperation with UNHCR e-centre, convened International Humanitarian Response workshop. Moreover, the ministry conducted full batches of training of trainers on disaster risk reduction, from September to November 2008, in collaboration with UN agencies, INGOs, and NGOs. In a region, 13 disaster management courses of state and division level were opened in 2008.

The participants from training of trainers on disaster risk reduction and disaster management courses have conducted multi-player courses again in townships and villages. For community level, workshops on community-based disaster risk management are also being conducted in Cyclone Nargis-affected areas by our ministry together with partners, INGOs, and local NGOs. At present, Myanmar has been developing a standard order on disaster preparedness.

I would like to share experiences and lessons learned, and constraints in implementing the rehabilitation and reconstruction tasks. With regard to the lessons learned, the Tripartite Core Group, contributes to international cooperation in the aftermath of Cyclone Nargis. Formation of TCG is very effective for the implementation of relief and post-Nargis recovery. Coordination and cooperation among the governments, ASEAN, UN agencies, and INGOs were carried out smoothly through TCG. TCG also develops post-Nargis recovery and preparedness plan, as well as recovery programs. One of the lessons learned from post-Nargis is effective coordination and cooperation among ministries concerned, with the assistance of local authorities. Local entrepreneurs also participate in relief and recovery programs in the area of housing, schools, livelihood, hospitals, rural health centers, and infrastructure. The ministry of social welfare relief and resettlement is making arrangements for travel permission of INGOs. TCG is also taking responsibility for visa application. Therefore, technical and monitoring experts and personnel concerned from INGOs contribute to the implementation of various sectors, very quickly, without delay. Due to cash-in-kind donations from international and external well-wishers, relief and early recovery programs have been achieved successfully within a short time.

Moreover, I would also like to state that there are some constraints for the implementation of recovery activities. The flash appeal was launched within the first six days, on 9th May. Although many donors committed at the pledging conference, some cannot fully contribute to the recovery activities. One of the constraints is that some donors cannot continuously provide financial assistance according to the project due to economic crisis. Transportation is also another difficulty in carrying out recovery activities. For emergency period, majority of expenses in logistics were spent in communication and transportation. We have a big challenge to construct cyclone shelters and school shelters because such storm can appear in coming months. Therefore, it is necessary to construct more cyclone shelters in delta area in Rakhine State in the near future. Although we have many constraints and difficulties in implementing relief and recovery program, we have been able to overcome many challenges and implement rehabilitation and reconstruction activities in a short time, with the active participation and concerted efforts of the armed forces, Myanmar Police Force, the fire services, ministries concerned, and NGOs such as Union Solidarity and Development Association, Myanmar Women's Affairs Federation, Myanmar Maternal and Child Welfare Association, auxiliary fire brigade, and Myanmar Red Cross Society. For full recovery, it is necessary to implement many programs such as construction of schools, hospitals, village houses, community shelters, and livelihoods. Because of climate change and global warming, early warning system and disaster preparedness programs are the main requirements for the delta area. In addition, cyclone shelters will be constructed in the coastal area for safer place of the community. Therefore, we need many contributions and cooperation of donors and well-wishers.

In conclusion, I would like to express my sincere thanks to the organizing committees of International Recovery Forum 2009 for giving this opportunity to share our experiences on recovery activities of Cyclone Nargis. I would also like to express our gratitude and high appreciation to the host country, the government of Japan, and the organizing committee. Finally, my delegation is convinced that the International Recovery Platform, IRP, through this forum, will be able to compile and distribute the good results from the deliberations here, which will help us in carrying out natural disaster rehabilitation efforts, to build far more pleasant social environments. Thank you!

C o u n t r y P r e s e n t a t i o n s
by high level representatives

“Resilient recovery processes that take into account
ecosystem and ecosystem service”



**H.E. Jean Max
Bellerive**

Minister for Planning and
External Cooperation,
Republic of Haiti

Country Presentation

Hurricane, Tropical Storm, and Inundation in Haiti

His Excellency Jean Max Bellerive

On behalf of my President and Prime Minister, let me seize this opportunity to praise Japan Government for its support towards Haiti authorities and all international partners efforts of providing emergency assistance to our fellow citizens, victims of hurricane, tropical storm, heavy rain, or inundation during autumn 2008. This solidarity remains essential in the recovery and reconstruction from these disasters. I also want to express my appreciation for the IRP's kind invitation for the International Recovery Forum under the theme of "build back greener", which is the core of our reconstruction strategy.

Many common concerns about the natural disasters such as the risk management, the immediate response, and damage assessment in my country also have some specific particularities that deserve to put forward debating. So it would be my pleasure if you let me focus on firstly the natural disasters and the future of Haiti. Secondly, the management of the immediate relief, because Haiti is often labeled as one of fragile states in post-disaster conflicts. Obviously, we are not comfortable with such brand name. In the usual sense of these expressions, it is true that Haiti is experiencing insecurity problems, threatening to criminality, same as many other countries in the Caribbean and Latin America. Haiti has dealt with political crisis and governmental changes. Now it's over, and the solutions have been worked out within the constitutional provision, and without any violent effects. In this perspective, if Haiti is still be considered as a post-conflict country, it surely be the natural disasters. The erosion and the pressure of our environment of this is worsened by climatic changes. Obviously, we cannot negotiate a truce with such opponents nor expect a long period of collaboration. So our first challenges are in prevention: better risk management, more efficient relief assistance to protect our citizens, more importantly, we need to restore our environment at a sustainable level.

It means to refurbish watersheds, deal with relocation of human settlements and secure areas, control urbanization, provide productive infrastructure and services within a sound territory management framework. There are a lot of jobs to do, that is why the backbone of our national strategy was set for growth and poverty reduction. The political commitment of the government ratified by the parliament addressed the modernization of the country in a green approach framework.

We don't underestimate the difficulties ahead. In disaster context, people more often tend to choose a short-term output for survival than the long-term social and environmental benefits. We have to grow with the consequences for the need assessment and the so-called reconstruction strategy. Usually, in middle and high-income countries, the reconstruction strategy has set the situation prevailing before the disaster. It is obviously not the case for Haiti. We have been struggling to fill the infrastructure gap, to provide to our citizens the equipments needed for appropriate basic need services. In such case, it is of little interest, if any, to attribute the damage of the poor situation to the last hurricane, or the one before, or the degradation caused by the recurrent shortage of maintenance. What we need is to update our diagnosis of the situation after disasters. The growth and poverty reduction strategy and then come back to the public investments program. The program evaluates weakness of delivery strategy and assesses additional resources required to fill the gap and move forward towards reaching the goals.

What I am proposing here is almost a paradigm shift. Instead of taking the ex-ante situation as the target to reach, it is the strategy of growth and poverty reduction that is considered as the road map for the development of the country. The framework for donors coordination shall be taking to

consideration the retarding cause of natural disasters such as environmental erosion. But we should consider that post-disaster reconstruction might turn to be an opportunity to address sensitive and difficult questions like securing human settlements, dealing with relocation, defining new uses for land, rebuilding infrastructure, transport and energy, drinkable water, sanitations and irrigation, according with people's productive needs. This is to provide safer health and educational services to the Haitians.

As I mentioned before Haiti is regards fragile state and we admit that we are in a fragile situation. We need to more consider the citizens. We are also fully aware rebuilding the confidence between citizens and national institutions so that Haiti will become far from being fragile. Particularly, the government and the parliament, within their capacity, offer security, enforce human rights, and provide future opportunities. This link is particularly under pressure, during disaster, where the victims expect relief, support, and resources from the authorities. So, to bridge the gap between populations and the national institutions, progress in the recognition of the legitimacy of the national institution, the resources for sufferers, is essential.

As President Zoellick put it in last September in Geneva, I cite: "to achieve legitimacy, it is not only the services that matter but who performs them." They should be undertaken by the government, and local people, as soon as feasible. These strategic considerations should guide both the humanitarian aid to development, and the design for transition services. The last year's experience shows that space for improvement does really exists. Immediate relief should not be placed for visibility competition, or struggle for donor resources. We admit that our government disposed of limited capacities of action. It is a reason to move towards substitution but it should not be a reason to put aside the imperative necessity of building the legitimacy of the national institution. Particularly, in this dramatic situation, it is a sensible question to address.

The media's pressure is there -- the political one, too. We consider that it is too easy to claim the urgency to intervene. True, the priority is delivery. It should not be the alibi for competition. More positively, we need a better coordination among actors: local, national, and international, public, and NGOs. We need to prepare a state of readiness, and we suggest that we should explore ways to be proactive instead of an approach essentially reactive. As I said earlier, we can't expect a long period of non-aggression when it comes to disaster. We should "be prepared." In Haiti, as in many other vulnerable countries, the post-disaster situation is, and will be, a recurrent state of affairs. We should not endow it is an unexpected or unpredictable occurrence. We DO need to manage it through regular channel of services, sticking to our development objectives, working with our national resources, supported by international community partners. The post-disaster context will not invalidate public accountability. It should be managed like others, the difficult matters. It is what development battle is all about. Thank you very much.



H.E. Amin Faisal

Minister of Defense and
National Security,
Republic of Maldives

Country Presentation

Threat of Sea Level Incensement to Maldives Islands

His Excellency Amin Faisal

I would like to present the following items in my presentation: key factors, some major challenges on building back, and improving the capacity of disaster first-responder in Maldives. Indeed, it's very beautiful. It's a paradise. But the question lies on the minds of every Maldivian, young and old, man and woman: how long can we sustain this beauty? This is an unanswered question. Maldives is a chain of Indian Ocean islands, spread over a distance of 820 kilometers. The land area, which covers about 26 geographic atolls, is group into 20 administered atolls. The population of Maldives is about 300,000 of which nearly one-third resides in the capital. The country has 1190 islands, of which 198 were inhabited prior to the tsunami. Of these islands, only 28 have a land area greater than 1 square kilometer. Nearly 60 percent of the inhabited islands have a population of less than 1000. This extremely low population density makes the Maldives unique, even among small island archipelagic states. It also raises the cost of delivering social services, and of public administration, as there is hardly any spark to generate economies of scale. Wide dispersal of population across very small and remote islands results in non-economies of scale, high transport costs, and poses unique challenges to the development, recovery, and relief efforts. 80 percent of land is below 1.5 meter above sea level. Predicted sea rise in sea level threatens the existence of the nation. Because of the low attitude of most of the islands, rising sea levels may cause many islands to disappear, render some inhabited islands ecologically vulnerable, and other islands to become too densely populated to sustain their population. Predicted increases in sea surface temperature due to climate change and climate variability threatens the health of coral reef ecosystem. Higher frequency and intensity of extreme events would cause severe flooding and significant damage to islands where flooding is already became a challenge.

Ninety seven percent of all inhabited islands reported erosion and 64% of them undergo severe erosion. Another one of the major factors is the dependence of economy significantly depend on the tourism and fisheries sector, which are highly related to the state of environment. More than most island nations Maldives is highly dependent on the fragile ecosystem of their coral reef islands. The tsunami has proven once again the extreme vulnerability of small island states. It was reported that 35% of the 198 inhabited islands were subject to high or very high impact by the tsunami, with major physical damage to buildings, infrastructure, crops, and natural vegetation. The tsunami generated a range of environmental problems with the potential to harm human health and damage the environment. The tsunami caused widespread deposition of coral sand, vegetation, municipal waste from dump sites, health care waste, human excreta from damaged septic tanks, hazardous substances, such as oil, asbestos, batteries, demolition waste, concrete, coral fragments and timber from destroyed buildings waste across the impacted islands. The tsunami resulted in saltwater intrusion into freshwater lenses on almost all of the 1,200 islands resulting in vegetation browning and dieback. Coral reefs around the islands have been damaged by sedimentation and excessive amounts of debris. In addition, the tsunami resulted in great erosion and soil washout.

Some major challenges that we face in Maldives today are inadequate data of the Maldives environment, lack of geographic information system, satellite imagery and other visual information, absence of impact assessment methodologies for Maldivian conditions and lack of environment reporting mechanism at the islands and atoll levels. Logistical obstacles to impacted areas, environmental section, and environmental resource section center are highly understaffed for the broad mandates.

Environmental management capacities at the atoll and island levels are virtually nonexistent. Adequate enforcement and environmental inspection capacity, coastal zone management responsibility spread over several ministries. Major environmental issues identified by the present government are: climate change, scarcity and pollution of fresh water resources, waste management, air pollution, and biodiversity conservation. Capacity building through training: many of the areas are highlighted are under-trained and under-staffed. Building back better and greener, parting away from the system of governance, the government of Maldives has embarked on an ambitious program of decentralized of government system, whereby Maldives will be grouped into seven provinces instead of the 20 administration regions or atolls that exist now. Each province will have its own disaster response capabilities, thereby reducing response time in the case of disaster. The new provincial system of governance will allow the province the partial reconstruction and rehabilitation programs that are more relevant to particular areas. Such a strategy will leave islands spoiled to human activity. Explore the possibility of alternative, greener source of energy. Pilot projects to create electricity using wind turbines. Few turbines have been set up to explore greener energy sources. Whether the result of this pilot project is positive or not, remains to be seen. Project Selamat, is a UNISDR and ADRRN initiative with SEEDS Asia as implementing agency with the aim of building communities, residents in Maldives, to be resilient to natural disasters. This program has the objective of integrating community-based disaster risk reduction and environmental management. With regard to introducing the Building Code of Maldives, the code has been published. It will come into effect this year. We are a simple stress: environmental protection and reservation in the court, as well, which will help encourage environmentally friendly urbanization policies and activities. Developing safer islands: these islands will have proper breakwaters, harbors, safe shelters, and will be adequate population centers to carry out various development activities. Develop major economic hubs in all provincial areas: the government of Maldives is encouraging people to migrate, people from islands with a population fewer than 1000. Thaa Atoll Island which was completely destroyed during the 2004 tsunami is currently being developed as the first island under the safe island project. Disaster education and environment awareness is in the national curriculum. Environmental education and disaster education has been incorporated into the national curriculum. Establishing waste management systems, designated waste management areas in the most populous island has been initiated. Types of water, segregated separately: Sewerage system in the islands has been implemented to prevent ground water contamination, prevent disease outbreaks during disasters. Maintain strict environmental protection measures: the ministry of environment, energy, and water, now reorganized as ministry of housing, environment, and transport, is the responsible agency for matters related to the environment of the country. The Environment Protection and Preservation Act (EPPA) is the main environmental legislation. National Environment Action Plan (NEAP) encompasses the environmental protection policy for the Maldives. NEAP is further supported in the policy by the national legal framework, The EPPA, 1993, which includes regulation and policies to protect and preserve the natural environment. The national legal framework for environmental protection states that it is compulsory to undertake an Environmental Impact Assessment (EIA) for all building activities, thereby helping to integrate environmental considerations into the decision-making process.

The ministry regularly publishes a State of Environment (SOE) report to assess the issues and development of the environment. Documents, such as the national bio-diversity strategy and action plan, state environment and Millennium Development Goals, highlights the need for national approaches to environmental management. Improving the capacity of disaster first-responder In Maldives: in the Maldives, national defense force is designated disaster first responder. During the tsunami of 2004, and even before, it had been an auxiliary function of the MNDF to act as the primary responder to all disasters, both natural and man-made. Today, MNDF is the lead agency, and the primary responder, to all national emergencies, by the act of parliament, defense force act, one-object 2008. Some of the projects undertaken to increase first-response capacity includes: establishment of a strata communication system, which bundles all of the regions of the Maldives. Conducting workshops, seminars, and conference, to build human capacity, and conduct joint humanitarian and relief operation exercises: Establishing regional commands are capable of addressing locally to disasters in that particular region. Strengthening the assets of the Maldives coast guard, in terms of acquiring more search and rescue vessels, including fixed and rotary wing aircraft. In conclusion, lack of centralized environmental information systems makes access to environmental information difficult.

The government of Maldives has embraced ambitious plans in rebuilding the country addressing issues on governance, economic recovery, restore livelihoods educate the general population and capacity building at all levels The challenges to Maldives remain hardly unchanged. Lack of resources remain the major constraint. The government of Maldives continues to require the assistance and cooperation of international partners, including governments, donor agencies, and NGOs. Thank you very much.



Mr. Damir Khalikov

Head, Almaty Department
for Emergency Situations

On behalf of H.E. Vladimir
Bozhko
Minister for Emergency
Situations, Republic of
Kazakhstan

Country Presentation

Natural Disaster Threats in Kazakhstan

Mr. Damir Khalikov

The Republic of Kazakhstan is located in central Asia, having the area, space, of 2.7 square meters, which is around 9th in the world. The Republic of Kazakhstan has the national border lines with Russia, Uzbekistan, Kyrgyzstan, Turkmenistan, and China. The length of the border extends to 15,000 kilometers. The population is about 15 million, and the capital city is Astana. The natural features of Kazakhstan includes Tian Shan Mountains, Altai Mountains, together with the vast grasslands, deserts, forests, and we have huge rivers and the lakes such as the Caspian Sea, Aral Sea.

With these natural features, there are tremendous numbers of natural disasters that we are faced with. The natural disasters are earthquake, mudflow, floods, snow slide, landslide, the fire in the forest, as well as the steppe fire. There are 27 cities, and 460 residential areas in the south and the southeast part of Kazakhstan. In those areas, more than 40 percent of national industrial activities are concentrated, and one-third of the population, which is 6 million people, are living. In the past 100 years, there are many huge earthquakes bigger than the magnitude 8 in the Richter scale. For example, 1887, Verny earthquake with magnitude was 7.3; Chilik earthquake 1889, with the magnitude level of 8.3; Kemin earthquake 1911, magnitude level 8.3; Zaisan earthquake of 1990, magnitude level 7.3; Baisorun earthquake of 1991, magnitude level of 6.5; and Tekely earthquake of 1993, the magnitude level 7.3. We have been experiencing many huge earthquake experienced in the country.

Because of intensive economic development, a lot of people are now living in those areas. So therefore, the risk of such huge earthquakes are increasing. For example, according to the assessment by the disaster emergency ministry of Kazakhstan, at Almaty City, if the magnitude level of 7.0 or 8.0 occurs, according to the assessment, about 300,000 people, out of 1.5 million residents, will be hit, and among them, the estimate 75,000 people will die. Also, one-third of the buildings in Almaty City will be collapsed. Among other natural disasters in Kazakhstan, the mudflow gives the most serious damage in terms of the magnitude and the size of the damage. The past 45 years in the southern eastern part of Kazakhstan, the area has been repeatedly hit by the mudflow. Also, in the mountainous areas, there are 2,720 glacial areas. 5,140 are the reservoirs, 300 are the basins with earth and stones, and 596 are the glacial lakes, residing, which is causing the loss of the human lives due to the landslides, mudslides, and once the mudslides happens, the direct material damage would be more than several tens of million dollars. The mud flow gives serious damage to the environment, and fauna, the ecology, of course, it retairals development of the mountainous areas. Every year, the loss caused by various events, such as flood, seasonal flash water, torrential rain, heavy snow, cold wave, snow storm, rush of wind, and drought are tremendous. So all of these events would hit most areas of Kazakhstan, which is most concerned is the seasonal flash water, and the flood coming from the rivers nearby the national borders, such as the Syr Darya River. This river goes through the Kyrgyzstan, Uzbekistan, Tajikistan and Kazakhstan, and the flood from this river is a big concern. 78% of the entire length of the river goes through Kazakhstan, and the catchments area, 80% of the catchments area is within Kazakhstan. In the winter of 2008, there was an effective countermeasures was taken for the river bank disaster.

The effective countermeasures such as monitoring, to remove the glacial sediment which was conducted by the Ministry of Disaster Emergency Management with participation of 4,000 people who gathered from 5 different states, providing various technical devices, such as planes and automobiles. Other than Syr Darya River, there are also many other rivers which might

cause a great concern, such as Jake River, Esil River, and other Rivers because seasonal flash water and flood occur from time to time. Among these natural disasters of Kazakhstan, the second most devastating disaster is snow slide, or avalanche. In Kazakhstan, there are 800 snow slide-prone areas, and among them, 400 areas have different buildings, maybe more than 200 buildings. They also have the mobile road, extending to 350 kilometers, posing a direct damage to the more than 2000 residents. The most snow slide prone areas are Altai, the eastern part of Altai, such as Ili, Joytoysuey and Alatau of Almaty Region. In the south area, halas alatau, kalatal mountainous areas, those are the snow slide prone areas. Every year in Almaty areas, and eastern Kazakhstan areas, more than 200 snow slides occur. The most devastating snow slide, the amount of snow that moves goes beyond 1 million cubic meters. As for the landslide, the landslide is also the common disaster than we can see in the mountainous areas of Kazakhstan. The land slide of 1887 and 1911, in Zailai, Alatal Region, were well-known.

The huge amount of the mud slide was reported in the past 10 years. There were 32 occurrences of the mud flow. The volume of that mud flow is 1000 cubic meters to 15,000 cubic meters. They are reported mainly in the southeastern part of the mountainous areas, and 98% of those mudslides are coming from the industrial development, such as Illegal building, the lack of irrigation channels, top water pipes, or the lack of flood control facilities, and cutting off the slope of the mountain in order to build the underground railway, the road, or the automobile road, these are the major causes, and there are 106 risky areas designated for the mud slide. 496 buildings, as well as 2600 people's lives are at risk. The most mudslide prone area is the Almaty region, including Almaty City. In the area, 83 are the mudslide risk locations are identified, where about 200,000 people are living. The ministry of the disaster emergency, there is different special agencies having set the one agent, is to monitor and warn the occurrence of the mud flow, avalanche, and landslide. Another agent is to build the landslide protective facilities, and also, the agent for preventing the cause of the disasters, at those natural-disaster prone areas. Also, we have the vast network, which monitors and observes the mud flow, avalanche, flash water, and flood. Also, we have a specialized observation network, which specifically monitors the natural disasters in the mountainous areas, which includes 127 fixed observation places, and seasonal observations, among them eight observation network are located at mountainous regions which is high as 3600 meters above the sea level. The information are being stored through the monitoring activities from the sky, also from the ground, and these are the observation data are being organize at the central command center of the Almaty city, with 34 communication / command centers. These data are immediately reported to the emergency office of Almaty City, and Astana City, as well as other local emergency agencies. For more than 40 year, in Kazakhstan, there has been the construction of the facilities to mitigate the disasters, such as to prevent the flash water and the mud flow in Kazakhstan, in order to protect the people from the mud flow and the flash water. There are 78 such countermeasure facilities are being built in the mountainous areas. Among them, we have built 21 dams, more than 64 million cubic meters, and also the drainage, river bed reinforcement countermeasures are being built. There are 35 river bed reinforcement places, and also 18 embankment erosion control dams are included.

Every year, repair is being conducted for the sake of the maintenance. Also, they clean up the sediment at the bottom of the river, as well as erosion control the dam. In Almaty City, as well as Almaty Province, the unique composite facilities, with the countermeasures against the mud flow, has been constructed, and among them, there are 10 buildings, and the entire cost of building such facilities goes beyond 200 million US dollars. In eastern Kazakhstan areas, in Almaty areas, there are 2100 special fences against avalanche are being constructed, and every time after the winter, about 500 of them are being repaired, Every year, around 80 times they intentionally let the avalanche to occur, for protecting people from huge impact of avalanche.

There is a preventive countermeasure is being conducted for the mud slope. So, in the high mountainous areas, where there is a risk of the bursting of the water, they intentionally reduce the amount of water in the lake. Every year, when there is the risk of the mud flow, the special observation activities are conducted from the sky and from the ground. In Southern Kazakhstan areas, Zhambyl Area, Almaty Area, and Eastern Kazakhstan Region, there is a continuous monitoring conducted against the mud flow occurrence. Ugam, Ili, Alatan, Kazakhstan, the careful observation is conducted for the mountainous areas. For the mudslide in the low-level mountainous areas, the ELO soil and red soil are included in such mud flow.

In those areas, not much development is being conducted, so they did not believe the mudslide cause such a huge damage. However, after the year 2000, in this area, there has been the intensive development conducted, such as building the houses, building the road, the risk level was sharply increased, due to that development. So the countermeasures of the mudslide in those areas are not properly conducted so far.

Excluding the countermeasures in Kokutobe city and Almaty City, the surrounding areas of Almaty City, and these countermeasures are conducted by the localities, the municipal governments. These countermeasures are to reinforce the slope of the Kokutobe Mountains, in two different places. In two different places is the places where the ropeway is constructed, and also the eastern part of the mountains, the slope of the mountains in the eastern part. Quite recently, as the countermeasures, or the challenges of the ministry of the emergency disaster, and the Kazakhstan government, there is a huge scale plan in place to protect the infrastructure, the people, and the land from the flash water and the flood, such as the plan to

protect the Astana City from the flood of Esil River. The second is a plan to construct the protective facilities, the area surrounding the Khorgos River, and then the third is the plan to construct the open and closed device of Koksaray dam, of Syr Darya River and southern Kosavustan state. The amount of the budget, which is planned for this project, will be under 500 million dollars. So for the quick countermeasures to take place, these plans must be materialized as quickly as possible.

The geographical condition, natural condition, and the risk level of the natural disaster of Kazakhstan, if you were to take those things into consideration, to mitigate threat and damage of natural disaster, are the priority matter for the Kazakhstan government and the Ministry of Disaster Emergency Management Kazakhstan has actively participate in international countermeasures, such as food, construction material, pharmaceutical medicines, industrial materials are being exchanged with the neighboring countries.

To mitigate the damage and threat of natural disaster, what are the major priority items to be tackled by the Kazakhstan government and the Ministry of Disaster Emergency Management for the global warming? There are various disaster experienced and researches are being conducted quite actively. The temperature increasing that we are experiencing every year is causing the drought, flood, and desertification in the central part of Kazakhstan. The desertification risk is found to be quite at high level. In the high mountainous areas, we find that the glacier is reduced quite quickly in the past 50 years, now the glacier area was reduced by 38%.

At this point in time, we have not quite captured or observed the clear decrease of the water resource, but we found out that there are more areas which are mud flow prone. The area of the ice sediment was increased in average 4.5 times. The new ice sediment becomes part of the ground of the lakes of different types, the size, and the shapes. For example, in 1960, on the slope of the mountain Ili-Glatan, there were only 10 lakes which has about 10,000 cubic meters, but that number was reached 41 in 1980. 1990, 60, and in the year 2000, it went beyond 100 lakes. And because of these conditions, there is a great possibility to have the mud flow, including the glacier sediments. In order for this issue to be discussed properly within the Kazakhstan government, there is a certain preparation being done so far to plan and construct the facilities for the disaster mitigation, in order to intensively develop the areas where the mud flow or avalanche, land slide, flash water, and flood-prone areas, in the mid-term plan for 2007 to 2012, the following are being planned. The first is modern conception of engineering protection against disasters; Second is revising of General Plans for Territorial Protection; Third, upgrading of the monitoring system such as to equip the satellite communication system, and automatically control the information having to do with the risk of the mud flow, namely using the remote sensing, GIS technology, to develop such overall system to process the data, Fourth is upgrading of the alarm and control system by using satellite communication to continuously conduct these activities, renewable of the technology, telecommunication, computer information processing, database, all must be modernized, using the state-of-the-art technology, and using the latest construction material, they need to design and construct the proper disaster mitigation facilities, again, using the best material and the latest technology that prevent the mud flow by emptying the water in the lake, and to come up with the proper research all the time to get the new countermeasures. Thank you very much.

Country Presentation

Recovery Experiences of Ecuador

Excellency Lorena Cajas

The government and citizen of Ecuador drafted a national strategy for the reduction of risk and disaster. Built on an historic technical and political knowledge, which will undergo a broad debate at national level in the forthcoming months, it embodies the ideas and priorities of institutions, authorities, and citizens of Ecuador. Over the years, risk management has become a very important issue. We also stress about phenomena of natural or tropic origin, volcanic eruption, floods, earthquake, El Niño, the suffering and the desolation of the more vulnerable population, as well as the new knowledge of the social causes of those impacts, make the inclusion of these issues in the development and security agendas even more urgent. In Ecuador, the governing documents of broad agendas, the national development plans, and the national security agenda for security, sovereignty, and democracy, include risk management contents and concerns to transform them into the axis of improvement policies. In turn, goal 6.8 of the national foreign policy plan materialize in technical assistance and funding required from international cooperation to draft and implement a national plan for disasters, and to build a national platform. Its strategy give guidelines that refers to collaborating with competent authorities in the drafting of a national plan for disaster that identifies the vulnerabilities and needs of the country and establishes priorities, action, and types of international cooperation required.

Ecuador's basic proposal is to have a national plan that will allow it to work towards mitigating risk. This plan may be examined, discussed, and criticized by other stakeholders of society and the state, in order to build this process together, from beginning, as this is one of the most important challenges on the road towards a new model of development in Ecuador.

These are some maps of the threats in Ecuador. You can see from the map the location of the droughts. In the same way, this is the flooding areas and the rivers which give us problems. This is landslide threats. This is the most common threat, and this is the most common risk to the population, is exposed to. This is an erosion map. We have a higher erosion process in Ecuador, but it is a real pity that it's all a reality now. This map shows the exposure of population to the different threats.

Basically, we want to include risk management as a state policy by raising its response on sustainable recovery capacities against emergencies and disasters. These are the two guidelines we work on right now. We are working to create the national decentralized risk management system, and its governing institution. It's like governance in risk management. We need to have the clear rules between all the actors of the society and the state. Our objectives are as follows, long-term development of prevention culture: institutional actors and social actors too. In the medium term, we want to build the national decentralized risk management system, and we are working right now in the field of regulatory framework for risk management and its institutionalization. In the short-term, we are increasing capacities to address adverse events.

What is institutionalization for us? Basically, and the first thing we already did, is to put in the new constitution provision for risk management. We have two articles; I'm going to talk to you about them now. But it's not only that, we think we need to create a governing institution that is the technical secretariat for risk management, that is the vice minister, and we need to build the system, and strengthen our armed response term about civil defense. Among the regulatory framework is the constitution which was approved in 2008. The risk management law is under construction right now the crosscutting inclusion in all public policies.



Her Excellency Lorena Cajas

Vice Minister, Ministry of
Security, Republic of
Ecuador

We have two related articles in the constitution in this aspect. The first article says that the state shall protect persons, collectivities, and nature, from the negative effects of natural and manmade disasters, through risk prevention, disaster mitigation, recovery, and improvement of social, economical, and environmental conditions, with the purpose of minimizing vulnerability. The national decentralized risk management system is made up of risk management units in all public and private institutions at local, regional, and national levels. It makes a big difference, because with this, it's mandatory that each institution in my country, public or private, have a unit of risk management. It's real great to have this, because it's mandatory from now. The state shall exercise control through the technical body set forth in the law. Its main functions include first, identifying existing and potential internal and external risk that affect the territory of Ecuador. Second, generating and democratizing access, and disseminating sufficient and timely information to adequately manage risks. Third, ensuring that all public and private institutions include risk management mandatory and in a crosscutting function in their planning and management functions. This is absolutely important for us because it makes that this issue would be considered not as an issue, but as a development policy. Fourth, strengthening capacities among citizens and in public and private entities to identify risks inherent to their respective fields of action, to issue reports, on them and to include actions aimed at reducing such risk. Fifth, articulating institutions to coordinate actions, aimed at preventing and mitigating risk, as well as to address with them to recover and improve conditions as they were prior to the occurrence of an emergency or disaster. Sixth, executing and coordinating actions required to reduce vulnerabilities and prevent, mitigate, provide assistance, and recover from eventual negative effects arising from disaster or emergencies in the national territory. Seventh, sufficient and timely funding for the operation of the system and coordinating international cooperation directed at risk management. We don't even have the sufficient funds to attend emergencies. Now, we have opportunity, and immediate, funds to attend any emergency we have.

The second article says that risks shall be managed under the principle of subsidiary decentralization, which shall imply the direct responsibility of institutions within their geographical scope. When their risk management capacities are insufficient, instance of greater territorial scope and greater technical and financial capacity shall provide the required support regarding their authority in the territory without exempting them from their responsibility.

This principle, which you can see in this article, is one of the most significant things we see in our country. We don't want to create new institutions. We want to create capacities in our institutions. It's very different. We don't have to deal with the population as an object of attention. We have to deal with them as a subject of action. They are part of this, and in this fact, all of us have responsibilities, different levels of responsibility. As citizen, everyone has responsibility. It is government's job to show all the actors and the level responsibility for mitigating risk.

What are the principles which we are working with? The risk management must be mandatory: measures taken to lower risk and face emergencies and disasters are mandatory now. So, as a safeguard, they are linked to the process of development of the country.

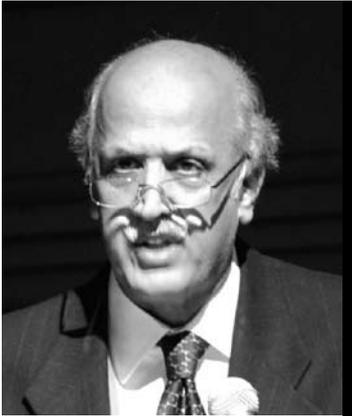
Decentralization and subsidiarity: Under the principle of decentralized management, the law provides the capacities and responsibilities must be assumed by local governments. However, when technical capacities and the resources of sub-national territorial authorities are exceeded super-mechanism and provincial, regional, and if pertinent, at national level, should be generated, respecting the local or regional authority. Collective interest, risk reduction, and addressing emergencies and disasters are activities of collective interest, as the impacts of a deficient management are felt at all levels of society.

Crosscutting and comprehensive: actions to mitigate risks and tackle on emergencies and disaster involve all bodies of society, and must be included in all stages of development planning to achieve comprehensive results. The insertion must be made through all social processes underway, in a coordination fashion and respecting institutional autonomy. Shared responsibility and participation: according to this principle, those who generate risk shall be accountable for all the consequence thereof, and according to their level of responsibility. In addition, there are initiatives aimed at mitigation risk and managing emergencies and disasters. Permanent risk reduction and emergency and disaster response are actions permanent in nature, with particular emphasis in all those actions aimed at ensuring the prospective management of the risk. Transfer of risk: risks are not uniformly distributed throughout national territory. Therefore, adequate mechanism has to be generated to transfer risk and jointly support the burden. In addition, the state must make sure that its asset is not destroyed without having real recovery capacity. Access to information for adequate performance of institutions and society, it is a priority to make decisions both collectively and individually that is based on information that has been verified, validated, and freely accessible. We have developed the strategy for the reduction of risk.

Disaster in Ecuador, which you can see nine policies that we propose in order to have a national plan for 5 years, which all people and all institutions are working in their own way. In risk reduction, so in this strategy, we want all people in my country to make observations and criticize it because we think all the people have something to say. So when we give it to the public, we make it as a proposal. In that strategy, these are the

policies we consider as minimum things we must do to get the objectives we expect to have in five years, to reduce risk. So the first is prevention. We need to build a culture of prevention, in all the people of Ecuador. It doesn't care if you are in the government, it doesn't care if you are citizens. Second, training programs at all levels in formal education and non formal education. Third, community organization, as I said, in the population as subject of action, the first responders is the population. So they need to know what to do. They need to know what they have, and how we can help them. Fourth, including planning for development, it's already in the biggest agendas, we have still a lot to do with it in the each ministry agenda. Fifth, research and data production collegiate bodies, technical scientific groups, higher education centers. Sixth, National Risk Management Information System, it's basic to have the information needed to take decisions. Seventh, Legal and Regulatory Framework, we are working on it currently. Eighth, Emergency Response Capacity - this is every days challenge. Almost everyday the country experience country have some emergencies such as the drought, landslide volcanoes, we have a volcano called Tungurahua which has been exploding since 1999, and it's just the process that we have each day. The volcanicactivity sometimes is high, sometimes low, but we have population around it, and we have to deal with it. Ninth, Governing Entity strengthened both technically and administratively. This is the thing we are doing the last eight months, I think. We are working to have an institution which can coordinate the system, which can have this kind of things as their principal response.

The strengthening of response capacities: regarding this issue, we started in the past eight years emergency team, response preparedness, emergency plans, activation of contingency plans in case of threats, sustainable recovery, and environmental approach. It's very important for us to consider the sustainability of each achievement of development. So, this is what I can tell you today about the process in my country. I think it's a wonderful challenge we face, and of course, we need the experience of other countries, the successful and the not so successful to know what we should do and what we should not do. Thank you very much.



Mr. Shaukat Nawas Tahir

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Additional Secretary,
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Mr. Masuood Ahmed

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Country Presentation

Environmental Recovery Perspectives in Pakistan

Mr. Shaukat Nawas Tahir and Mr. Masuood Ahmed

Pakistan is prone to multiple natural as well as human induced disasters, including earthquakes, rivers and flash floods, drought, cyclone, glaciers lake, urban fires, industrial accidents, and internally displaced persons issues. Pakistan's earthquake of 2005 was a unique experience in the country's history of disasters. It resulted in unprecedented economic, as well as environmental losses, besides creating numerous psychosocial and livelihood issues. The immediate impact of 2008 earthquake of Pakistan included deaths exceeding 73,000 people, around 130,000 people injured, more than 3 million people rendered homeless, and extensive damage caused to social and physical infrastructure. The earthquake measured at 7.6 Richter scale, with more than 1,800 aftershocks recorded for more than 6 months, some of them being as high as 6.4 on the Richter scale, threatening the previously damaged, unstable infrastructure.

The weather, with rain and snow melting, increased risk of further landslide, causing threat to human lives. Excellencies, ladies and gentlemen, while the earthquake of 2005 brought large-scale devastation to the lives, property, and environment, it provided in addition great opportunities in the aftermath of this tragic experience, the opportunity of building back better, stronger, and environmentally friendly.

We had the worst of earthquakes in Pakistan's history, on the 8th of October, 2005. Here are the losses and damages. There were 73,338 people who died, over 128,304 injured, 3.5 million people were affected. The area affected was over 30,000 square kilometers. Educational institutions destroyed, 6200, health units, 796, houses destroyed, 600,000, roads damaged, over 6000 kilometers, services, telecommunications, and water sanitation, 50-70% destroyed. Response, we distributed in three parts: first was immediate. That was rescue and relief operations, then rehabilitation and restoration of infrastructure. In short-term, we concentrated on sustaining the population and displaced people, revival of civil administration and essential services, and in the mid-term it was recovery and in the long-term we are engaged in reconstruction and rehabilitation.

Relief provided several thousands of shelters, 385,000 tents, 950,000 blankets, over 6 million rations. 255,000 tons of medicines, we had 65 field hospitals, and we had flown over 30,000 helicopter sorties. Where do we stand today? Over 99 percent of the people have houses today. Over 2 billion dollars have been disbursed among the people for basically, for these rural housing. All schools, hospitals, banks, and offices, are functional. Roads and services are operational, and markets are back in business. We are working on dynamic social protection programs.

For transparency, starting from bottom to top, we have internal audits, then we have auditor-general, and impact evaluation, and international validation where the World Bank has given us highly satisfactory grading throughout. Then we have donors review missions. We have adopted a sectoral approach. We are working in 12 major sectors. In hardware we are working on housing, education, health, water, and sanitation, government sector buildings, art delegation, telecommunication and transportation.

In software it is livelihood, social protection, environment, and tourism. With this, we have three crosscutting teams, which are applicable to all the sectors, which are risk reduction, gender equality, and environmental safeguards. Here we, just discussed environmental protection aspects of our rehabilitation. Our strategy is to protect natural resources, prevent environmental degradation, restore damages, arrange safe disposal of debris, and to establish principles and practices for environmentally friendly reconstruction and rehabilitation of the earthquake-affected areas, with

sustainable use of resources. We have total 46 projects for the environment among them. 14 are in planning stage, 21 are under implementation, and 1 has been completed. You will notice that it takes 3-4 years to complete one project. On the intervention and environment sector, we have natural resources management, environmental safeguards, reconstruction of infrastructures, and participation with the NGOs.

We have adopted an integrated approach to recovery, which includes slope stabilization measures, cyclone observation, and irrigation control measures, environmental management, forest management, plantation, agriculture, crops improvement, water harvesting techniques, fuel substitutions, and capacity building.

These are some of the glimpses. The earthquake affected area, basically, it is the catchments area of Mangla reservoir, which is one of the two largest water dams in Pakistan. Annually, about 2% of the forest land is being put to other uses. This is another concern. But due to the terraces and leveling problems, it is resulting in sediments which is depositing in the Mangla water reservoir.

The earthquake resulted in over 1200 landslides, and it affected 0.17 million hectares of forest land. It created heavy pressure on the timber cutting due to reconstructing of housing. The issues were unsustainable exploitation, over harvesting of the medicinal plants, soil erosion along slopes, timber and fuel wood cutting, uncontrolled building, encroachment for agriculture, and settlements and landslides on deforested areas. Mainly, the slides are in the areas where there are less trees or no trees. The other challenges were: siltation or soil contamination, and water and soil contamination, air pollution, and degradation.

For slope stabilization, three types of measures are being adopted. We are dealing with bioengineering and biological approach. The main features of slope stabilization measures are that they should be more effective, cost effective, easily adoptable, and they should be environmentally friendly. This is one of the techniques used: that is brushwood retaining wall to make it with the slopes. Live brushwood, retaining wall, live brush wood check dams, they are very environmentally friendly, and when they start growing there, then they are quite a lot. All planting activities are done by "on the job training-learning by doing" involving the community.

The other major aspect is forest rehabilitation. We have 5 forest divisions. The measures include purchasing of plants, next is plantation over 1500 acres have been replanted and thus releasing 27 acres providing community livelihood, with 180 persons involved.

This is a glimpse of the nursery raising. Another picture, green sector in North-West Frontier Province, we have 290,000 hectares of land. There are six projects, and it is over 300 million. In Azad Jammug Kashmir areas, 374,000 acres, again, six projects, 324 million. Reconstruction of infrastructure that is related to environment, forest, wildlife, and fisheries only is presented. In Azad Kashmir we have 118 facilities at a cost of over 1 billion, and in North-West Frontier Province, we have 345 projects, costing 649, 30million. We have over 29,000 people who are internally displaced, living in the camps for a long time. Almost all of them have been giving a housing solution. There are just about 200 people on whom we are working.

The rubbish removal, was another challenge. In Muzaffarabad we had 4.6 cubic mills -- feet level removed out of 6.38. We had removed 3.77 million cubic feet, and the remaining is yet to be removed. The rubble is being put to a better use. We make it because there is a very huge shortage of construction material in those areas, and it is being used for that. We are working together with the community and the NGOs and I have listed the major ones here. These projects are over rupees 1 billion where we are working together, involving the NGOs and community. Environmental safeguards, these are the major projects where proper studies had been carried out. Environment as cross-cutting issue in the major sectors and road construction; all major roads are permitted after fulfilling the environmental regulations, hospital waste management, proper incineration facility is built-in, and urban housing impact assessment of cities has been carried out, but rural housing, environmental compliances are ensured.

Population benefited: 187 community livelihood rehabilitation plans have been formulated. 1.2 million population has benefited, and then 32,300 population is being benefited under two watershed programs. 20 departments of AJK and NWFP government and 214 individuals have been sensitized for environmental safeguards. Here are some of the special considerations which we keep in mind while undertaking reconstruction. Use of local materials, indigenous designing in harmony with the local environment, during reconstruction, for every tree cut, 10 trees are planted. For slope stabilization, fast-growing local species of the plants are used. People are sensitized for environmentally friendly practices, participatory approach, involving the community and NGOs. Promotion of alternate use, and construction material, to save the forest are likewise adopted.

Current Recovery Status Report 2
- China (Wenchuan Earthquake)



Ms. Constance Thomas

Director, ILO Office in China

On behalf of the UN Resident Coordinator in China

Current Recovery Status Report

Wenchuan Earthquake 2008, China

Ms. Constance Thomas

I'm speaking today on behalf of the United Nations resident coordinator, the United Nations system of China. To give you a brief update on the current status of the Wenchuan recovery and rehabilitation project as well as the support that the UN China has been giving to the government of China to rehabilitate and the recovery efforts after the devastating earthquake of 12 May last year. I can think of no better place to reflect and enhance our understanding on disaster risk reduction, disaster management, and reconstruction than here in Kobe. I would like to congratulate both the organizers of this forum and the hosting agencies. I don't want to go too much into the discussion on general principles on the inter-relationship between the environment and disaster reconstruction. I believe that with the presentations we heard today, we already share an appreciation of how climate change and environmental management will continue to an increase in the frequency and the severity of natural disasters in coming years and decades. The status of the natural environment is not only a driver of disasters, but we all know from experience, often one of their biggest casualties.

What I would like to do is emphasize a little bit by specifically pointing from our experiences from the UN perspective, assisting the government, focusing on the environment and where we have tried to lay emphasis on the environment and all of the assistance work. I would like to conclude by recalling the UN along with supporting the government, the vision of how the environmental concerns can be integrated more fully in the reconstruction by applying disaster risk reduction and green carbon economy principles, including conservation and climate change mitigation and adaptation.

On May 12, 2008, an 8-point on the Richter scale earthquake jolted the Wenchuan County in Sichuan province. It's in the southwest of China, and it actually affected three provinces, not just one. It was the country's most devastating natural disaster in 30 years. The earthquake led to the death or disappearance of over 80,000 people. Injured 375,000, left 5 million homeless, and affected 46 million people in total.

The estimated loss was at 123 billion US dollars, in the three affected provinces. Visiting the area, one is struck by the expanse of the disaster. One drives for days without driving out of it.

From an environmental perspective, there were many concerns, but two were the most pressing issues that emerged in the immediate aftermath of the earthquake. The first were reports of the hazardous chemicals, leaking from plants, such as sulfuric acid and liquid ammonia, from plants in basically the Sichuan area, which was highly industrialized. By all accounts, the government responded rapidly and effectively. 20 local assessment teams were able to survey over 200 pollution sources and 40 urban sewage treatment plants within the first week after the disaster. By the end of May, we now know that 5000 tons of hazardous chemicals had been transported out of the disaster area and safely disposed of.

The second significant environmental threat was the 30 large quake lakes which were formed by rivers and by landslides caused by the disaster. The water blocked by the quakes endangered downstream communities, with flooding pressure built against these natural dams that formed. The largest quake threatened 1.3 million, and led to the evacuation of 250,000 before being drained by the army nearly one month after the quake. All quake lakes were stabilized or drained, finally, within six weeks. Only after that period of time could even relief efforts begin in some of those areas. In both of these cases, as well as in controlling major outbreaks of disease, the government of China definitely deserves tremendous credit for preventing these secondary disasters from occurring. These successes can be largely attributed to a

strongly centralized and well-coordinated national response.

Now it's worth noting, from the UN perspective, that although the international community played a key role in providing relief assistance, it did not significantly contribute to responding to these immediate environmental threats. This can be primarily attributed to the fact that the government felt it largely had the capacity to respond. It did so with its army and with the assistance of experts from national, private, national companies, either state-owned or mixed owned. Also, we now know that the government had very little experience in dealing with international or UN assistance. Indeed, this was the first earthquake, or the first natural disaster in which they asked for international relief assistance in the way they did after the Wenchuan earthquake. So now we know that perhaps, had information been provided to the government beforehand, on what international or UN assistance could have provided in performing environmental assessments, that might have added a value to the national efforts. However, we think this mostly because many of the ministry of environments, local units, the provincial, the county, and the township level, units, were destroyed during the earthquake and therefore some of their very technical capacity on impact assessment was definitely severely curtailed. We also know that we had a joint emergency branch of UNEP in OCHA, environment assessment teams on standby, but were never called. So now we have learned the importance of communication, and the government has emphasized that now, they have a list of what is available, what is the expertise, and what can they draw on, if and when they deem that that would be necessary.

The UN, however, played a more valuable role on immediate environmental threats after the immediate environmental threats were mitigated, and the focus turned to recovery. One of the initial contributions that the UN played was as a convener of relevant, but disparate, environmental actors. We did this within the international community, whether they are donors or UN agencies, in addition to NGOs. We had meetings and brought in the government officials. The donor community in China is not a well-coordinated community, and therefore, this served a very useful and efficient purpose for not only within the international community, but also for the government to interact. Two months after the quake, UNEP, and the ministry of the environment jointly hosted an international workshop on environment protection. The workshop brought together eight Chinese government ministries, UN agencies, the two banks, embassies, academic institutions, and NGOs. They shared best practices. Immediately, that was the first thing that the government asked us for. "Please allow us to learn from the international experiences". The first emphasis was placed on environment. Shortly thereafter, we then held the second UN conference on post-earthquake recovery and reconstruction. that was co-hosted by the UN China, and the Chinese government. At that point, we already knew the NDRC was going to be in charge, which is basically their planning, reform commission. That brought together over 200 participants, including high-level government officials, leading post-disaster reconstruction experts, from countries such as Japan, India, Pakistan, and actually some of you here were there, and I can tell you, your input was very, very much valued and put to good use.

Now, with the emphasis on environment, at that meeting, the participants did emphasize the key benefits of mainstreaming environment concerns into recovery and reconstruction. In particular, the fact those sustainable solutions are achievable, when use of environmental resources, for construction, or water for drinking, are decided upon careful identification, assessment, and management. Another essential point that was emphasized was that mainstreaming environmental concerns into all sectors of recovery and reconstruction was essential. Although the importance of environment was stressed in this meeting, building back better, in hindsight, a lesson that we learned is that it should have been stressed even more. The workshop proved to be a very strong influence on the government decision makers and in the midst of a huge humanitarian response, really was this marking point of changing the vision from relief to looking towards the recovery and the reconstruction. It really geared people to start, especially in the ministries, to be thinking beyond the relief efforts, and understanding this need for recovery before reconstruction. It was the importance of incorporating the mid- to long-term perspective on environment sustainability that really we believe now needs to be highlighted and underscored as compellingly and persistently as possible in those early days.

We have heard already today how in many countries, maybe it hasn't been integrated as much as it could be in disaster risk reduction. We also saw that it is one of the harder points of emphasis to stick at this point, moving into recovery and reconstruction. We found that different in the area of livelihoods, for example.

So the workshops both help the government, and they also help the UN and the whole international community to set the stage for the substantive efforts to put the recovery on track but to also help integrate the environmental concerns into that process. Many of those recommendations, as I said, found their way into what is now the government's final plan of reconstruction and rehabilitation. English copies of that plan are available on the UN China website. It is a very thick document, so we haven't brought copies of that, but we did bring copies of the workshop seminar proceeding, which we think were summarized in a very useful way, and copies are available.

As a result of that workshop, the UN system put forward a UN China appeal for Wenchuan earthquake early recovery support. The purpose was to bridge the relief and reconstruction phases, as you know, and to assist the government by imparting the international best practice. The plan comprised nine different

sectors, and was based on ongoing partnerships, mostly between what UN agencies had with their line ministry counterparts. To date, well, it's now in its three quarters of the way completed, and 20 million dollars was raised only for early recovery. The areas that were the components of that early recovery program are: livelihoods, environment, shelter, water hygiene and sanitation, health, nutrition, HIV and AIDS, education, protection of vulnerable groups -- and these were identified as well a component for ethnic minorities and coordination and communication. In the end, almost all of the plan and the appeal was funded. Right now, we are, as I say, about three-quarters of the way through implementation of that plan of early recovery phase. It was set for six months. In hindsight, we now know that was a little short for an early recovery plan, and we would have made it longer. But at the time, the government of China was moving so rapidly in relief work, that they were ahead of any other country's schedule that we had examined. And therefore, it was anticipated that they might be ahead in terms of early recovery, and that we would be in the reconstruction phase quite quickly. Indeed, that has not come to pass as quickly as estimated, and they are really still in the recovery, moving into reconstruction. Some of it has been delayed because of a very early, harsh, and wet winter in these areas, and so some of the reconstruction will be delayed until the spring time. So the early recovery efforts will be extended.

The appeal emphasized the importance of environment in the following areas: it promotes the development of green and low-carbon economy by emphasizing conservation, recycling, renewable energy, and biodiversity. What I'd like to do is now just supplement this with giving you a brief explanation of what some of the projects in the early appeal are doing in the area of environment. Firstly, UNEP and UNIDO have joined forces through a contribution from Norway to strengthen the government's overall capacity for medical and contaminated debris disposal, to prevent release of pollutants, including asbestos, and persistent organic pollutants, and mercury. We know that the Wenchuan earthquake led to the collapse of an estimated 5.5 million buildings, and severely damaged 21 million buildings. As we heard this morning from the expert from Kobe, the damage and the cleanup of that amount of damage is simply enormous. So a lot of attention is focused on debris cleanup. Hazardous waste pollution was also considered to be one of the dangers which stemmed from this tremendous amount of rubble. So the UNEP and the UNIDO project has begun a series of capacity-building workshops for local government on how to assess and manage the cleanup of common pollutants. Also, at village level, piloting safe disposal of debris, and recycling into construction components. In addition, now, the government has just asked for continued assistance on this to emphasize the waste treatment and management, as well as to re-use of hazardous waste for energy recovery. So that is the area that has been emphasized by UNEP. Second, UNDP is working with the ministry of housing and urban rural development through a grant by Canada to improve seismic safety and environmental sustainability in pilot villages. Plans are being developed to set up throughout the region, rebuilding support centers that are there to provide advice and expertise to villages and communities in employing green technologies in transitional shelter planning and reconstruction. In addition to the UN efforts, NGOs are involved in several green initiatives, such as using the bamboo, which is both strong and easily renewable, for construction of temporary homes. Temporary school buildings, built from cardboard tubes, are also being piloted on a smaller scale through a partnership with Japanese research center. We have found in the area of environment, it is vitally important to involve the NGOs because on very grassroots types of projects, many NGOs know well some techniques to bring and apply at the grassroots community level. Third, in the area of livelihood, the ILO, FAO, and UNDP have integrated environment into restoring livelihoods. The earthquake is estimated to have cost 373,000 urban jobs, severely inhibited agricultural production for almost 1.2 million farmers. We also know that there are approximately 50,000 persons who have been injured and will then be with disabilities and require rehabilitation. So, ILO, with the support of DFID has training for small business: we call it "start and improve your own business." It's a system throughout China that already exists and that curriculum has been adapted to emergency, start and improves your own business, something that is now a pilot for the global perspective -- that is will be put out to others globally. We have also taken advantage, during this piloting, to merge two pilots considering that China is piloting the green job initiative.

So we are combining two pilot projects into our livelihood restoration in Sichuan. Actually two pilots are together: we're piloting emergency start and improve your own business, together with green job initiatives, and linking them and again, a new package on training will come out that will be for the global community. That started right away, and so actually the package is moving ahead, along with the work. On timing, just to give you a hint, we were on the ground training within 60 days after the earthquake. Every day, trainings are now being conducted.

To respond to the millions of resource-poor farmers that are struggling to rebuild their homes and couldn't afford to invest in farming systems, FAO and the ministry of agriculture launched a program to somehow coordinate with the ILO's urban-based efforts by providing productive assets and training to thousands, well, it's about 10,000, farming households, through support of sustainable practices on small-scale farms, organic production where possible, and adaptation to climate change through use of resilient seeds. Particular emphasis is being placed on diversification and labor-intensive crops. Then, to support this on a third wing is the Canadian with the UNDP, which is partnering with the leading group on poverty, to reach those

small villages, very out of the way, perhaps, up in the mountain villages, communities, to pilot sustainable livelihoods, restoration projects. It's making a special effort in these villages to the use of clean energy, by establishing combined livestock shelters and biogas facilities, improving waste disposal management, and reducing environmental hazards. This is quite at the village level. So again, the government has insisted, and we're following their lead, that we are identifying, we are working in different areas. In terms of employment, ILO is in urban and FAOs in rural and UNDP up in rural villages. Again, the government is insisting on this kind of coordination throughout the recovery and reconstruction process. In terms of water and sanitation, UNICEF is helping the government go beyond building portable toilets to begin rehabilitating community water systems, for a number of remote villages where this is a question and a danger. UNICEF's work is also being complemented by a major campaign by several NGOs to install ecological toilets, which consume less water, and recyclable human waste. The UN has made concerted efforts in the ecosystem and the habitat loss. The earthquake was centered in the Wenchuan-Huanguan Mountains, a key area of biodiversity, conservation, ecologically sensitive, and very rich in the number of species. Twelve first-class species, protected animals, and 24 rare and endangered plants are in this area, so in response, UNDP has a very large biodiversity protection program, and UNESCO is focusing, along with the ministries, on rehabilitation of the giant pandas, and now restoring the world heritage sites as well in many of these mountain areas. Throughout all of this, the UN China was able to re-emphasize the principle of mainstream sustainable environment, into the planning through comments on the overall plan. Since the government is not here, let me give you a few examples of what is in the government's plan. To be clear, the government's plan does not have one section only on environment or ecosystem or environmental protection like it does on just about every other social sector which is why we said maybe we should have given more emphasis when we were providing our assistance to the government. But it certainly has integrated these principles throughout the plan, and I give you, the guidelines are to thoroughly implement the scientific outlook on development, adhere to concepts of people first, respect for nature, overall considerations, and arrangements, as well as scientific reconstruction. When you go into the basic principles, and I'm pulling out first is people-centered, and it goes into what that means, largely in keeping with what the representative of Ecuador said -- but then it goes, respect nature by arranging scientific layout. In light of resource and environment carrying capacity, take into consideration threats posed by disasters and potential disasters, secondary disasters. Scientifically define major functions. Optimize the layout, population distribution.

It goes on to talk about placing safety first, and ensuring quality: strictly enforced requirements for seismic fortification, an entire guideline on seismic fortification. Strictly practiced frugality and protect farmland: it's interesting that the government is careful in its interpretation of "building back better" to mean "building back smarter" not to mean building back in more ostentatious ways. So they are very careful how they use this terminology, but here, they talk about resource saving, try to maintain, reinforce original buildings to the extent possible. Resources saving and environment friendly demands must be satisfied when planning the construction of any of the new towns, villages, and industry cluster districts. Adhere to the use of the land economically and intensively but must protect priority farmland and forest land.

Inherit and carry forward culture and protect the ecology, so protect, inherit, carry forward the cultures: protect the architecture, structures, buildings of historical value, and then reconstruction must avoid natural reserves, ancient historical sites, and cultural relics. That is synchronized planning of construction and environment protection facilities. Those are some examples of how it has been incorporated. The last is to promote the utilization of clean, environment friendly energies -- this is our low-carbon -- based on resource conditions and comprehensive consideration of urban energy structures. Restore and reconstruct gas. While there is not one particular section, it is throughout every one of the sectors, this emphasis on the ecology and environment protection.

But moving forward with recovery and reconstruction in the areas, we're talking to the government about the opportunity that is provided, to more fully integrate the environmental principles. In recent years, the government of China has fully committed to creating a greener and more sustainable economy. It has set very impressive targets for creating circular and low-carbon economy. A recent state council white paper on climate change establishes guidelines for conserving energy, optimizing the country's energy structure, and strengthening environmental conservation. There has been a review for how this white paper could be implemented. The results of the review are that China has sufficient technology and sufficient financial resources to produce a greener and a cleaner, a greener and a lower-carbon economy. The reconstruction plan supports this vision, but these are two different policy documents. How can they be reinforced? The key challenge is creating and enforcing policy to create the environment for the local governments and businesses to fully invest in creating the more environmentally sustainable economy.

The recovery and reconstruction of Sichuan areas really present an opportunity to put this newly articulated government policy in practice on a large scale, establishing the cleaner industries, rebuilding more energy-efficient buildings and housing, and rehabilitating infrastructure with the eye towards eco-preservation.

In particular, China just announced a 585 billion economic stimulus package. It designates 51 billion

towards environmental protection. It's the UN's view that we hope that China takes full advantage of the opportunity that's offered to channel some of these enormous public investments towards creating the model for greener and lower carbon economy from the ruins of the Wenchuan earthquake. The government has indicated they will create models and experiments of low-carbon economy. This would be an interesting place for them to put that model into practice. Thank you very much.

W r a p U p



Mr. Koji Suzuki

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Wrap Up

Mr. Koji Suzuki

Your excellencies, delegates, ladies and gentlemen good evening. The first day of the Forum has come to an end. With the objective of reviewing the recovery experiences of disaster-affected countries, we have listened to a number of excellent presentations that highlighted important issues in recovery processes.

I would like to wrap up what have been shared today by emphasizing three major points. First of all, there are apparent gaps and needs in the current recovery processes as shown in today's presentations. Secondly, there are many lessons and achievements that can be drawn from the country reports, particularly in overcoming the challenges they encountered during the recovery operations. Among them are the lessons on "resilient recovery processes that take into account ecosystem and ecosystem service". Finally, I would like to relate the value of these recovery lessons to the existing mechanisms that facilitate the dissemination and application of these lessons.

During the opening session, the importance of addressing the gaps in recovery processes was pointed out in the remarks delivered by Mr. Naofumi Taguchi of the Cabinet Office of Japan, Ms. Helena Molin Valdes of the UNISDR, and Governor Toshizo Ido of the Hyogo Prefecture. Most of the gaps are identified in the knowledge management area such as the limitations in: communicating the strategic issues linked to addressing the environmental dimensions of disaster risk reduction; resources for designing and implementing environmentally sound solutions to reducing the impacts of disasters; and mechanisms for adaptation to climate change and to respond to that change.

Considering the environmental impacts of disasters, the need to integrate environment and climate change concerns into the recovery processes has been emphasized. Looking at this issue from an economist's perspectives, Professor Toshihiko Hayashi, in his keynote speech, has identified three immediate concerns that need to be addressed to attain an environmentally sound recovery.

First, there is a need to develop methodologies and tools to assess the environmental impacts of disasters. For example, in assessing risk, it is important to understand how to interpret the measures of hazards, vulnerability, and capacity. Better understanding on these measures is relevant in designing recovery programs and operations. *Second*, there is a need to improve recovery planning by taking into account environmental restoration. Professor Hayashi has shown us a "conceptual framework" on environmental causes and consequences. However, he noted that we need to take forward from this framework by using specific data or information from various assessments. He illustrated this by showing to us the strengths and limitations of the recovery planning process from the Great Hanshin-Awaji earthquake. The important lesson is that actual recovery planning has to take into consideration the "resolution of conflicting values" between top planners and local communities. *Finally*, there is a need to create a stable recovery funding such as the establishment of International Disaster Recovery Fund. In this proposal, member countries can access recovery grants and loans to forward their recovery operations. The main reason for instituting this fund is that recovery funding is oftentimes difficult to rely mainly from public funds.

The recovery experiences, as illustrated in the country reports of Myanmar, Haiti, Maldives, Kazakhstan, Ecuador and Pakistan and China have affirmed the relevance of addressing the needs, identified by Professor Hayashi, to help attain an environmentally sound recovery. Based on the reports, these countries have encountered challenges in recovery operations, such as: difficulties in assessing environmental impacts of disasters as shown in Maldives and Kazakhstan that reported the lack of some important data

on disasters; issues in planning and coordination to achieve an effective reconstruction process as shown in Ecuador and China that need further strengthen their response capacities to disasters; and insufficient funding for recovery operations as shown in Myanmar and Haiti that reported a declining number of pledges during flash appeals due to economic crises.

Essentially, lack funding can hinder the process to forward an effective recovery operation. Some challenges that are particularly linked with the environment are illustrated in the case of Pakistan, wherein recovery process causes heavy pressure on timber cutting for reconstruction of houses. The impacts of disaster to environment are even exacerbated through some practices like unsustainable harvesting of medicinal plants, fuel wood cutting, and uncontrolled grazing resulting to soil erosions and landslides.

However, some lessons are drawn towards achieving "resilient recovery processes that take into account ecosystem and ecosystem service". For instance in Pakistan, these lessons are: Slope stabilization measures through fast growing local species; Environmental impact assessment for urban housing development; Indigenous designing and planning in harmony with local environment; Sensitization of local community for environment-friendly practices; Participatory approaches in disaster reduction, involving the community, private sectors, NGOs, and line departments; and Promotion of alternate fuel and construction materials to save the forest, among others

I would like to point out that on the bases of the country presentations alone, we can already draw many lessons that contribute to the development of operational guidance for integrating environment into the recovery operations. In this consideration, the challenge we are facing is how to effectively manage and share the knowledge that derived from the many lessons in recovery. I believe that the lessons learned from the current recovery operations will be of great value to the disaster-affected communities as well as to the stakeholders if these are utilized to develop principles, tools, and guidelines for environmentally sound recovery operations. In particular, these lessons should be utilized and applied when they implement recovery policies and programs. It is within this context that ADRC, IRP and other partners in the communities of disaster risk reduction practitioners have long been engaging with.

For instance, ADRC and IRP have instituted joint actions to optimize the value of recovery lessons. The book "*Learning from Disaster Recovery: Guidance for Decisionmakers*" is one of the tangible knowledge products that has been widely disseminated by IRP. On the part of the ADRC, we annually published the "*Total Disaster Risk Management: Good Practices*", a user-friendly handbook for DRR practitioners. Key elements and lessons that have direct implications for sound recovery are identified in these books, particularly in the design and implementation of recovery programs.

Together with other partners, the ADRC and IRP are widely disseminating the recovery lessons in order to contribute in: building of a culture of safety and resilience, reducing the underlying risk factors, and strengthening of disaster preparedness for effective response. ADRC has many active partners here in Japan. Our partners have been collaborating with and supporting us to help achieve "build back better" approaches. To get acquainted with the works of our partners, I would like to invite all of you to view their panel exhibits, which are located at the lobby of this hotel. Among the participating partners are: Asia Air Survey Co., Ltd., Kobe Gakuin University, NTT Data Kansai Corporation, Shimizu Corporation, Taisei Corporation, and Tokio Marine and Nichido Risk Consulting Co., Ltd. We are very thankful to our partners, as they are among the end-users of recovery lessons. Allow me to make an acknowledgment in Japanese to sincerely convey our gratitude.

Now the IRP Secretariat will demonstrate the renewed IRP web. The IRP Website has been recently renewed to make it more user-friendly, informative, participatory, and interactive. Our colleagues will show these new features. But before I give the floor to the presenters, allow me to briefly introduce the works of IRP. IRP consist of 12 Steering Committee members as shown in the bottom of this slide. IRP is guided by its Strategic Framework, which identifies the Thematic Areas of Work, as shown on the right side of the slide. These thematic areas of work are: Advocacy, networking and partnerships; Knowledge Management; Capacity Building; and Effective Recovery Operations. The renewed website will facilitate IRP's functions on advocacy, networking, and partnerships as well as on Knowledge Management for better recovery. Now, the IRP Secretariat and the UNISDR will jointly demonstrate the renewed IRP website.

[Demonstration of Renewed IRP Web] Thank you very much, Mr. Suzuki, for the introduction. Good afternoon, everybody. I'm Yuki Matsuoka, from UNISDR secretariat, together with Ms. Michiko Mori, sitting next to me from IRP Secretariat. We are going to demonstrate the renewed IRP web. Please allow us to make a presentation from here, not on the podium, because we'd like to operate the Internet from here.

We are very pleased to launch the beta version as the first phase of the renewed IRP web, in this large gathering today. The IRP web has been developed by the International Recovery Platform. The IRP Secretariat and UNISDR secretariat are working very closely for its development, of course, with the support from IRP partner organizations. This collaboration makes it possible to develop the linkage between prevention web and IRP web. As some of you know here, prevention web is the website operated by UNISDR as the global portal for disaster risk reduction. In particular, this first phase of IRP web has been financially supported by ADRC, UNDP, and the UNISDR. Now, I'd like to do the real demonstration here.

What is IRP web, and why is this useful for you? This is the web which harmonizes the information related to recovery operations, tools and guidelines on recovery. It also presents country reviews on specific recovery operations.

As the international source of knowledge on recovery, IRP web is targeting at governments, policy makers, practitioners, international organizations, NGOs, academic and research community, and the media, working in the area of disaster recovery. Let's have a look at the top page. IRP web consists of the top page and then also four major sections, including About IRP, countries and then disasters, themes in recovery, and resources. If you would like to know more about IRP, of course, please visit the section about IRP, but here, more importantly, you can find a lot of resources on recovery, in other three sections. For example, if you would like to find out more about meetings and trainings relevant to recovery area, please go to this list of meetings and then trainings. And you can find some information. If you are engaged with recovery operations and you would like to find out tools and guidelines on recovery, then please go to tools and then guidelines button. Then you can see a lot of existing tools and guidelines. If you need to know about recovery operations and then review, on a specific disaster on a country, please go to countries and then disasters, then, as an example, let's go to Indonesia. Then you can find out some organizations working actively in the country in the area of recovery, and then also you can find out a case study conducted under IRP on Yogyakarta and the Central Java Earthquake. If we open this document, we can see a case study, actually developed according to the template by IRP. Then if you again go back to the Indonesia page, you can see also relevant publications here, including for example, UNDP publication or publication from ADB and also World Bank. In the long run, of course, we are aiming at gathering more reports and analysis documents, including country needs assessment reports, analysis of the recovery status, so that IRP web could be one useful entry point, where you can find relevant information on recovery.

If you would like to know about a specific theme under recovery subject, let's go to themes in recovery. In the themes in recovery, we have several themes, along with the IASC cluster approach. IASC is Inter-Agency Standing Committee. Here you will see the themes: shelter, livelihood, environment, public infrastructures, governance, gender, health and social affairs. These are the current themes we have uploaded here. For example, if you would like to search some information on livelihood issue within recovery, then if you visit the livelihood, then you can see relevant publications, case studies, and then tools and guidelines related to livelihood. Each theme, I have mentioned, has the same format, so that you can easily find out relevant information. For example, if we go to shelter, we have the same format.

Earlier, we saw the case study conducted for Indonesia recovery, and then if you'd like to know more about case studies under IRP, then you can visit IRP case studies. IRP has been collecting recovery reports and case studies, and IRP case studies are shown in the template developed by IRP, and of course we are going to develop more case studies in the future. Regarding resources we have put on the IRP web, if you go to resources section, you can see the list of items in the IRP web. As for other functions, we can also call for online discussions and forums for a specific purpose. This is actually the sample page. We can call for discussion forum to ask for comments on a specific process or specific document for a specific period of time, so this is just a sample, but for future, we can call for online discussion, and then you can participate in that online discussions.

Also through the function called RSS feeds, the users can receive the new content update automatically. Of course, this is the first phase of the IRP website, so we are going to enrich the content and then develop more functions in coming months. This is going to be developed gradually of course. At this moment, most of the contents are from current IRP partner organizations. In order to make this IRP web more useful for practitioners working in the area of recovery, content contributions from partners, networks, will be very much important. You can find "contribute content" button here, where your submissions are very much welcome. Please submit recovery related materials to IRP web, and then before they are officially uploaded on the web, all the submissions will be first received and then reviewed by IRP. As the conclusion, this web is the entry point where you can find needed information on recovery, and then benefit from related tools and practice, and also where you can contribute by sharing useful information and documents from your country or organizations with wider network. Thank you very much!

[Closing Remarks] Thank you very much, Matsuoka-san and Mori-san for demonstrating the renewed IRP web. Before we disperse, I would like to convey, on behalf of the organizers, our heartfelt gratitude to everyone who attended this Forum. To the participants, presenters, partners, organizers and interpreters in the booth, thank you very much for your active support in making today's activity fruitful. I hope that you will continue to show the same enthusiasm for tomorrow's activities, which include another set of country presentations and panel discussions. With that, today's activity is officially closed.