The Rebirth, Renewal, and Human Development Humanitarian Forum

April 25, 2006, Kyiv hosted the Rebirth, Renewal, and Human Development Humanitarian Forum aimed at establishing permanent dialog on future human development.

PLENARY SESSION

Moderators:

Alexander Kuzma. The Executive Director of Children of Chornobyl Relief and Development Fund (USA).

Andriy Myroshnychenko. The Executive Director of International Fund Ukraine 3000 (Ukraine)

Andriy Myroshnychenko

The purpose of **"Rebirth, Renewal, and Human Development" Humanitarian Forum** is to establish a dialog around the humanitarian problems related to catastrophes. We have gathered here, the day before the 20th anniversary of Chernobyl catastrophe, but remembering about other disasters, we would like today to talk not only about Chernobyl, but about disasters as the whole. We want the entire mankind to remember Chernobyl, New Orleans tragedy, various earthquakes, tsunami etc. We would like today's conversation was taken through the human prism first of all. At the same time, right across the road, there is a conference taking place, which was jointly opened yesterday. They are going to talk about technical aspects there, as well as scientific issues, while our main goal is to talk about humans, about their development, rebirth and creating conditions for peaceful development of the entire society. This very approach was put into the basis of work for the organizational committee of our today's forum that has started its work around a year ago. And this work has been chaired by Ukraine 3000 Supervision Council Kateryna Yushchenko, who, at the same time, has become the Chairman of today's forum Organizing Committee. I'm giving the floor to Ukraine 3000 Supervision Council and the wife of the President of Ukraine.

Mrs. Kateryna Yushchenko. The First Lady of Ukraine. International Humanitarian FORUM Chairwomen

It's my deepest honor and pleasure to welcome you to our forum **"Rebirth, Renewal, and Human Development"**. I particularly want to thank everyone and especially our foreign guests who took their time and effort to be with us today, to cheer the commemoration of this tragedy – the 20th Anniversary of Chernobyl – with us. And to engage in a dialog about the serious social and humanitarian issues that were raised by the tragedy.

I would like to thank all the partners that helped us organize this conference and our sponsors. And I'd specially like to thank my very good friends at Children of Chernobyl Relief and Development Fund, doctor Zenon Matkivsky and Oles Kuzma, who've dedicated many years of their life, more than sixteen years of their life, helping the children of Chernobyl and helping the children throughout hospitals, orphanages in Ukraine, and putting all their efforts into helping those who need the help most. And I'm proud that they are partners of our foundation now in the development of further programs. Together we will be working on a Hospital-to-Hospital Program, where we have chosen a hospital in each region of our country – a children's hospital, and plan to improve that hospital in terms of training, technology, medicines and provide better standards of care.

Together we will be working on creation of a new hospital in Kiev – Estate of the Art – hospital for the children of Ukraine. So, we do not have to send our children abroad to be… to find medical treatment, where they can find it in their own country.

I think many people remember the moment they first heard about Chernobyl. I remember it well. I was a member of the Ukrainian Diaspora, and I was studying at the University of Chicago. And, on the television late at night, there appeared a special report. And it showed a map of the Soviet Union. And in the middle, where there was Ukraine, there was a nuclear symbol. And they said there was radiation coming out of Ukraine, but nobody knew if it had been a bomb or a nuclear plant – nobody knew. And when I began calling all my family, there were no lines. And what was tragic is that I probably knew what was happening in Ukraine before my family did. And I think many people will remember those moments, those very tragic moments.

Dear friends,

We are starting the work of our international forum called **"Rebirth, Renewal, and Human Development".** First of all, let me thank the representatives of many countries of the world, who joined our initiative to revise the challenges of the development, express their thoughts, work out our joint action plan for the future. We have met here on the eve of the 20th Anniversary of Chernobyl, the Chernobyl catastrophe. This day has become the reference point that has put the international community closer to understanding the fact that catastrophes is not a problem of a single folk or country. Global disasters, as well as Chernobyl, are tragedies for the entire mankind. We realize that the Chernobyl disaster is multi-dimensional. In the focus of our humanitarian forum, there is renewal and development of human beings. The experience of the tragedy we have come through triggers us to realize and get concentrated on a very important problem – the problem of human development in society and the enhancement of responsibility for the future. We intend not only to stand in memory of Chernobyl, but also adopt a permanent dialog on our mutual future under growing risks caused by man. For this reason, we offered for the representatives invited from all over the world to share their views. They are outstanding people who are now forming the future of their countries – philosophers, psychologists, sociologists, ecologists, doctors, economists, physicists and artists. We will use a common denominator for our dialog – the issue of human safety and development. Initiating the dialog on development after catastrophes, we dare to put to discussion the issues that may me hard to find answers to. What lessons of disasters we have learned, and which of the lessons remain unnoticed? What information is brought by natural and man-caused disasters? What do we need to understand? Where do we go?

The main lessons have been already perceived by us. The first comprehensive lesson is to tell the truth. We set it as the most important in initiating the dialog in order to find the truth. The second lesson is to relieve from the egocentric perception of the world while satisfying current needs. Taking strategic decisions, we are to be governed by the interests of the people, especially the future generations. The third lesson is to accept the impossibility to resolve global problems by the effort of one nation or country. In this respect, it gives us understanding of the necessity to unite not only after disasters, catastrophes or acts of terrorism, but also in finding ways for future human development, harmony with nature and eternal laws of existence.

We are beginning to realize that the world and the events happening in it are integral and related to each other. Catastrophes mean the disturbance of the development balance, which we have to learn how to keep all together and forever. We are standing before the necessity of decisive strategic steps. To give them all reasonable grounds, the dialog of scientists, practitioners and politicians is required. This very dialog on rebirth, renewal and human development is initiated right now here by us. We expect your ideas, thoughts, proposals, scientific discoveries that will help us today understand that we are starting to cooperate and work together, we are not alone in this world; we will be given a helping hand if a disaster takes place, we are ready to help our neighbor and we have strength and virtue to resist the disaster.

A dear friend, the symbol of our forum is a stork tenderly hugging the terrestrial globe. Storks fly in to Ukraine every spring to let their children grow. They make their nests next to housings of good people, where they feel kindness, love and safety. It's a great luck and pride for Ukrainians to have a stork nest next to their housings. This year storks flew back to Ukraine again and will be here next year, and we hope they will always fly in here and to you. Thank you very much!

Andriy Myroshnychenko. Twenty years ago, Poland became the country that was impacted by Chernobyl disaster. Poland has become the first country to understand that there are no country borders for catastrophes. This was one of the first countries to offer a helping hand to Ukraine at that time. I'm giving the floor to the wife of the President of Poland, Maria Kaczynski.

Mrs. Maria Kaczynski. **The First Lady of Poland.**

Esteemed ladies and gentlemen,

I'm delighted to greet all the participants of this forum. Though twenty years have passed since the Chernobyl tragedy, but the memories of that event are still there in Poland. The 26th of April was an exceptionally beautiful and sunny day. The weather was perfect for excursions and picnics. I remember that we spent almost the entire day out of doors, and no-one could even imagine that we were in any danger. It was only next morning when our society was impressed by a message from the police press agency reporting the rising level of radiation in Poland. There was no panic but just the fear of the unknown. All medical establishments were working. Till the late evening hours, officials announced the solution to neutralize the harmful radiation impact for all the children and all the adults concerned. Children were told to stay indoors and everyone else were advised not to go out-of-doors when unnecessary.

We remember those dramatic days very well. Years passed after we learned the truth about the disaster and its aftereffects mainly from films that were shown on television. The world sympathizes with the people of Ukraine and pays tribute to the fact that the Chernobyl tragedy made us aware that the threats facing the world today do not respect state borders that we must come together to prevent them.

Hence, my great appreciation to Kateryna Yushchenko for her initiative to hold this meeting. The 20th anniversary of the disaster in Ukraine is the occasion to commemorate the victims of the tragedy and to reflect on problems confronting us today. We should do this to ensure that Chernobyl never happens again. The disaster twenty years ago was largely the fault of the totalitarian system. Today, the totalitarianism has been eradicated in almost all countries. Yet there is no shortage of other problems related to terrorism, natural disasters and armed conflicts. I'm confident that the meeting in Kiev will help us find ways of protecting nature and human beings from similar calamities.

Once again, let me thank Kateryna Yushchenko, the first lady of Ukraine, for organizing today's meeting. May our debates be interesting and fruitful. Thank you for your attention.

Alexander Kuzma. Before I introduce our next speaker, I just wanted to acknowledge the partner organizations in addition to Ukrainian helping in preparation of today's Forum. We are honored to recognize our dear friends from the international organizations: **Physicians of Chernobyl**, **Zhinocha Hromada**, the **UNDP in Ukraine, UNESCO, Friends of Children.** And now it's my pleasure to introduce Mr. Koishiro Mazuura, the Director General of UNESCO. Mr. Mazuura has been Director General since 1999, he was the Ambassador of Japan to France, Andorra and Djibouti and served at various posts at the Japanese Ministry for Foreign Affairs. He studied law at the University of Tokyo and economics at Hammerford College in Pennsylvania, the United States. Mr. Mazuura speaks English, French, Spanish and Japanese. **Mr. Mazuura...**

Mr. Koishiro Mazuura. The Director General of UNESCO.

The esteemed First Lady of Ukraine, Excellencies, ladies and gentlemen,

It gives me a great pleasure to be here in the opening of this humanitarian forum commemorating the 20th anniversary of the Chernobyl disaster. Yesterday, I had a pleasure to take part together with President Yushchenko in the opening of the international conference on the future outlet of the Chernobyl accident, which provided an opportunity for prominent heirs and distinguished scientists to discuss the relevant issues drawing upon shared expertise and experience.

Let me express my appreciation of the personal efforts of Missis Kateryna Yushchenko as Head of the Ukraine 3000 International Charitable Foundation in launching of wide range of charitable activities and for organizing this important forum. I applause to your initiative in this regard.

Humanity has made immense technological and scientific advancements in the last few centuries. At the same time, however, this progress has had a down side of increasing the human vulnerability in the face of man-made catastrophes. Technological progress is a key factor. It is a fight against poverty and the effort to increase the living conditions of human kind. However, it had also led to worst disaster in the history of nuclear power generation, disaster that has displayed hundreds of thousands of people severely damaged the social habit of the state, were the most seriously affected by the consequences and significant environmental degradation.

One of the key lessons of the Chernobyl case is that we cannot and must not wait till the next human catastrophe occurs. Before, we act, preventive action and preparedness are vital. Our actions must be guided to clear and sensible orientations. In particular to know what to prevent and to prevent rather then occur. These orientations clearly correspond us to focus on a long-term devotement approach, more than on emergency and humanitarian assistance after the event. But preparedness and prevention are more humanitarian in their effects. Nevertheless, whilst disaster has happened, emergency assistance must be given right away and recovery measures as well. In the case of the Chernobyl accident, buildings and the residences of the population were affected; the joint efforts by the governmental authorities and the international community have made vital contribution to the post-disaster recovery process. The task of post-disaster recovery cannot be separated from the task of sustainable devotement. Sustainable devotement can only be ensured through education and science. In this regard, UNESCO has an overarching role and mandate in relation to the UN backup in education for sustainable devotement 2005 – 2014, through which it help to coordinate whole set of activities as on local, national and international level related to sustainable, future-oriented devotement. Science – one of UNESCO's spheres of competence – is a major to in addressing the challenge of providing timely and accurate evidence and analysis of approaching or possible manmade catastrophes and prevent them from causing large-scale damage to people's health, economic activities and the sustainability of the environment. Many human catastrophes have taken place over recent decades, and the international community has had to address many major interrelated challenges. The best responses are based on collective, collaborative and scientifically supported action. We must gain better understanding of the impact of human activity, which has often had disastrous consequences for the sustainability of the environment.

We also need to better appreciate the key role that science and technology play in devotement and the struggle against poverty and uninsured human security for all. It is my sincere hope that this international forum will contribute to our understanding to better assess and monitor risks in order to prevent manmade catastrophes. We need to determine how we can appropriately incorporate scientific and technological knowledge within a disaster management framework. I'd like to confirm UNESCO's commitment to actions directed towards disaster prevention and sustainable devotement, and I hope that with a support of the international community we will be able to convince this will make us believe that the humanitarian emergency management should go hand-in-hand with sound and adequate policies aimed at the long-term sustainable devotement of the planet. Thank you very much!

Mr. Alexander Kuzma.

Thank you Mister Mazuura! Our next speaker is Mister Juan Manuel Suares Del Toro Rivero, the President of the International Red Cross and Red Crescent Societies, perhaps the preeminent humanitarian organization with the longest history in the world. Mr. Del Toro Rivero has served with Red Cross since 1979. He's the former President of the Spanish Red Cross from 1994-2001, professor at the University of Las Palmas, Grand Canaria, director of a public transport company, holder of the Spanish Red Cross Gold Medal and the Grand Cross from the Ministry of Defense for his contribution to humanitarian operations. **Mister Del Toro Rivero…**

Mr. Juan Manuel Suares Del Toro Rivero, the President of the International Red Cross and Red Crescent Societies

You're Excellency, Madam Yushchenko, Excellencies, Ladies and Gentlemen,

On behalf of the International Federation of Red Cross and Red Crescent societies let me first thank you for the invitation to participate in this important conference. This anniversary that marks 20 years since the Chernobyl disaster and its terrible consequences is very important and we must remember those who still have this experience in their daily lives. Much more remain to be done before the communities living in the region affected by Chernobyl will be able to reclaim complete normality in their life. Our key messages today are that the affected people will need our continued support for many years to come. It is, therefore, our sincere hope and expectation that this debate will bring us closer together in our great effort to define decision and long-term sustainable solution for people living in Chernobyl-affected areas.

All of us here are familiar with Chernobyl disaster radiation explosion and impact on health and human being of people living in the most affected areas. We are all particularly aware of the high increase in cancer amongst the population living in these regions. This health phenomenon is all demoralizing knowing that it primarily affects children and adolescents, those that were at their birth at the time of disaster who were up to eighteen years of age.

Beside the cancer, we must not undermine the fact that other negative health effects are largely still on now. The dialog on these important issues must continue, essentially with growth of participation, opinion and experience of people living in the areas close to Chernobyl.

When Chernobyl disaster stuck, the Ukrainian Red Cross through its network of volunteers played an important role and immediately provided material and social support to the affected victims, evacuation of people from the affected territory, provision of ecologically clean food supplies, psychological support and other activities. The Red Cross Chernobyl program in 1990 has provided more than three million people with medicine, multivitamins, health information, psychological support and screened more that eight hundred thousand people. Since 1997, the program has registered more than one thousand cases of thyroid cancer out of the total of over six thousand. Of these, only two people died. Early diagnosis of thyroid cancer ensure excelled rate of cure. The advantages we offer is that the Red Cross works in remote areas reaching affected population in villages without these vital services. Once the thyroid cancer is confirmed by mobile Red Cross team, the cases are referred for treatment in health facilities in the nearby cities. For this reason the examination saves hundreds of lives hundreds of lives every year. The assistance continues to this day – twenty years after the disaster.

It is recognized by the International Federation that big assistance continues to be required. We and the International Federation continue to seek support for this work. As with all disaster cases, no one agency can do the job alone. In this context, we need to join our international effort to address the increasing problem of thyroid cancer, which will peak in the next five years and will remain up long after that. At this time, when not all sustainable solutions are found in large

remote areas, there's still the need of supporting, and stand-forward humanitarian programs must continue.

Our work to address immediate humanitarian need can, however, only make long-term sensible if, in parallel, there is a tendency to long-term help social and economical needs. This is the task that must be led by the governments, especially those of Belarus, Ukraine and Russian Federation, as the countries directly affected. Big task must be supported by the global community and international and local organizations and NGO's need to increase their effort working together towards finding the sustainable solution.

The lesson learned from work of the humanitarian organization is to be studied and understood by the governments abroad to the knowledge and attention of the affected people themselves. This is the only effective way to integrate the lesson into planning for development of health infrastructure that itself capable of addressing the long-term needs of the affected population, especially in underdeveloped areas.

With this in mind, we hope that the ongoing effort of the Red Cross Society will be recognized and the near future they will continue to serve the needs of the remote communities with the support of the respective ministries of health and other concerned government agencies.

Our experience with the United Nations family at these issues is very good. The ongoing coordination work of the UNDP is of highest importance. This is why agencies working to help people living with Chernobyl need to continue to be fully integrated into coordination framework of UNDP through initiative such as International Chernobyl Research and Information Network and Chernobyl Information website, Corporation for Rehabilitation and other initiative. These are also the best way of strengthening efforts for the international community as well local government to highlight true needs of the community of this forgotten area. The strategy needs to utilize participatory tools giving voice to the affected communities enabling there need to be helped by policy and program makers.

The International Federation attribute particular significance to this commemoration, which is way apart from this event, the Federation is being represented at the Chernobyl conference in Minsk, as well as the United Nations Chernobyl Commemoration even in near Europe.

To conclude, I again wish to highlight the need for continued international support for the people living with the aftermath of Chernobyl disaster for years to come. Alongside, the support, which will be needed to help host governments and communities to find and establish sustainable solution, which will work for them. We and our national society members accept the responsibility to continue this support, as well as play our part. And we will con their assuring word, which we've heard about the intensions of others. The task ahead will be to translate those assurances into results for the vulnerable people. Thank you very much!

Mr. Andriy Myroshnychenko.

While preparing for today's forum and having reviewed the materials, I found an interesting material that is called Paolo Coelho Life Theses. Two of them were defined in the following manner:

First - every person is to know two languages – the language of the society and the language of prediction. One is necessary for communication with other people; another one is to understand messages from above.

Second – everything that is being done now creates the future and is the payment for mistakes of the past.

These two theses, to my mind, correspond greatly to the idea of our forum. If I am wrong, I can only be corrected by the author of these lines, namely the great writer Paolo Coelho. I'm giving

the floor to Paolo Coelho. His speech on the general view, evolution, catastrophes, man and future.

Mr. Paolo Coelho. Writer

Disasters as a global problem and a, joint responsibility

Highly Honored Kateryna Yushchenko, Excellences,

As you said in the presentation, I still remember the day that I heard the news. I was in Brazil, I'm a Brazilian. It's quite far away from the disaster itself. But then you realize that some things that affect one person or a group will affect the whole humankind.

On my first visit to Ukraine, I asked to go to Chernobyl, but it was impossible. So, I went to the museum of Chernobyl. And I was moved to tears when I saw the consequences of the disaster. And being my young readership, I decided to write an article of my impressions. So, I have a regular weekly column in close to 55 countries. And I wrote my impressions on Chernobyl. This article was published, and, for my surprise, most of the people had already forgotten the meaning of Chernobyl, either because they are young. So, they were 3-4 when the catastrophe occurred. Either because they were not that close to the disaster. And I was really shocked because I was convinced that everybody knew. Everybody knows, it sounds. But then, it rings the bell, but they don't know the extent of the catastrophe.

Therefore, the forum that we are organizing is of major importance for not to let people forget about things that can affect everybody in the world. We see today Chernobyl rebuilding itself, we see wild life there; we see the conflicting information about the results of this radiation. So, we have to emphasize here the importance of not trying to transform a tragedy in a good thing.

I am grateful to you for organizing this event, for making people more aware, even people who are not affected or not even born when this tragedy happened. And this forum, this commemoration of the tragedy will really help again, well to single out again the importance of how to deal with technology. We can have good lessons from tragedies, of course. The first, and the most important with the lessons, it should never happen again. Then we start to learn how to manage those disasters created by the human beings. And this is what we are doing here.

So, I feel very honored for being invited. I'm not a scientist, I'm not a doctor, I'm not an expert in radiation, but I am a human being. And I know what affects one person at the end of the day will affect the whole humankind. Chernobyl is a good example. And it is a better example that will not allow people to forget what happened here twenty years ago. Thank you very much.

Mr. Alexander Kuzma. Our next speaker is Mister Fabricio Saccomani, the Vice-President of Risk Management for the European Bank for Reconstruction and Development. Mr. Saccomani served this role since 2003. Prior to that, he was a Director for International Affairs for the Italian Central Bank. He served as a member of several international committees at the European Union, at the European Central Bank, the Bank for International Settlements and in the contents of the Group 7G7. Mr. Saccomani holds Master's Degree in Economics and Business Administration the University in Milan and did postgraduate studies in International and Monitoring Economic St. Princeton.

Mr. Fabricio Saccomani. The Vice-President of Risk Management for the European Bank for Reconstruction and Development

General vision: evolution, disasters, human being and future

First Lady, Excellencies, distinguished participants, ladies and gentlemen,

I'm honored to be able to participate in the commemoration of the Chernobyl disaster and to pay tribute to its victims, as well as the efforts of the affected countries and of the international

community to make sure the accidents like this do not happen again. I am also glad to be invited to a humanitarian forum. In my experience, it's not frequent to see a representative of the bank to participate in such type of events.

But EBRD is a very special kind of a bank. It is indeed in many ways a unique institution. We have a mandate to promote to the transition to market economy, and, as such, we cannot finance social projects directly. But we have an explicit mandate to promote nuclear safety and to protect the environment. And so, with our projects, we create new enterprises and jobs and also professional opportunities. So, I can safely conclude that EBRD can indeed contribute to rebirth, renewal and human development. And, if you allow me, I would say a few words about what we have done in connection with the Chernobyl disaster.

Since 1995, the nuclear safety account, which is managed by us, finances projects in connection with the closure of remaining operating units in Chernobyl. And I would like here to pay tribute to Ukraine's decision to close the last unit in 2000. This is a very courageous decision. Economically and socially it was a difficult decision. But from the safety point of view, there was no alternative, and the Bank is proud to have supported Ukrainian government in this decision with our safety and decommissioning projects. Also, in conjunction of the closure of Chernobyl, the Bank is approved alone to modernize recently completed units of the new nuclear power plants in Khmelnitsky and Rovno. And the safety upgrade program is specially important to the Bank as it is inscribed in a large program to increase safety in all other Ukrainian nuclear power plants.

Since 1997, the Bank has administered the Chernobyl Shelter Fund, which deals with the consequences of the accident from a technical point of view. Twenty nine governments and the European Commission have contributed more that eight hundred million Euro to finance the Shelter Implementation Plan, which is to transform the site in an environmentally safe state. Many people get inpatient when they see that this project twenty years after the accident is still not completed. I understand that. But we have to recognize how difficult the task is and also should not forget how much has already been done. As the site of the worst accident in peaceful use of nuclear energy, Chernobyl is unique.

The protecting structure that was constructed very quickly in 1996 could not be designed as a normal construction. Documentation about the structure and the situation inside was scarce, radiation levels are still very high in some area and higher standards of radiation protection, as well as industrial safety, must be guaranteed for the workers operating in these dangerous conditions. Safety is paramount importance and we cannot make any compromise.

I am very pleased to say that all the preparatory works and infrastructure projects have by now been completed. It does not sound too spectacular when I say, for instance, that we have financed reconstruction of a facility for workers to change their clothes when entering and exiting the plant. But when you realize that this facility will provide medical and radiation protection for up to fifteen hundred workers in the area at the time, then you will get an impression of the scale of the task. Moreover, as part of the procedures we have introduced workers of Chernobyl as subject of a thorough screening before they start working at the site and throughout. This program is of course designed to detect health problems related to working on the site, but it does also show possible health problems, which are related and existed before working on the site. Thus, a very variable preventive service is provided to the hundreds or maybe thousands of workers that are employed at the site in Chernobyl.

Of course, one of the major tasks of our program is to reduce a risk of the collapse of the existing structure and the destroyed Unit 4. Emergency repairs have taken place early and systematic stabilization measures inside and outside the object shelter have been carefully planned and are currently being carried out. Some of the most difficult tasks of this project, such as the stabilization of particularly inaccessible parts inside the shelter have been completed. Although, unfortunately, the results of these works are not visible from outside. And we are confident that

this very challenging project can be completed by the end of this year and thus reduce the exposure risk significantly towards outside and in the first place beyond the exclusion zone. The single most important project in the frame of the shelter implementation plan is the new safe confinement, which will enclose the remains of Unit 4 in Chernobyl.

Lots of intelligence or thought has gone into design effort for this new arch-shaped enclosure, which will prevent rainwater from entering, will contain radioactive dust and will finally provide equipment and safe working conditions for future dismantling.

This is an extremely difficult project. It is a challenge, but also an opportunity. The successful completion of this complex project will make a contribution to the transition of Ukraine's economy, and this will improve certainly social and human conditions. But if also show to the international investor that Ukraine is able to create a condition and to provide the management for the successful implementation of large-scale industrial project.

I need to assure you that the Bank will continue to assist in this endeavor. We are committed to higher standards of nuclear safety and we are committed to Ukraine and its people. Thank you very much.

Mr. Andriy Myroshnychenko. I would now like to give the floor to not only a highly honored guest of our forum, but also a person who is probably out of few politicians and parliament representatives, who can talk about the Chernobyl catastrophe professionally from both humanitarian and technical standpoints. Because before the parliamentary work, Missis Ergma worked for the Academy of Science and is a physicist by major. I'm now giving a word to Estonian parliament Deputy-speaker, Mrs. Ene Ergma.

Mrs. Ene Ergma. Deputy speaker of the Estonian parliament

The humanitarian catastrophes and responsibility of scientists

Honorable First Lady, Excellences, Ladies and Gentlemen,

I stand here in from of you as a member and a deputy speaker of the Estonian parliament. At the same time, I am going to use this important opportunity to address you as the scientist, because I have been active in the scientific research for much more years than in politics.

I would like to discuss the role of science in society. At first glance, it seems to stay far from our today's topic, but in reality it is very closely connected to them.

From the beginning of 20^{th} century the influence of science has gradually increased. And today we speak about a huge role of science in society because the number of people working in research has grown tremendously, but also because scientific research is changing our everyday life. One side of the progress shows us how to use results of scientific research largely improved the living environment for many people mostly in the developed countries. But, on the other side, we see how the lack of the effort to put huge possibilities of the scientific results into service to the welfare of humanity in developing world has raised great tension inside the societies.

Ladies and gentleman! What is the real responsibility of the scientists before the society? Emmanuel Kant once said that there are two things that fill our hearts over and over again with wonder and respect – the starry sky above and moral law within us.

Another side, Robert Mussel in his novel "Der Mann Ohne Eigenschaften" wrote that in so far as scientist's first priority is professional excellence, any consideration of social responsibility, not to mention moral demands are often scornfully rejected as irrelevant. This self-protective attitude was unknown to the founding fathers of modern science – Decart and Bacon especially, but also to many excellent scientists up to our times.

World War changed the situation; the news of poisoning cases initiated suspicion of unethical contact among the scientists. The idea of science not being devoted exclusively to the welfare of humanity came to the public and details remain an explosive topic attracting particularly wide-spread attention. For example, the gene technology, embryonic stems' research and possible cloning of humans. Ulrich Becker said "the discourse of risk begins where the trust in our security and belief in the progress end". Question is, how we will risk in our everyday life in science- and technology-based society? Do people really understand the role of science in their life?

In 20th century the mankind has learned how an obtrusive piece of theoretical physics was transformed into the most devastating weapon in the world. In science, the quality of research work depends largely on the amount of the resource allocated to it. In the second half of the 20th century, two largest public investments into the nuclear and space researches made the governments to accelerate research. More than sixty years ago, two atomic bombs were dropped in Japan. As the result of the bombing, scientists came to be viewed as actors in the evil plot leading to enormous moral dilemma for the scientist relation to his research.

Even though the development of the nuclear power station, and hence the emergence of the new source of energy seemed to restore scientists' reputation, then the Chernobyl disaster did the devastating blow to that positive effect. In line with this acknowledgement, urgent request to assume moral responsibility and to accept legal liability addressed to scientists in general has been heightening. The more it became transparent that the application of scientific findings not only serve human objectives but was often motivated and promoted by heavy and mostly private economic interests, the bigger grew the responsibility of the scientist.

There is another area, in which the science is very close to the military and industrial collaboration. The space industry will lead to the extensive space research and as a result deep understanding of surrounding us universe. However, it is quite clear that this progress has been largely determined by the military needs. Alongside nuclear research, the space industry also produces very powerful weapons of mass destruction. At the same time, it is interesting to note that public opinion is generally mostly critical about the space programs, which it is about the nuclear research. Indeed, space research wheeled many benefits, for instance, starting from poor scientific interest in astronomy and ending with the telecommunication. Being largely conducted by the PR sector of the astronomical community, space research has succeeded in acquiring favorable publicity. For example, Hubble Telescope pictures, information from NASA etc. Against this background, the unfortunate accidents with astronauts have been viewed by the general public as catastrophic. However, inevitable in the light of much hoped world progress, as much have said, we should not forget the fascination, a substitute of religion by extremely intricate and sophisticated technology. This might sound cynical, but there certainly is quizzing effect of defect that many more people get killed in car accidents each year than in the rare through sensational misfortune of a space adventure. Fortunately enough, humankind has not yet had to suffer, for example, because some space device fell unpredictably on a large city causing devastation and loss of life. It is not unusual that moral advertence is aroused by acute danger and bad luck.

Actually, this war is only one among others caused by accumulation of space debris. To sum up, it seems that public opinion is influenced by and learns from only those events that already occurred but unaware of risks that may lie ahead. This may also be the true ever scientist. But if not, then the important question arises as to whether it is scientist's moral duty to warn society of such risk? And second important question, can he or she be heard by society, by politician.

Thank you for your attention.

Mr. Andriy Myroshnychenko.

Let's continue our plenary session. Now I would like to give the floor to Mrs. Tang Weng Sheng, the Deputy Head of Chinese Fund after Sung Tsyn Lynn. This fund was founded in 1992 by the governmental initiative in order to promote for international friendship and uniting of the country, implementation of life standard improvement programs and education for juniors. This fund has been many times given international awards, including in 1997 by the UN General Secretary by the Peace Ambassador Award. Apart from that, Mrs. Tang Weng Sheng is the representative First Lady of China for participation in our forum.

Mr. Tang Weng Sheng. Deputy head of the China Sung Tsyn Lynn Foundation (China).

Esteemed First Lady of Ukraine, Mrs. Kateryna Yushchenko, ladies and gentlemen,

I come to the beautiful city of Kiev bringing the friendship and sympathy of the Chinese people for the Ukrainian people to the Humanitarian forum "Rebirth, Renewal and Human Development" of the 20th Anniversary Conference on the Chernobyl nuclear disaster.

On behalf of the Chinese delegation and the China Sung Tsyn Lynn Foundation, I would like to thank the conference committee for its kind invitation and extend warmest greeting and best wishes to Mrs. Kateryna Yushchenko, all Ukrainian friends and distinguished guests from different lands present here today.

Tomorrow we mark the 20th year since the nuclear disaster at Chernobyl. Our hearts go out to the people of the Ukraine, Belarus, the Russian Federation and other countries who were the front of the great consequences of that accident.

In a year since, the Ukrainian government and people have made unremitting efforts to overcome the effects of that tragedy with positive results. The heroic deeds of those who fought to save lives at that time and after and to build a new life today have won our highest esteem.

For the past 20 years, the catastrophic effects of Chernobyl have been pulling the heart strings of the people of the world. The international community has extended helping hands to the countries concerned in the spirit of loving care, sincere cooperation and the willingness to stand together in will and wealth.

In recent years, the Chinese government and people tried their best to assist the Ukrainian government and people to overcome the effects of Chernobyl by offering help in the form of medical equipment and medicine. The Chinese government has decided to earmark its 10 million Yuan to the Ukrainian government for the year 2005 entirely for overcoming the consequences of Chernobyl.

This afternoon, I will have the honor of witnessing the signing of the pertaining agreement on economic and technical cooperation between China and Ukraine, which further approves the understanding and mutual assistance that exists between our peoples. As a friend, China will continue to support future efforts of the Ukrainian people to overcome the effects of the disaster and provide necessary assistance to the Ukrainian government and people in building their country. The tradition of friendship between our two nations goes far back in history. And the Chinese people cherish deep sentiments for the Ukrainian people. In recent years, our relations have been progressing smoothly and steadily understanding the mutual trust as ground, economic cooperation and trade, as well as exchanges in scientific, technological, cultural and educational fields are expanding. People-to-people contacts and visits between local areas are also flourishing. This development has resulted in significant tangible good for both peoples. It is the set long-term policy of the Chinese government to continue to build those relations on the basis of equality and mutual benefit and increase cooperation in all fields. This policy will not change with time or tide. We look forward to working with the Ukrainian side to increase political trust, strengthen mutually beneficial ties and steadily enhance our relations, which are within interest of both peoples and contribute to the promotion of the regional and world peace.

The China Sung Tsyn Lynn Foundation has good exchanges with Ukrainian non-governmental and charitable institutions. In November 2003, Mr. Yu Gui Ling, Vice-Chairman of our Foundation, led a delegation on a bridge-building visit to your country. Later, we sent a children's delegation to attend an International Cultural Festival here. The China Sung Tsyn Lynn Foundation is looking forward to sponsoring exchanges and cooperation with the international fund Ukraine 3000 led by Mrs. Kateryna Yushchenko in the interest of strengthening the ties and friendship between our two peoples. In conclusion, I wish full success to the conference, prosperity to the Ukraine and well-being to its people. Thank you!

Mr. Alexander Kuzma.

It's now my distinct pleasure to invite the honorable John Herbst to podium. Ambassador Herbst was the US Ambassador to Ukraine on September 4th, 2003. He is a career member of the senior Foreign Service. Prior to becoming an Ambassador to Ukraine, Mr. Herbst served as the US Ambassador to Uzbekistan, the US Council General in Jerusalem, the Principal Deputy to the Ambassador for the Newly Independent States, the Director of the Office of Independent states in Commonwealth Affairs and is the Director of Regional Affairs in the Near-East Bureau of the State Department. Ambassador Herbst has also worked oversees as political counselor at the US Embassy in Tel-Aviv and at the embassies of Moscow and Saudi Arabia. He joined the Foreign Service in 1979. And I'd like to just personally express our personal thank from our organization "The Children of Chernobyl Relief and Development Fund" other organizations that have benefited greatly from Ambassador Herbst's personal initiatives in supporting many charitable efforts. He and his wife, Mrs. Nadia Herbst have been very gracious in opening their home to lovely events that have helped to raise thousands and thousands of dollars for many Ukrainian hospital projects. For that and his participation in today's forum, I'd like to invite Mister John Herbst. Thank you…

Mr. John E. Herbst. Ambassador of the United States of America to Ukraine

It is a great pleasure to be here today. Mrs. Yushchenko, distinguished guests, ladies and gentlemen,

Several prior speakers noted where they were twenty years ago today. Let me do the same. I was at that time working at the American Embassy in Moscow. And I remember getting reports about what might have been happening in Ukraine. And of course that was the time of the policy Glasnost opening up. And that was the very first failure of the policy of Glasnost, because the Soviet authorities, as always, hid the great tragedy that was falling before the eyes of the world. And most importantly, while senior communist officials were shipping their children out of Ukraine, the people of Chernobyl were living and the children were playing in the fields of Ukraine. And, that was interesting, as luck would have it, I was visiting with my wife and children Kiev and Chernigov about two weeks before the Chernobyl disaster. And there about for the Greatness of God, would have been my children.

This anniversary is eternally for remembrance as time to recognize past and future actions. The tragedy of Chernobyl tested the fortitude of our global community. And initiated spirit, for which the international community at times is well-known. The United States government and its people have helped and are continuing to help the victims this disaster in the Ukraine and Belarus.

Since 1992, the United States Government and the partner states operation provide help and have delivered USD 582 million for the humanitarian commodities to the people of Ukraine. This assistance was transported in over five thousand shipments. Approximately one-half of this in the form of medicines, medical supplies, equipment, clothing and food was targeted for the victims of the Chernobyl accident, especially children.

The US Government has also invested nearly $12 million in help programs related to the aftermath of Chernobyl. In partnership with the "The Children of Chernobyl Relief and Development Fund" our assistance included Department of State Airlifts in April 1996 and April of 2001 marking the 10th and the 15th anniversaries of Chernobyl.

Last week I joined with Missis Yushchenko, as the latest US airlift rod in Ukraine, with over $1.7 million worth of life-saving medicine. This too was carried out in partnership with the CCRDF and in cooperation with the Cuban-American Community Children Health Initiative.

Since 1992, we have also provided assistance to the people of Belarus. Our humanitarian programs had delivered and distributed 235 million dollars in humanitarian commodities to the most need-in Belarus. A significant portion of assistance also went to the victims of Chernobyl. To continue our support to the Belarusian victims of Chernobyl on April 28 a shipment of essential medical supplies will be airlifted at the Department of State Expense to Belarus. This airlift will be conducted in partnership with two US private volunteer organizations – Heart-to-Heart International and City Hope International.

Our assistance to the victims is broader than is earliest. For example, in response to Missis Yushchenko's request, members of the Cuban-American Community in Florida have recently be going to offer their healthcare assistance. Their activities include hospital-to-hospital and doctor-to-doctor exchanges, a pilot project in telemedicine that will connect Ukrainian hospitals with the US hospitals and assist the children who have Chernobyl-related health problems.

The Chernobyl accident focused the world's attention on the paramount issue of nuclear safety. The Scientific and Commercial Nuclear Energy Community has made significant advances in this area. Nuclear power has the potential to greatly benefit mankind by providing a clean and abundant energy source. But as Chernobyl demonstrated, it is crucial to maintain responsible standards in the use of nuclear energy.

The legacy of nuclear energy today, by vigorously promoting international efforts to ensure the highest standards of nuclear safety, is continued by our own efforts. The US strongly supports the IAEA nuclear safety conventions. We are continuing to conduct scientific research with many international partners to develop safer nuclear energy systems for the future. The US is the largest single donor to the Chernobyl Shelter Fund pledging 203 million dollars of one billion dollars pledged by donor countries. This project will reconstruct the ageing sarcophagus that covers the ruined rector and protect the health and welfare of the Ukraine and its neighbors. We work very closely with the Ukrainian nuclear safety. We are providing over 400 million dollars to enhance the safety of nuclear reactors in this country. Reactors are now better equipped with fire safety and diagnostic equipment. Plans throughout the country have enhanced towards quality assurance programs and procedures.

The US has shared experience with the Ukraine on the development of the nuclear regulatory regimes that adhere to strict health and environmental standards.

I'd like to conclude with few words from message President Bush has sent for this occasion

"On the solemn anniversary we pay tribute to the lives lost and the community in the devastation following the disaster of Chernobyl. We are encouraged as the people of Ukraine and the neighboring regions resolved to rise again and reclaim a future of hope and dignity."

Thank you very much for your attention.

Mr. Alexander Kuzma. Thank you very much, Mister Ambassador. We're also privileged to be joined by the Ambassador of Great Britain to Ukraine, Mr. Robert Brinkley. Ambassador Brinkley has served in several capacities with the British Foreign Service, including a posting to the Embassy in Germany and in Geneva. Mister Brinkley, we are very honored to have you joined us today. Ambassador Brinkley…

Mr. Robert Brinkley. The Ambassador of Great Britain to Ukraine

Highly Honored Mrs. Kateryna, Esteemed Excellencies, Ladies and Gentlemen,

Today I have the great honor to represent Great Britain during this event, where we gathered to commemorate and share our thoughts on the biggest nuclear catastrophe in the world. In Great Britain we still remember the events of April 26, 1986. We give our best honors to those men and women who took great risks to take that tragic situation under control. A lot of them paid their lives for that. With our hearts and thoughts are we still there, even 20 years after, with those who still live with the consequences of that disaster, either with a disease or having lost close and dear people, or with the fact of being resettled to distant regions for away from home.

Nobody is even trying to doubt the full seriousness of the Chernobyl catastrophe. It has give a lot of important lessons to the entire world. It led to deeper understanding of the atomic safety and influence on human health and environment. It also pushed to strengthening of national networks on radiation monitoring and improvement of emergency measures.

Since the disaster took place, the entire world has made considerable progress in the issue of building secure systems and behavior, as well as improved planning and readiness for emergency situations. Basic international standards relevant today in terms of safety, reliability and environmental protection regarding projecting and construction of reactors, their use and maintenance show that the possibility of another tragedy like that to occur is really negligible. Great Britain has already played and is continuously playing an important role in promoting cooperation in safety, health care, decommissioning and issues of post-Chernobyl development.

Since the catastrophe, the Government of Great Britain has provided and is still providing considerable financial support in bilateral and multilateral manners. This assistance has been fulfilled by means of a wide range of projects in nuclear safety field, health care and environmental protection. These projects are aimed at studying the reasons for the disaster, its influence on local population, pollution of land, as well as investigating measures for development and strengthening of the preventive actions.

Great Britain, along with other 13 countries, donated considerable funds for nuclear safety reasons – around 320 million Euro. UK has actively supported the Chernobyl Shelter Fund founded in 1997 to help Ukraine rebuild the existing shelter covering the ruined Unit 4 of the plant to the stable and ecologically reliable system.

As to donors' obligations and the Chernobyl International Support Program, administered by the European Bank today, are now estimated at around one billion Euro that goes directly through the Chernobyl Shelter Fund and account of nuclear safety.

Starting from 2001, shortly after Great Britain adopted the program for work with nuclear heritage on the former USSR territories, UK provided around GBP 26 million as a donation to the Chernobyl Shelter Fund.

We truly hope with the people of UK that the lessons from the disaster in Chernobyl nuclear power station twenty years ago will make the repeated tragedy impossible. We will never forget the courage shown by the people who were working, and in some of the cases faced real death to prevent from further distribution of that distress.

Although, the consequences of the tragedy are very catastrophic, they could have been a lot bigger without the heroism shown by those people. The best donation in commemoration of their heroic sacrifice is our joint effort in preventing the repeated disasters.

Thank you for the attention.

Mr. Andriy Myroshnychenko.

It's my great pleasure to welcome the next speaker as we have been already united in our long-term and fruitful cooperation. However, I would like to stress that this person knows what a catastrophe means not only because of Chernobyl, and not only from media. The next speaker is Jeremy Hartley, the UNICEF Representative in Ukraine. Before working in Ukraine, he represented UNICEF such countries as Yugoslavia and Afghanistan specifically during the conflict times there and in fact faced humanitarian catastrophes. I'm giving the floor to UNICEF Representative in Ukraine, Jeremy Hartley.

Mr. Jeremy Hartley. The UNICEF Representative in Ukraine

Madam Yushchenko, Excellencies, Distinguished Colleagues,

On behalf of the United Nations Children's Fund – UNICEF – may I thank you Madam Yushchenko for taking the bold initiative for calling for this important forum and say what a great honour it is to address to such esteemed audience such as discussing issues essential to our future, and indeed to our security.

Indeed, issues that have enormous consequences for the well-being of children across the world. I say this as it is. UNICEF is mandated by the United Nations General Assembly to advocate for the protection of children's rights. And it is rights, that UNICEF and the United Nations system as the whole believes should underpin all of our work.

Let me first, therefore, remind you of some of the principles that must guide the protection of children – the protection, indeed, of our future. Children in the midst of manmade and natural disasters including armed conflict have the same needs and rights as children in stable or secure environments. In fact, the United Nations Convention of the Rights of the Child is intended to guarantee children their inalienable rights in all circumstances, and it is often during disasters that children are acted the most vulnerable. In these circumstances, it is just as important for the rights of the children to be enforced by the state, as well as other parties involved in the emergency response.

According to 2001 World Disasters Report, over 66 million children were affected by natural disasters in each year of the 1990s – considerably more than in the decade before. During the same period, some ten million children were affected by conflict.

Although we are not sure of the exact numbers, it is estimated that at least 100,000 of the 300,000 victims of the 2004 Indian Ocean tsunami were children. What we do know, is that this figure could have been greatly reduced, if more information and skills related to disaster reduction and response had been available. In the aftermath of a disaster, ensuring the survival of children needs to be a priority in our response.

Today, as the number of emergencies rises, their complexity is also increasing. They present an added threat to children's rights. Therefore, our role is now more important than ever before, and our work must continue to adapt to reflect that reality. In times of emergencies, the importance of provision of education for children is increasingly being recognized, as is the need for provision of protection and psycho-social care for children and young people. Children have a right for survival. They also have a right for development. And that includes physical, cognitive and emotional development. And it is all of these that need to be endured in times of disasters, as in all times.

A child also has the right to express his or her opinions and to participate in decision-making processes that affect him or her. Organizations, such as UNICEF, are increasingly involving children in the development of processes for disaster recovery.

Indeed, since children often constitute a large proportion of the affected population in disasters, ignoring their capacity means undermining that of the community as the whole to cope with the situation. But children must be seen both as beneficiaries, their basic rights to survival, development and protection must be fulfilled, and as actors providing useful knowledge of their communities and neighbourhoods and actively contributing to disaster relief and recovery efforts.

The results of our recent study by the Organization Plan International indicate that the active involvement of children can in fact mitigate the loss of life and assets that results from natural disasters. And the children's involvement is essential to the recovery of community and the short, medium and long-term.

I would now like to turn to specific issue of Chernobyl. For Chernobyl, of course, is the raise of depth for this forum.

The 20th Anniversary of the Chernobyl disaster is also a time for reflection, and importantly, as other speakers have noticed, provides lessons, from which we must learn. Let me touch on a few of those. First of all, we mustn't forget that the scars last for generations. The three countries most affected, as we know, Belarus, the Russian Federation and Ukraine continue to cope with daunting social, health, economic and environmental consequences. In the two decades that are passed since the explosion, the new generation that is currently growing up – let me remind you, this is the third generation since the disaster – still bears the scars. Secondly, the challenge posed by Chernobyl has clearly evolved over time. And while the immediate humanitarian crisis that resulted from the explosion has been somewhat mitigated, for UNICEF, the continuing impact of the accident on the well-being of children and families in contaminated areas remains an issue of great concern. The harsh reality is that the legacy of the Chernobyl linger zone in the ground and in the minds of people.

Ladies and Gentlemen, children in the contaminated areas continue to suffer. This is because of the combination of factors – social and economic, environmental threats, personal attitude to health and nutrition practices, psych-social and mental health issues.

Third, and as my esteemed colleague Mr. Mazuura has mentioned, prevention is better than cure. And prevention is always simple; and I make no apologies for taking some of your time to show you the example of hiding deficiencies ion this regard. If children had been consuming iodized salt in their daily diet at the time of the disaster, the four thousand thyroid cancer cases could have been significantly lower. This was not the case, and the Chernobyl area is naturally deficient iodine. Exposure to radioactive iodine is clearly the problem here.

In addition to dangers of radioactive iodine, iodine deficiency during pregnancy affects vital brain development and can lower IQ or intelligence coefficient by 10 to 15 percent. Iodine deficiency is the word's leading cause of mental retardation and is a danger to pregnant women and young children. Yet it's a nationwide health problem in many countries in the world, including here in Ukraine, as you can imagine iodine deficiency has not common consequences with far reaching implications. They are learning difficulties and reduced productivity in later life. It's estimated that eliminating iodine deficiency would increase economic productivity by 34 million dollars in Ukraine and a massive 355 million dollars in Russia over just 5 years. However, currently over about 55 percent of households in Belarus use iodized salt, while the figure is only about 30 percent in Russia and Ukraine. This is important because it means that every year 44 thousand children in Belarus are born iodine-deficient. In other words, some 750 children are threatened by mental retardation for as long as the situation in Ukraine remains as it is today. This is clearly unacceptable, and we are not protecting our children for the future.

Yet the solution to address iodine deficiency disorders is relatively simple. In the course of a lifetime, a single spoon of iodine is all every person requires. There are many ways to provide iodine. But the iodization of salt is the most cost-effective, safe, sufficient and sustainable strategy recommended by the international organizations to be implemented in all countries where iodine deficiency is a public health. Yet, I'm afraid to say, despite many efforts to get legislation passed on universal salt iodization in Belarus, the Russian Federation and Ukraine, the issue is still being debated. UNICEF has been working on this issue for seven years. We call upon the leaders of these nations therefore to protect there future generations. It's as simple as that. By adopting and implementing of these laws without any future delay.

Finally and importantly, let me put forward an idea that some of you may not have considered. This is the proposition that the previous Executive Director of UNICEF, who may know some of you also know, Carol Balamy, reiterated on many occasions. At that moment in history, where

the exercise of responsibility and enlightened leadership must begin with the recognition that the poverty and ignorance are perhaps the greatest threat to humans' security that we face. Poverty and ignorance are indeed disasters in themselves.
Ladies and Gentlemen, this is the key reason why the conquest of poverty has become the overarching goal for the United Nations, and it starts with investing in children. It's estimated, the number of people in Europe and Central Asia are living on less than $2 a day increased from 31 million in 1990 to about 100 million in the late 1990s – more than a threefold increase. The physical, emotional and intellectual impairment that poverty inflicts on children can mean the lifetime of suffering and want, and a legacy of poverty for the next generation.
That is why in the effort to reduce poverty since can't succeed without first ensuring the wellbeing of children and the realization of their rights. Investing fully in children today will ensure the wellbeing and productivity of future generations for decades to come.
Leadership and transparency is this fight is critical. It's critical to ensure that we prepare for the worst and hope for the best. It's critical to ensure that we in gender trust, especially in times of disasters, and ensure that children are at center stage. If we are to create a world fit for children, as envisaged at the United Nations' General Assembly Special Session on Children in 2002, where all the rights of all children are ensured, where no child is left out, we must ensure adequate prevention measures are in place and we must keep to out principles. We, all of us, cannot miss this opportunity to shape the 21st century with children and young people at center stage, where children can enjoy security and are not afraid to speak out on issues that affect them.
Thank you very much.

Mr. Alexander Kuzma.

Thank you very much, Mr. Hartley. If I may allow myself a little editorial comment… It's just a type of wonderful insights that Mr. Hartley provided regarding the importance of iodized salt that we would like to add to the resolutions of today's conference. And we thank you for these very important comments.

Our next speaker is Doctor Hiroshi Nakadjima, who served as a Director General for the World Health Organization from 1988 to 1999. Doctor Nakadjima was the first Japanese citizen to be the Director General of the WHO. After graduating from Tokyo Medical University in 1954, Doctor Nakadjima researched neuro-pharmacology at the University of Paris. He then occupied the variety of posts at WHO, has made great contributions to international healthcare. Doctor Nakadjima was quoted by the WHO stating "we can pass no greater gift to the next generation than healthier future. That is our vision. Together the people of the world can make it a reality". Doctor Nakadjima…

Doctor Hiroshi Nakadjima. Director General Emeritus of WHO (Japan).
Madam Yushchenko, Fist Lady of Ukraine, Distinguished guests, Ladies and Gentlemen!
It is a great pleasure to be here again celebrating or commemorating the 20th Anniversary of Chernobyl. For me, Chernobyl is my career at WHO, Director General, but not only Director General, but other pattern. When Chernobyl accident occurred, at that time I was a Regional Director of Western Pacific region of WHO, which covered not only China, Vietnam and also the area of Japan, but also the some of the islands. I remember still, particularly the hydrogen bomb experimentation in Bikini Island, and repatriation of people who lived on. On this I've talked already yesterday, I was right to give my reason on the future action. As you know, there maybe either baby of a mother inside of her uterus at that time, has now reached twenty years, and the mother is now reaching 40 or more, that means grown in a megapolis. The children who have absorbed radioactive iodine are now already reaching about 30 years old.

On the data regarding the people living in Chernobyl area, both men and women, are now reaching 60 years old, or 50 to 60 years old who these days are very vulnerable to various heart diseases and cancer.
So, we must start looking at children of Chernobyl, but before I would arrive to present my experience. When I was become, elected, as a Director General, at that time, for me, as for one of Japanese origin, I was already interested not only in the problem of Hiroshima and Nagasaki, but also various open-air nuclear atomic bomb-testing, especially in atoll islands.
So, I asked for the official visit. They asked me, for what purpose. I said we want to look at the Russian… at that time is was only forecast… WHO was only for forecast in the Russian medical system. I said I am interested to see what happened in Chernobyl. Ok, I will show you… But you cannot go… Neither to Minsk, neither to Kiev. You can get all the information in Obninsk. Obninsk is Russian Federation, USSR, is a center for nuclear research, which is located at about 60 kilometers from Moscow. This is the place, where the first USSR reactor had been built. So, I visited Obninsk. In Obninsk there is a lot of study and information, mostly on radio-metrical dosimetry. Then I want to see as tourist the capital that has been the most affected after the tragedy. I said, I want to come to Kiev and I also want to visit Minsk.
The reason why I decided to see the area on-site, because I'm always not sitting in the headquarter. But I want to always looking the site. The site is the reality. Fortunately, I came past to Kiev. The reason is that Independent Ukraine had become independent. They introduced health care trust. So, and I look at health care system. I visited a huge research institute in Kiev, where in fact the study was much more advanced than in Obninsk. But, at the same time, unfortunately, communication… All the information had been gone to Moscow. And the local people don't know, except the research institute of Kiev already had the number of information. And I had almost half of a day… And still I remember about the discussion about how to look at the future impacted by the Chernobyl situation. But, I realized at that time that no communication… All communication was through Moscow. And even between Chernobyl and Kiev there was good communication… but then from Kiev to Moscow, Moscow to Obninsk, I don't know. Minsk is the same.
Under particular reason with the nuclear horror the Minsk area and Briansk area in Russian Federation at that time. Somehow, I successfully got to Minsk. I know Hiroshima experience. I predicted that the thyroid tumor will start soon. Initially nobody believed, because the early stage of Chernobyl international cooperation was initiated by IAEA. Physicians and nuclear specialists are interested in long half-life periods of radioactive elements, such as strontium and cesium. And the radioactive iodine they forget to initiate. It's not been talked about it. I told them that thyroid problems would appear. And it happened to be so. The problems started showing off. I went to Italy. But particularly in Minsk I had the discussion, and then people don't believe. And I took a picture saying I'm not going to reassure you how fast is the thyroid tumor ready. And I asked Japanese government to bring the quickly the ecography. Therefore, the number of the thyroid tumor was young children. The mortality rate was very small. Of course, because it is a very early intervention. And this is the other reason which we have run and I'm organizing a test society in Geneva and started international cooperation, cooperative program for the IPEKA program and operating mainly the… I have the map… Kiev, but particularly Homel area, Chernobyl and Briansk. But still as the government concern in three countries of the repatriation, if the people evacuated able to come back. Why not… You must really study the thyroid problem with children. You know where the radioactivity came from milk and this is also the reason for deficiency. This is a faster picture of thyroid tumor, which I took myself, when I visited hospital. And with this picture I got a lot of money from the international cooperation. So, the 10th anniversary is just when thyroid starts growing up. And still not yet reported leukemia, nor the latent period. Here we must understand the three major incidents by ionized radiation and the action of it. One is thyroid; second coming is a leukemia, and then probably other cancer and non-cancer diseases. It's kind of hard to interpret on how to determine the disease. And don't forget also the chronic post-traumatic stress disorder. So, but still I did not attend the 10th

anniversary being however several times here in Kiev, Minsk. But I still haven't visited the site of Chernobyl. It is very strictly limited. I have been invited to be the Esteemed Chairman of the 15th anniversary of Chernobyl. But at that time, maybe some of the people remember that the large 15th anniversary was organized in Moscow. And in Kiev it is only scientifically-oriented. The specialist meeting has been made in Kiev. So, most of us… I have already retired from WHO. The majority at that time went to visit the event in Moscow. And I came here.

Here we started to discuss about the leukemia. And the reason the report came from… I remember the report came from Russian… from Russia. I think leukemia will start 20 years after now. But, my… I'm already making some kind of a forecast, my personal forecast. And I am now laughing about the breast cancer. Indeed, recently in Belarus reported slight increase of breast cancer. But, as you know, the many physicians know that the breast cancer under the thyroid dysfunction. It is very closely related. And there is a lot of documentation. So, here we have two problems of breast cancer. I say, young women who are irradiated by iodine, this may directly lead to breast cancer. Another is that children who are treated thyroid disease. As I say it's becoming in order period. And it might be possible that the consequence of the thyroid treatment or thyroidal dysfunction… many had caught breast cancer. I'm now a member of the French Academy of Medicine. I'm now surveying all the results of their survey on the relation of thyroid and breast cancer. So, my concern is of course children, still children of Chernobyl. But there are no more children in Chernobyl, as the twenty years passed.

Now we are talking about the children of the children of Chernobyl. Those who were there at that time are grown-ups already and possibly have their own children. So, if I live for at least another five years, as I'm quite an aged person, I will definitely keep to the topic, and we will for sure come back to these forecasts and all the details. I should say that in Europe, the most frequent case is not that much of breast cancer among smokers, as many may think, but the number of cases increases of mammalian breast cancer.

The press is always interested in how many people exactly suffered in any calamity. I think it is not possible here to speculate the numbers. But what we recommend to pay attention to, they must look more preventive precaution medical care and the possibility for people to come back again. Thank you very much.

Mr. Alexander Kuzma.

Thank you, Doctor Nakadjima. And now, it's my distinct pleasure to introduce to you Chairman and Co-Founder of our organization *The Children of Chernobyl Relief and Development Fund.* Doctor Zenon Matkivsky has served for many years as… Doctor Matkivsky for over thirty years served as a Chairman of Surgery in Union Hospital in New Jersey. He was the co-founder, with his wide Nadia Matkivska, of CCRDF. He's been recognized for many year now for his outstanding efforts including the first foreign professional to receive professional to receive the Presidential Medal of Honor from the Government of Ukraine, and also recognized by Time Magazine as a Citizen-Hero of the United States. For that we would like to invite Mr. Matkivsky to take the stage. Thank you.

Doctor Zenon Matkivsky. Chairman the Children of Chernobyl Relief and Development Fund (USA).

Missis Yushchenko, Excellencies, Ladies and Gentlemen,

For all the heartbreak and illness it has caused, the Chernobyl nuclear disaster provides the world with unique and important opportunity to learn as much as it possibly can about the health impact of large-scale human exposure to atomic radiation. For much of the past 20 years, the health research establishments around the world have squandered this opportunity as they thought desperately for downplay the accident and to rely on Soviet health data that was notoriously unreliable. We must try to reverse this trend.

We also have the opportunity to save the lives of thousands of children who have been stricken with life-threatening or disabling illnesses. Whether or not these illnesses were ultimately tied to Chernobyl, this is a secondary importance. Our primary goal should be to strengthen the medical infrastructure of the most affected nations and to expand their capacity to improve the health of their children and to save future generations against birth defects or disabilities.

Besides, accelerating the process of democratic reforms that eventually led to the collapse of the Soviet Union, Chernobyl has served as an important catalyst for the revitalization and modernization of the medical system of Ukraine. We have seen how even modest investment in a new medical knowledge, technology and training programs have had a significant effect on the quality of care in many hospitals, and were once 40 to 60 years behind modern Western medical advancements.

The National Academy of Science Biological Effects of Ionized Radiation Report has repeatedly stated that there is no safe doze of radiation. Even a tiny particle of plutonium, if inhaled in a lung, can cause cancer in a time.

The amount of radiation released by Chernobyl was anything but tiny. Chernobyl released over 185 million curies of radiation over the West areas of Ukraine, Belarus and much of the Eastern and Northern Europe. By some estimates, this was an equivalent of 270 Hiroshima-size bombs.

And, at last, don't forget that the first report of abnormally high radiation levels came from Sweden over hundreds or even thousands of miles north of the disaster's site. And it actually affected many areas in Western Europe causing elevation in radiation in the food products and so on and so forth. And it was noted that this elevation of radiation was noted to be as late as 1989. Everyone agrees that the massive release of radioactive iodine causing epidemic thyroid cancer both in children and adults. We have learned that another 9000 children in Ukraine are diagnosed with pre-cancerous lesions of the thyroid gland. And I must, at this point, welcome the remarks made by Mister Jeremy Hartley, in regards to the ionized salt. My feeling is, this is extremely important, and I will urge that all the physicians and the scientists in Ukraine lobby all kinds of agencies or areas of the government to make sure that this law is passed. Because, I think it's extremely important. We are dealing with a very serious situation. If you want to improve the lives and stability of the mental type of development of these children…

And over the past four years, the team of American and Ukrainian geneticists has treated the condition of other than 4000 of the newborn in Rovno and Volyn oblasts. They received significant amount of nuclear fallout of Chernobyl. They found a four-fold increase in spina bifida in children. Also found higher than normal rates of Down's syndrome and other breath defects, such as polytendinitis, cataract, deformed or missing limbs, deformed and missing organs. They can document is and photograph these cases and set up the first birth defect registry in Ukraine, which I think is extremely important.

2500 children with cataracts were registered in recent years. In 2001, the rate of cataracts was twice as high as in 1993. Last year alone, 423 infants were registered with cataracts.

Another strong evidence of the Chernobyl exposure is a key cooperate in the emergence of many diseases and birth defects, a team of researches from Israel and Ukraine studied tissue samples from the children of Chernobyl liquidators. Among the children, researchers found a seven-fold increase in chromosome damage compared to the civilians born prior to the disaster. This chromosome damage may affect not only this generation, but also their descendants, the so-called grandchildren of Chernobyl.

Among the case control study founded by the US Office of Naval Research found that statistically significant increase risk of leukemia and specifically acute lymphoblastic leukemia in children radiation contaminated regions in Rovno and Zhytomir in Ukraine following the Chernobyl accident. These rates are found to be twice as high as the rates for the region of Poltava, which had the highest rate childhood leukemia prior to 1986.

Studies at the Institute of Pediatric and Abstract Extreme Toxicology in Kiev have found evidence of radioactive strontium and cesium in placenta and breast milk among women exposed to Chernobyl radiation, as well as the baby teeth and tissue of stillborn. There is also evidence that young children are absorbing cesium and strontium into their bones instead of calcium. And this is leading to conditions such as osteomalacia and osteofibrosis. Ordinarily, we would not expect to see this kind of bone disease in youngsters. The CCRDF is hoping that a large wave of cancer does not occur because Ukraine is still prepared to handle such epidemic. At the same time, we are anticipating and working very hard to help rebuild Ukraine's medical infrastructure that was terribly neglected during the Soviet era.

In the past 16 years, CCRDF has delivered over 55 million dollars worth in medical supplies and modern technology to our partner hospital in Ukraine. In the early 1990s, we developed a premium cancer hospital in Lvov for treatment for treatment of leukemia and lymphoma and established a diagnostic laboratory that was considered among the best in Eastern Europe. This new house achieved remuneration for determining leukemia, which may be compared to some of the better Western hospitals.

CCRDF also install MRI system in the Kiev Emergency Hospital and provide screening for over 11 thousand patients.

Because of he increased infant mortality in Ukraine; we have established 20 model neonatology units in both pediatric hospitals and maternity hospitals. After introduction of this new technology and trainings, many of these efforts have achieved reduction in infant mortality, even as they have increased the value of patients, and they have been able to treat much more difficult pathologies.

It is worth pointing out that until 1990s neonatology was an untapped discipline in Ukraine. Babies who were born weighting than a kilogram were treated as if they were stillborn because doctors had no way of treating them. Their death had never been tabulated in the International Mortality Statistics, and we will never know the total number of newborn that died as the result of inoperable birth defects or complications.

Today the infant mortality rate in Ukraine stands at 24 per thousand life-births. If we calculate from 500 grams up till three times, which about three times higher than in the US, and it is at least 50% lower in our partner hospital, where we have invested some substantive resources. Therefore, it is extremely important that we take charge of this and supply these hospitals with more technology, because we cannot save these infants unless we have this absolute technology like respirators, which saves the breathing of an infant.

Beside supplying new technology and essential hospital supplies, CCRDF organized regional and national conference in neonatology, pediatric cardiology, infant cardiac surgery, genecology, oncology and endocrinology. We also publish the Ukrainian translation of the most respected neonatology manual and also other books. We hope the Chernobyl impact will be less severe than we are expecting. We are determined to see the truth and are continuing to save lives of Ukrainian children. We invite all concerned to join us to support this goal because it is worth every ounce of energy that we are devoting to this mission. Thank you very much!

Mr. Andriy Myroshnychenko.

I'm now giving the floor to professor Angelina Nyagu, Doctor of Medical Science and the President of Physicians of Chernobyl Association. This person is one of the best national experts in the field of catastrophe medicine and radiation medicine. She was the founder of Doctors of Chernobyl association in 1990. The Association's activities are aimed mainly at research and implementation of new technologies to reduce the impacts of Chernobyl disaster.

Doctor Professor Angelina Nyagu. Physicians of Chernobyl (Ukraine)

Highly honored Kateryna Yushchenko, Highly honored Colleagues,

We are happy to see all of you here today in commemoration of a very sad event – the Chernobyl catastrophe. Still your solidarity and heartfelt attitude towards all the existing problems give us strength that we need to overcome the severe consequences of the disaster. It provides strength to our government that bears tremendous costs and invests tremendous efforts to overcome the consequences.

Today we invited people who think and care for people – humanitarians. And, as you probably know, the two events that carry out important aspects we have to consider here: the technological and the humanitarian. I was asking myself on why we often here two different points of view we know what happened. I really enjoyed the speech of the scholar from Estonia, who said the mankind is still developing and thus is to be responsible for what is going on in the world.

Today we see development of highly-advanced technologies, which show us as homo sapience able to do a lot of things with great technological potential. But, at the same time, we see that our ethic and moral sides are lagging behind from the technological development. We still allow the world developing technologies of dual purpose, which may promote development and destroy mankind at the same time. I was very happy to be invited to this forum because it will help greatly in attracting international attention to our problem and to us as the country. We are very grateful to you and invite you to take part in our further discussions. Thank you very much for all.

Mr. Andriy Myroshnychenko.

I would like to give the floor now to Mrs. Oksana Garnets, PhD, UNDP Project Manager. Oksana Garnets began studying psychological aspects of the Chernobyl tragedy in 1986, first as an expert, later on as the leader of several projects and programs within the UNESCO framework related to the UN Chernobyl Program and UNDP Chernobyl Revival and Development Program. You have the floor, please…

Mrs. Oksana Harnets, PhD. UNDP in Ukraine.

Highly Honored Missis Yushchenko, dear guests, colleagues,

I would like to say a bit regarding the issues I am dealing with for quite a while, namely of psychological consequences of Chernobyl catastrophe.

Psychological consequences of Chernobyl catastrophe have been unfortunately not vanishing but developing for the last twenty years. The range of those consequences show that they are, firstly, changing and getting deeper into individual psychology, and secondly, which is a lot more important to my mind, is that they are getting inherited by further generations. Mister Hartley today admitted that today we already have the third generation of people who suffer from Chernobyl. So, we can already see the victims' grandchildren. And the problem is that this recent generation is carrying the whole psychological burden that their parents and grandparents have.

Psychological consequences of Chernobyl catastrophe are very complex, because the phenomena that caused this are complex by their nature. This is not only the fear of radioactive consequences but a huge stress after resettlement. When taking and brief look at the statistics, you will see the victim syndrome, the complex of psychological consequences in people after catastrophes. It is more intensively vivid with people who were resettled that with those who stayed and continued to live under the risk conditions. Because the break of social relations, change of the social status and changes of living conditions led to the situation when people appeared to be helpless having lack of understanding on how to move on.

The catastrophe that took place was very serious. That's why we speak about it not like about any emergency or damage, but we call it a catastrophe. The range of consequences we have now

actually disturbs all the aspects of human life. I am not trying to lessen the ecological impact, not the medical, but I want to say that we have no right to loose the young generation bearing a burden of Chernobyl. When applying rather professional terminology, these are young people that have some pessimistic traces, socially passive, despite young and are supposed to be a lot happier than they are. It is psychologically hard for them to build their future, they can hardly come over Chernobyl stigmas that they have, partially because of older generation's influence.

I would like to invite you all for discussions in sections, specifically who we can resolve this problem. Owing to many international organizations, mainly UNESCO, the model of providing psychological support has been developed. And this is a complex model. It includes both individual psychological assistance and in groups, as well as development of society's social tissue. I understand that in the scale it has been developed within the framework of UNESCO and later on UNDP, we have to think on how to apply these practices in our country to help our youth who believe they are victims in building their successful life. I would also like to say that almost the thirds part of those residing in contaminated areas and who are the main victims are children and youngsters. And these are the people we need to pay primary attention to. UNESCO and UNDP founded five centers for social and psychological rehabilitation of population in Ukraine. They actively work with children. The system is expanding right now, as smaller centers like that in the countryside areas that also help to come out of the crisis condition. I think these are the first steps that must be supported in future. In my opinion, the greatest risk today from the Ukrainian nation psychology standpoint, is to lose this very generation that is the third already after the tragedy. If we do not help them to be active and to learn how to resolve problems on their own and build their future, we then can hardly expect any prosperity in our country. Thank you for your attention.

Mr. Alexander Kuzma. We would like to give the floor to our colleague who helped in initiating of this project, Missis Lyudmila Porohniak-Hanovska, Family Doctor Magazine Editor, Chairman of the Medical Board for Women's Society Association.

Professor Lyudmila Porohniak-Hanovska. Zhinocha Hromada (Ukraine)

Highly Honored Missis Yushchenko, dear guests,

On behalf of everyone here, I would like to again remind of what happened on that day – April 26th, 1986.

For me, as for many people living in the Soviet Union at that time, that was an incredible thing that happened. First of all, we listened to our radio, we read our newspapers, but after we read and heard that all, we went to the kitchen closing all doors and windows to listen to Radio Freedom, Voice of America. Because we had two sources of information. We had different sources and heard all different facts, but we wanted to know only one thing, the truth. That's why I am very grateful to you, Missis Yushchenko, for your words when you said that the main thing is to know the truth. Today I again confessed the same situation. Yesterday I was in the theater, I heard everything that was said – 50 deaths of sharp radiation sickness and 4000 possible deaths from malignant tumors. And I see what we have in our country with 2'650'000 people who have victims and have this status. Then where is this truth?

Before coming to yesterday's and today's meetings, I had attended many conferences and sessions. But we have a great number of officials, scientists, we have two different views on what is remaining in the reactor. And I can say this as a mother of a 14-year-old boy who works right now at monitoring of the zone. This means that I know these things quite well – either there are 70% of atomic fuel left in the reactor, in this case there are another three Chernobyl's there located 100 kilometers from Kiev, because nobody can ever control the processes going on under

the sarcophagus, or all the contain of reactor has been thrown out of it at that time, then we are unable to speak, as Doctor Matkivsky mentioned, of 250 Hiroshima-size bombs. We are now to speak of a thousand Hiroshima bombs. Then the collective doze that all the mankind got was three times higher. So, where is the truth? That's why I would like to thank today's humanitarian forum for we met here and can say, yes, there was a humanitarian catastrophe. And it's mainly based on lack of truth. I want the truth to be here. I thank very much to all of you and hope we will be seeking for this truth altogether. The logo idea of the today's forum that was developed by our designers at Women's Society has two symbols about it – a stork wing hugging the world and the tender woman's hand that can keep that world.

Thank you for the attention.

Mr. Andriy Myroshnychenko.

Now I would like to give the floor to our final speaker of the First Plenary Meeting and welcome Olga Kovalenko. This is the person who contributed greatly to preparation of all the speeches and worked with the proposals regarding the general resolution that you have in your scope of documents. We will offer it for approval tonight during the evening Plenary Meeting.

Mrs. Olga Kovalenko, PhD. International Fund Ukraine3000.

Highly Honored Missis Yushchenko, dear friends,

We have already started the dialog about the future from the most complicated topic – catastrophes, humans, development, and evolution. We started it to see the way into future. We have to look with happiness into our future, as with the glance of wisdom, love and kindness can we see the true way – the way to create: creation of external world for humans and creation of the internal world. Because future is not forecasted, it is created by thoughts, dreams, intentions and then actions of human beings.

You may say everyone has own dreams and expectations. True! But when people live in the light of kindness, they can always get reasonable consensus in their actions, find mutual grounds and take decisions regarding the future only after a dialog, after discussing all possible development strategies.

The dialog we initiated is the basement for taking future decisions by understanding the interests and not suppressing them. This way nobody will remain offended and everyone will create. To achieve this, we need a special dialog. The general basement for such a dialog is the general development of man. The aim of our dialog is in the ways of setting such a dialog.

The first step to creation of dialog is perception of reality. And we have a section here that will work in this room on reality. Another step is perception of development pattern. We also have this section with philosophers involved; it will be working in the Music Salon. And step three, as well as section three we have, is aimed at development of strategy. So, we will have strategists there.

You have a very interesting draft in your folders – the draft of our final document that is called Manifest of Responsibility in Ukrainian and English. You probably remember Bill of Rights adopted in the USA. We would like Ukraine to have the Manifest of Responsibility. If you have any ideas or proposals on the Manifest, please do so. This will help us to create the first document ever here on responsibility of people.

The first part was actually announced by Kateryna Yushchenko. We set it as the most important in initiating the dialog in order to find the truth. The second lesson is to relieve from the egocentric perception of the world while satisfying current needs. Taking strategic decisions, we are to be governed by the interests of the people, especially the future generations.

The second part of the document is about the immediate actions that need to be taken. Especially in health care, education and global partnership on development.

Part three is dedicated to charity and responsibility. We are very grateful to the international community for what they did for us after the disaster took place. But we would like to say that charity is to become the invariable prerequisite of our life, to be essential for responsible person's life.

The final part is about human development. We hope our stork will be flying from forum to forum, and we will be talking about education of the future, about the ecology of the future, about the socium of the future, about the science of the future. And, by all means, sooner or later, we will see the general and integral picture of the world. It will be very easy for us to take decisions. It always easy to move, when you see, where you move. And it's very hard when in darkness. We are very grateful to you for you accepting of taking on such a complex topic. However sad this topic may be, we are beginning to move. And the beginning is as usual from the desert. We keep that hope that this is a starting point – a start for Ukraine, a start for the international community, a start for human development.

Thank you for your attention.

Section A. *Consequences and Lessons of Catastrophes: acquired experience and tendencies perceived*

Moderators:

Professor Dr Angelina Nyagu (Ukraine)

Mr. Alexander Kuzma (USA)

Mr. Alexander Kuzma. I would like to invite Doctor Angelina Nyagu!

Professor Dr. Angelina Nyagu. Association "Physicians of Chernobyl " (Ukraine)

The Chernobyl catastrophe – a lesson for the present and the Future

Dear Ladies and Gentlemen, Dear Colleagues,

We gathered here to discuss a humanitarian issue today. And here there are many professional, who are real profi in their field. They used to take decisions to overcome the consequences of the Chernobyl disaster; they have tremendous experiences of overcoming the consequences. We'll are calling for the international community to understand what had happened.

As for the topic of my report, which is very brief, I would like to cover on basic but a really important issue. As far as you know, we have two viewpoints here: the first related to top-professionals and the second is concerned with scientists who spend considerable effort in what they do. They have questions on the impact of the catastrophe on life in the world.

There is an issue here. We do respect our opponents here; they are outstanding professionals, experts. What's the problem? The problem is in the position. Top professionals believe this was just a communal emergency that had the phase of the beginning, then the phase of radioactive contamination and then the preventive measures. The dosing is to get to the end. When considering this approach, everything seems to be right. But when taking a different concept into account, rather a system approach that does not offend and criticize anyone, especially those who not deliberately became victims of the disaster. We know that from 9 to 11 million people were impacted only within the three USSR states, not even mentioning the European part that also got around 40% of the impact.

We know about tragic consequences as for the resettlement of about 400 thousand people in the three states. We will hear today representatives of other countries who will prove that the victims also emigrated and happened to get out of the country. The UN humanitarian position is, to my mind, based on systematic approach, when the catastrophe is not perceived not just as communal accident, but the complex occurrence with many features.

When we are speaking about a nuclear disaster, radiation component takes the primary concern and then we have the whole range of psychological, cultural, ethical and moral components. All of them require not only studying but serious and in-depth analysis. In this regard, today we are discussing all the aspects within the framework of out humanitarian forum. That's why it got its name. it has nothing to do with resolving the issue of where to store the radioactive waste.

Living in a democratic society today, we are to think on how to apply this tragic experience that we have to overcome the consequences of the disaster not only for ourselves, but for the entire international community. If the international community on behalf of the United Nations accepts this principle, then it is clear that the consequences of this ruining disaster require joint effort of the entire international community.

Today, our first lady noted that our three countries only will be unable to resolve this baffling task. Today we have grounded knowledge that this is not only the problem of the past but still exists today and is heading to our future. Thus, we have to take care of the future generations of out descendants. I believe we are to expand our today's discussion keeping this position in our minds. In order not to waste much of your time, I'm giving the floor to our next speaker here. Thank you!

Dr. Alexander Kuzma. Thank you. Our next speaker today represents the University of Miami, Doctor Steven Lipschultz. He is a very unique individual. He has two very powerful pediatric specialties both oncology and cardiology, cardiac surgery. He recently hosted the group of Ukrainian surgeons from Kiev and Lvov who attended the Maters of Pediatrics Conference in Miami in late January through the efforts of the Cuban-American Community. And for that we are very grateful.

Doctor Steven Lipschultz. University of Miami, USA

"The Cardio-vascular health of children and adults following Chornobyl and Hiroshima"

Thank you very much. It's an honor to be to share some of experiences and to learn at the same time. I was asked to speak on cardio-vascular health of children and adults following Chernobyl and Hiroshima. Next slide please. Last week on television in the United States there was a documentary about Chernobyl and children's health. One of the things that were shown was about children undergoing cardiac surgery, and their physicians and families labeled it as Chernobyl heart. They referred to it as set of complex congenital heart diseases in infants born to parents exposed to Chernobyl. An early increased rate of heart diseases was suspected. In fact, true investigation looking sub-clinically at heart defects, congenital heart defects, really hasn't been performed.

More importantly, at this point twenty years after these event late cardio-vascular abnormalities in long-term Chernobyl survivors are not understood. And one of the things that I'm going to try to share in this talk is some of the lessons we learned not only with radiation exposure late effects but also having the courage to look what we didn't really believe or didn't want to see. And one of the things that was really a very interesting example, where we actually do have some information in the United States is on child cancer to one of the only areas where understanding of late cardio-vascular abnormalities in long-term survivors of the toxic exposure exist.

Let me just explain why I'm bringing something from cancer into something when we are talking about radiation late effects. In 1970, a child born and diagnosed in a four years of age with acute lymphoblastic leukemia had about 10% survival rate. Shortly after that, multi-agent

chemotherapy came into use and it was a very dramatic improvement in survival. Currently in 2006, the same child would have about 88% chance of survival in the United States, even with high risk leukemia. Families were told early on that there was a risk of getting chemotherapy of damaging a heart, getting heart failure and potentially dying, but that risk was just limited to just when somebody was exposed. And if you made it pass that point you are free and clear of heart problems.

In fact, in the early 1980s, about ten years after this was introduced, my colleagues and I started to mention that, well; we started to see late problems with children's hearts. And we were told that we really might create cardiac cripples if we brought that to people's attention and that we really have to move forward and let people become survivors. Survivorship was important.

Well, we started investigating these late effects because they were concerning, and what I want to show you is when you look at an early childhood exposure, whether it would be from chemotherapy or whether it would be from radiation, as I'll show you in the setting that we've looked at it, oftentimes the interval before we start seeing clinically significant disease sometimes isn't measured in the course of a few months or even a few years. It may take decades depending on the type of exposure and may not be even limited to that generation. Next slide, please.

The clinical impact of cardio-toxicity twenty years after therapy for childhood cancer is what I'm going to review here at this point. Cardiac mortality in the cases of childhood cancer has now been published is over 50 thousand children around the world. And these children were diagnosed at about four years of age. So, even as twenty years survivors, they are still in their mid-twenties. And what is found consistently is that the risk of a cardiac death is eightfold greater than expected. And the risk of sudden death presumably from a heart arrhythmia is fourfold greater than expected. Unfortunately, what we found was that this progress was follow up rather than anticipated. Next slide, please.

We find that this cardio-toxicity here or toxic effect to the heart occurs following exposure to certain type of chemotherapy called introcyclings or due to radiation therapy that included the heart. And with either exposure, sub-clinical effects usually occurred during therapy but may progress years after the initial exposure. Next slide, please.

Knowing this, we've been able to determine, which risk factors are most likely to cause the damage. So again, if you don't look, you don't know, and if you find that there are problems you're in a better position to understand who's the most susceptible. In this case, people who receive the highest doses… girls, compared to buys, have about the rate of heart damage with the same dose. Younger age diagnoses, similar to what we'll see later for radiation or longer length of follow-up, are risk factors for getting heart failure, another symptomatic heart disease. Next slide, please.

In this work that we published on cardio-toxicity, eight years after treatment the child with leukemia, we found that again on the left side, if you are a girl compared to a boy, if you received higher doses of the toxic poisoning therapy, the health of your heart muscle cells eight years later was significantly less than normal and it influenced your heart function, it could not work as well. If you look at the bottom again, we found by a different mechanism the younger child was at diagnosis and increased number of years since treatment, the less heart muscle has left in the heart – the walls of the heart were reduced in thickness, this put more stress on the heart and the heart function was less. But again, we are only able to understand what the late effects were by actually looking at them. Again, if you don't look, you don't know. Next slide, please.

When we look again at this health of a heart muscle, what you have here is a red line that says that's the normal health of the heart muscle. If you go across from left to right those were 15 years from the time of the initial diagnosis with leukemia, and hundreds of children who were on

average four years of age. And, what we did was for every year for fifteen years we did an ultrasound test of the heart and echocardiogram. And what we found, was that what everybody originally thought to be true was true. The line there, if you look at the solid black line, there's significantly unhealthy heart muscle there at the end of chemotherapy. It's below the red line. What you see is when you get away form an exposure, toxic exposure such as this type of chemotherapy that black line goes up to the normal range. There is recovery of this unhealthy heart muscle to a normal range. However, if we'd stopped studying these children at that point, you would say, well this is not a big problem. Well, you'd say, this is an agent that kills leukemia cells, it kills intestinal epithelial cells, it kills heart muscle cells. But look, they get better. There was only by continuing to follow these children for another 15 to 20 years that we actually saw that those early effects remained in those children's heart muscle cells, as they grew older, as they got larger, as you can see, as that curve goes. And it becomes progressively more unhealthy. And what I was also showing you is that at the end of this line here, that 14-15 years, at 20 years these children in their mid-twenties die eight times higher rate than if somebody had never been exposed to poisoning agent like this. And it's getting worse rather then better.

Chernobyl was a classic example of large disasters. By large disasters I'm thinking of those, which have an overwhelming effect on the institutions, systems, procedures, capabilities of a single nation. And therefore, call for a broader, perhaps, international response. And I would draw on the experience that NATO has had over the last ten years starting in the Balkans and extending recently to the response to earthquakes in Pakistan, and also in a less direct way the response to the hurricane consequences of Katrina.

Now I realize that for this audience thinking about the military and NATO in this connection it maybe a new thought for you. I know that in the Environmental Community, for example, the military are more often seen as part of the problem rather than part of the solution. But NATO too has been learning lessons from the experiences over the last 10 years. And in particular, NATO has learned how military capabilities can be used, so that NATO or any other military organization would come in and somehow take over the functions of disaster response in any loner term, because this is properly a civil responsibility, largely that of government but also international organizations and non-governmental organizations. Nonetheless, in the early stages of the disasters, large disasters, I repeat, that military structures, forces capabilities can provide some immediate help, when other organizations are less able to get there. I thought for a moment about Missis Yushchenko's reference to the importance of conveying truthful information to the population.

Well, what other things we've learned from working with the disaster situations, and again I think of Katrina, the tsunami in the Pacific and Indian oceans and the earthquakes in Pakistan, is that very often the normal communication systems are broken down in ways that don't allow them to function correctly. And of you cannot collect accurate information, it's hard then to tell people the truth of what is happing. And one of the advantages that the military have in the most countries and the NATO military in particular is that they have their own self-contained and deployable communication systems, that is they can take communications to the areas where they have to operate. Secondly, of course, it's typical that in disaster situations normal transportation means are disrupted as well. That is roads are damaged, bridges are damaged. The normal means of communication by road may be difficult. And this is another area where military forces with helicopters and fixed-wing aircraft can be very useful because are able to move them forward and operate under very rough conditions without having all the normal arrangements in place in normal times. And lastly, of course, the military are prepared for large-scale medical casualties. That is the have deployable field hospitals and medical equipment, and it's relatively easy for them, or at least more easy than for other organizations to move such capabilities and supplies to disaster areas.

And I will point to a couple of places where NATO has been able to do this. And one is the work that was done in the Balkans both immediately following the Bosnian conflict and later during

the Kosovo crisis in 1999 when for example on the latter stage hundreds of thousands of people, families, sick people were being pushed out of Kosovo into Macedonia and Albania. And the facilities and capabilities of those governments were overwhelmed. Neither Macedonia, nor Albania were able to handle the large numbers of refugees, although they were doing the best with what they had. And other organizations, including the UN Refugee Agency, the UNHCR, were not yet in the position to help. NATO deployed headquarters, deployed transportation communications, medical personnel and quickly set up 10 cities in the border areas of both Albania and Macedonia. Not to take the place of the regular refugee work or the governments, but to provide an instant response so that the responsibilities could be quickly shifted over as quickly as possible to the normal agencies.

In Pakistan, for example, NATO has been able to deploy helicopters communications and personnel and medical supplies from Afghanistan where NATO is undertaking operation in support of the government of Afghanistan.

And the other dimension that I wanted to mention to you, which could be helpful in thinking ahead, because while we may not have another Chernobyl, it is likely that we are still going to have large-scaled disasters arising from hurricanes and other acts of nature, as well as accidents of man. And that is disaster planning and coordination. Because if you think the large-scale disasters, which are beyond the capabilities of a single government to respond to, one of the things that happens is, and we saw this very much in the tsunami areas, you have a lot of people – organizations, NGO's, governments, volunteers who want to come in and help. That's the good part. The less good part is that very often there's not structure of coordination in place to allow people to make best use of the capabilities and supplies that you have. And so, some villages get more food and supplies than they really need, other villages go without. And it is the same with the medical supplies, transportation and other support, which the survivors need.

And again, I'm not suggesting that the military should be somehow in command of relief operations. The lessons from the Balkans would be that it is possible to use the military structure as way of having coordinating meetings, so that different organizations can meet with communications and with support, so that they know what each of them is doing and better plan their own activities with that knowledge. It is not a command function. It is a coordinating function.

And then lastly, the point that I wanted to make is that in Brussels, in the NATO Headquarters, there is a body called the Euro-Atlantic Disaster Response Coordination Cell. And this may be useful for all of you to know because it provides way not just for the 26 NATO nations but other partner nations, now up to some 55, to share information about their stockpiles, capabilities, volunteer organizations and other resources that may have to respond to disasters. It provides a database and a clearing house for nations to figure out how they can better work together. And in this work we still do civil emergency exercises, which are the way that different organizations in different parts of the world could participate with others and think about the ways, in which they might be working together, for example, in emergency in a distant place. It is where you have to take all the equipment and supplies to, how would you get there, what would be the port of entry, what kinds of requirements would you have for transportation, housing, medical support, all the things that would go with a large-scale deployment like that.

And feel the need to repeat again, lest I've been mistaken, that this is not a suggestion that NATO takes over permanently from any other organization. It is only to suggest that there may be things in the NATO experience and in terms of its capabilities to support others that may be useful as we think about the future. One of the things that I'm very conscious of is that there's long-term follow-up of a disaster, such as Chernobyl. This is not something that NATO would be well-suited for. I'm speaking only of either the period of preparation and planning in advance of disasters, or the immediate aftermath dealing with the consequences of disasters that overwhelm the normal structures and agencies that need to respond. I thank you for your patience. I'm very

pleased to be here to learn about what has been happening over these twenty years. I assure the hope with all others that we will not live through another situation, and I offer my best wishes to all of you. Thank you.

Professor Angelina Nyagu.

Thank you. Dear colleagues. The floor is given to Professor Edward Pazukin. Professor Edward Pazukin is a liquidator not just of Chernobyl atomic nuclear plant accident, but at Mayak Enterprise in former USSR as well. He is now working in the Sarcophagus objects in Chernobyl NPP . He is the researcher of all the processes – both space and non-space – that we know really little about. And he can share his experience with you. Please, |Professor Edward Pazukin.

Professor Edward Pazukin. (Russian Federation, Ukraine).

The Lessons of Chornobyl: looking into the future.

Highly Honored Colleagues, Ladies and Gentlemen,

Today in the morning, Paolo Coelho said that the group of people never remains on the level of this group but expanding all over the world instead. Remember to whom the bell rings. The bell is for you. That is why I would like to share with you my impressions of the tough professional, Mrs. Nyagu mentioned. I have been working in Chernobyl since May 1st, 1986 and up to the present day. Today I have come from Chernobyl and will return there tonight again.

What lessons have I learned from my personal experience? You see, I am not going to provide you with scientific data, to show you tables. There are a lot of such data available with us for the last 20 years. But it seems to me that the majority of self-obvious lessons are forgotten. I am not going to tell you what has been already done. I will only tell you about the things done wrong. What do I mean when say 'wrong'? Firstly, to my mind it was impossible to allocate young males of only 18 years of age to the front for combating this disaster. There were many boys like that there. It was terrible. They had equipment that was not sufficient comparing to the doses of radiation there. They were absolutely not prepared for such work.

Summer of 1986 was red-hot and they sometimes took off their respirators, were going for a fag right next to the units. Can you imagine what it means – just having a cigarette there at that time? The commanders acted similarly. It was also complicated due to the fact that, this is only my personal opinion, somebody changed the construction of protecting bandages and instead of a ribbon that is tied around the neck, they used some welding. The bandages were badly fixed and often fell off the face. And you cannot touch it with dirty hands to be safe. The guys were seriously damaged as a result. The really dealt with extremely dangerous work, radioactive materials.

The strategy itself was very strange. Before Chernobyl disaster we did not have a single instruction on what to do in such emergency situations. We applied the instructions designed for nuclear explosion cases. But this situation was quite different.

The next point that I would like to emphasize is, maybe they will beat me for this, but it seems to me that throwing sand into the reactor was a big mistake too. It's like throwing sand on a working oven. This may lead to unpredictable consequences because when helicopters were flying over Unit 4 dropping in sand, sand ruined constructions and radioactive dust clouded above it. It was horrific. Due to the fact that the temperature inside was extremely high, some spare substances awoke chemical reactions inside of the reactor. A lot of people probably remember that in 1986 the liquidators were always coughing and sneezing. When respirator filters were disclosed there was a lot of boron and lead found there.

Another thing that I would like to draw your attention to is the construction of the well known slab under the reactor that was supposed to prevent from the Chinese syndrome. Maybe you remember the movie telling a similar story about the atomic station. It was probably easy to calculate that the energy from the reactor could not even melt its basement. And finally, what I

would like to say, there are some funny amusing facts. You have probably heard about a flag over the reactor. Please, think everybody, who would need a flag raised above the unit. Especially, taking into consideration the fact that a man from Kharkov was climbing the post above the reactor to place that flag there. All of the people were overdosed with radiation and what was the use of such activities. I have a picture of the slogan saying THE FRIENDSHIP OF USSR PEOPLES IS STRONGER THAN ATOM. I cannot figure out what friendship of the USSR peoples had to do with atomic energy. Another point here is the construction of preventive construction on Pripyat River right next to the plant. It was useless as water always goes its own way. It would cost gobs of money at that time. The expense like that was absolutely useless. And finally I would like to mention that there was a dam across Pripyat that was built to adsorb radiation. Tons of absorbent was dropped in the water and spread all over the area. But those absorbing substances are active instill condition only. With the flow of the river it becomes all useless, notwithstanding the fact that they spent a lot of money on this. The biggest financial losses were caused by the useless measures for sure. It was the beginning of the USSR collapse process.

What conclusions can we make here? It seems to me that the first and the main conclusion, and you will probably support the idea, is that mankind reached such an expensive technological and scientific development that any disaster, be it Chernobyl, Kursk Submarine, Komsomolets or other catastrophes is to be prevented to the highest extent possible. We need to report accurate and true information. The truth is the key point here, however bitter it can be. Human beings must be aware of objective reality to protect freedom. Another position here is that atomic energy has been playing considerably important role in our modern life. Oil and gag are getting more and more expensive with time. Our future yet belongs to atomic energy. I am convinced that its concept is to be reconsidered, as Andrei Sakharov suggested being an outstanding professional and scholar in this field. He suggested to place reactors under the ground.

Yesterday, I read an article over the Internet about President Yushchenko to have offered to gather all the knowledge and experience of Chernobyl and implement it as a separate discipline at schools. I think that would be really helpful because when to develop the science and incorporate it with other sciences mankind would be able to reach the stage when the bell will now ring any more.

Thank you very much for your attention.

Professor Angelina Nyagu. Thank you very much Mr. Pazukin. This is the bitter truth, but it's nevertheless the truth itself. It seems to me that the next speech delivered by Academician Andrei Serdiuk who will follow the ideas of truth because this person took decision at that time. He was a Minister of Health Care, and it's very interesting to know his vision of those tragic events.

Academician Andrei Serdiuk. Former Ministry of Health of Ukraine. Director of Institute of Hygiene and Medical Ecology of Ukraine

"Lessons of Chornobyl and the impact of secrecy and informational distortion"

I absolutely agree with what has been said before, but I would now like to concentrate on the most painful and important issue of each catastrophe whatever it is, whether it is an earthquake, flood, act of terrorism, which is a catastrophe as well, or whether it is the Chernobyl disaster.

The Chernobyl disaster has clearly removed our hopes for a peaceful atom. The tragedy, as you all know, had a multi-factor impact of people's health. These factors are now given on a slide. You can find here the recent data on Ukraine, the number of victims, the percentage of children. There are 3.3 million people suffered, and even now 2.2 million people live in contaminated areas. 308 thousand of liquidators. The problems left by Chernobyl are difficult and require

responsibility. I remember the words of Mrs. Nyagu regarding the feedback during the forum in Vienna when people called this a communal catastrophe. I would like them to give me this picture of this communal apartment where the entrance door is in Chernobyl, kitchen in Sweden or Finland, living room in Germany and bedrooms in England. How many people have felt the fear of this disaster? The most horrible about this kind of catastrophes is that we don't have any sense or feeling of how radiation impacts ourselves. The absence of such information increases fears with people. Pay attention to the fact when they allowed to uncover just some of the materials, most of the materials were strictly confidential at that time, Medical Newspaper reported 1991 that regardless of the information from scientists about the stages and number of Rems, people are still continuing to fall sick. The main thing for them is to hear the truth.

Why? Although radiation itself is purely objective phenomenon, it's subjectively perceived by individuals. It is the phenomenon for physics, but for us, physicists and medical pros, this is the impact that we see in people. Pay attention to the information problems of this disaster. First is related to the tough period of the Cold War and Hiroshima-Nagasaki bombardment, when atom was perceived as death with us. Another is between 1986 – 1989, absolute absence of information on the disaster and the compete confidentiality of it. That's why fears started progressing in the society, vulnerability and gossips.

Here is my report dated may 2, 1986. Firstly, pay attention to the top section of it with the radiation report. At that time in Kiev it was estimated at 1.5 mGy per hour. And it was 3 mGy per hour on the 1st of May. And then the number of those had fallen sick with radiation sickness. And in the bottom, regarding potable water and milk, being the essential things for human health that we were for with all our hands at that time, had the gamma background several times greater that normal.

Here is our report dated May 4th, 1986. To inform the population of Kiev, at that time there were talks whether to evacuate the city population or not, recommendations of radiation hygiene. Especially children are to be primarily taken care of – reduce hours at school and try to send children for a vacation somewhere. At that time, Ukraine has sent over 600,000 children for vacations and kept then there for over 4 months. None of the USSR states that have suffered would do the same – neither Belarus, nor Russia. For that we received another reproach from Moscow blaming us for the publicity we promoted. I think ordinary people had a different point of view on that.

And here is the UkSSR KGB notice dated May 5th, 1986 – all labeled confidential. I am only showing you papers that were either confidential or strictly confidential. To May 6th the radiation tension in the emergency zone is about 1 thousand mRem per hour. Here Professor Pazukin was right saying about the young boys sent to the epicenter. Another stage, the stage of informational permissiveness – 1990 – 1996 – USSR collapse, information permissiveness. That was a dictate of the unprofessional majority. At that time, anyone could write about Chernobyl. And this is what happened. This informational permissiveness did not give any answer to common people on how to behave and what to do. Those were just frightening nightmare stories.

And the present-day stage of informational disorientation. The distrust of people residing in the contaminated areas to any kind of information – medical, governmental, other people. The lifetime credo sounds like "There's no much time to live for us anyway".

I would like you to pay attention to the fact that not all the lessons of Chernobyl have been cleared up, but the majority of them have already been forgotten. Why? Because there was no transfer from protection of people from the disaster that has occurred to the protection of people residing in areas of prolonged radioactive contamination, as millions of people live in such areas. There are no criteria of the end of the emergency. And we have to change the attitude of people residing in contaminated zones from passive self-perception as a 'victim of Chernobyl' to active 'master of the situation'. This is because of the lack regulations and laws to be adopted in early years of Ukraine's independence.

Last year we held a poll through printed questionnaires for population of Ukraine. We selected 16 most well-known risk factors for people. Those were fire, flying on an airplane, pesticides etc., and added three factors related to radiation – Chernobyl tragedy, natural radioactivity and medical radioactive impact (x-ray etc.). After having this research in Kiev and Zhytomir regions, which have the highest contamination levels, and we also held it in Zaporozhe and Dnepropetrovsk where the contamination level is believed to be not as high, however still being there. 98% of population regardless of age, education, sex and residence answered that the biggest and the most considerable risk factor for human health is the Chernobyl disaster.

This is the drawback of our work as well. I'm now speaking to physicians. Because a conventional person may not know what we know now and what was unclear when the disaster occurred. I would life to remind you that a year ago during a meeting with Academician Ilyin, who has been well known in studying the issue, he delivered interesting words: when a disaster happened, in Soviet Union there were only 10 professionals who could give more or less reasonable explanations to many things, specifically about the radiation threat under war conditions. Nobody knew what is to be performed in this very situation. And here we are speaking of Chernobyl lessons – underestimation of extent, absence of information, gradual evacuation and then reevaluation of population, involving the great number of non-professionals into liquidation (I again support the professor). We have indeed involved many people who were not supposed to be there. There's still one thing to debate here. With my full respect to Academician Sakharov, but the first person to speak about the underground stations was a famed American scholar Edward Tailor, a Noble Prize winner. By the way, there is his article in our magazine. When I attended one of the international forums with him present, I asked him for an article and he was very kind to provide us with two, among which one is called "Underground Atomic Stations". I can present you the magazine, Professor.

Again, the imperfection of legislation, informational permissiveness after 1989, and non-acceptance of safe radiation impact limit by the population. I would like to say that Chernobyl stays with us forever. We are going to live with it, resolve its safety issues. I'm sure there will be enough work for everybody and would like to thank those who gave us the possibility to again drag attention to this issue. Thank you.

Mr. Alexander Kuzma. I would just like to take a moment to acknowledge a special guest that we have here. Parliamentary leader Rebecca Harms from Germany. We are very glad to welcome you to our conference.

I would now like to invite a splendid scholar from the University of Alabama Doctor Vladimir Verteletsky who will deliver report on genetic problems and chromosome abnormalities. Please, you are welcome Dr. Verteletsky.

Dr Vladimir Verteletsky. Chairman of Medical Genetics University of South Alabama. USA
"The Influence of Chornobyl on the genetic health of future generations and Prevention of Birth Defects"

The birth defects, however, I should say that this is not my work. This is the core team. And I will show you this slide again to encourage you to contact the core members. But in fact this is the work of very many-many people. So the credit goes to each of these individuals that make the work possible.

What I want to underscore, there's no time left to understand that birth defects is a very complicated topic. And that this topic was not addressed as far as I can tell in any significant degree in the reports I have read about Chernobyl.

This is me, so fundamentally, I am a pediatrician and medical geneticist. I have been honored in Ukraine, for which I'm very grateful, since I have been made a member of the Academy of Science and granted Doctor's degree. And I'm interested in international issues, and Chernobyl is an international issue, it's not just a Ukrainian issue. And then for fun if you want to know what I do for entertainment then you can look at medical etymology and there is an accent on medicine of course, but there is also an accent on Ukrainian. Ukrainian in an old language that has not been studied by linguists, and it is very interesting I promise you.

This is where you can find our position that I will be talking to you concerning Chernobyl. It is published on the web. And this is a very successful website. We are going to welcome 1.5 million visitors very soon to this website. If you forget the address, all that you have to put is just 'birth defect Chernobyl' and Google will probably show you this is the first choice.

Now I want to define the language or else we are not going to communicate. First of all, Chernobyl birth defects and surveillance need to be defined and I will come back to that in a second. What you need to remember from this slide is that every carcinogen is a cause of birth defect. Every carcinogen is a teratogen. Each one of the carcinogens is the cause of birth defect. Second is when we talk about radiation, we need to talk about sensitivity. And there is nothing more sensitive than the unborn in terms of embryo. And in that context, Hiroshima and Nagasaki have very little to teach us. The number of children studied and the unborn studied in Hiroshima and Nagasaki is miniscule. And furthermore, in Ukraine we have not high dose, low dose. And low dose radiation is a different chapter in biology. It is not the same discipline. And not only it is now dose, but it is chronic. Therefore, is cumulative. So, that low dose over the years becomes high dose.

So, birth defect is defined broadly; it is not a scientific term. It is a political and social term. It refers to any anomaly, any, functional or structural. In this context, we need to think that radiation causes mental deficiency manifested in any age, latent periods are very long. You've heard about the cardiopathy due to radiation – a heart disease, occurs late. It can be direct or indirect. Therefore, the radiation can burn cells and induce indirect effects, could long latency period. The only limitation here is that the cause precedes birth. This was defined by the poliomyelitis foundation set up by President Roosevelt when poliomyelitis was conquered and they shifted the attention towards birth defects.

Now let's look at radiation in the context of birth defects. Radiation can cause any cancer. It can malform any structure and it can cause many functional problems, but mainly mental subnormality. It can manifest at any age, because the latency period can be longer than your life span. If fact it can be manifested in your child or grandchild. It can act directly and therefore dose-related, or it can act indirectly through the DNA and therefore be probabilistic or statistic, whatever has you. And it is a major cause of public concern certainly. But a big problem is credibility. How can you talk credibly about Chernobyl? That takes a lot of work and therefore a lot of resources.

So, birth defects are now surveillance. Surveillance is not monitoring. Surveillance means that you interpret, that you react and that you prevent. And in that sense, Ukraine does not have yet a broad birth defect surveillance system, except, as far as I know, the one we have set in five regions of Ukraine. And this was made possible by many donors including the United States Agency of International Development. It is an expensive, difficult, slow, labor intensive process. But fundamentally it has to be credible.

So, we set up first surveillance in two regions of the north-west shown in blue and about one half, the northern half of those regions, are heavily contaminated by ionizing radiation that followed the Chernobyl disaster. Subsequently, we set up three additional surveillance systems that are shown in green.

And within two years, we noticed that in Ukraine there is an epidemic of spina bifida. This is in literature called neural tube defect because of the family of disorders. There is an anencephaly when there is no brain, there is spina bifida when there is not closure of the canal of the spine and the is anencephaly where calvarias is not fully formed. And since then we have been saying there is an epidemic. And somebody was mentioning we don't have enough births in Ukraine, where we are losing 500 children every year? So, by now we have lost 2500 children. And I mean, these 500 are the ones that we could have prevented. I'm not counting all the children with spina bifida. I'm giving you what predictably could have been prevented. Folic acid should be introduced into the diet of the Ukrainian population.

These are not arguable scientific facts. There is so much data right now that the center for disease control in the United States will tell you that monitoring is now longer necessary. This is beyond dispute in terms of science. It is disputable for ministers of health, which some people consider are committing public health malpractice buy not introducing these preventive measures.

Here's the epidemic comparing Alabama, California, South Carolina, Texas, Ukraine is in the red - on left you have anencephaly, on the right you have spina bifida.

This is comparing Ukraine rates in bars comparing to other countries such as Canada (Alberta), China, England – they are lower.

This is showing Ukraine, and the big lines are the fact lines for the rates in the United States before folic acid and the little dots show the rates in the United States after folic acid showing sharp reduction and defrequency for spina bifida. Nonetheless, all those are not convincing yet in terms of introduction of prevention program in Ukraine. Now, in September or so I read the report of IAEA. And knowing perhaps that something was going to happen in Ukraine, we decided to a little bit more into what can we say about Chernobyl in a more specific way. So, carcinogens and teratogens we know. We know that in Ukraine there is a big discrepancy between opinion and fact. So, I wanted to bring you fact. We know also that there's no good communication between agency and the public. The public rejects the pronouncements of agencies. And we also know that treating is not enough, the best treatment is prevention. And in Ukraine there are four time as many spina bifida cases as PKU. And yet the Ministry of Health is obsessed with PKU but ignores so far the spina bifida epidemic.

This is all what the report by IAEA had to say regarding human reproduction – six lines in a publication. And if you take a little bit careful reading you will notice that facts are mixed to the opinion. And mainly concerning congenital malformations. Only one study has been cited and this is the study of professor Gennady Lazyuk in Belarus and let me say that his institute has been dismantled. So, one study is not enough to make pronouncements.

This is the pollution and the rayons affected, and there you see the north-west region. Notice the lack of correlation of this zone of oblast with the actual map, which shows of cesium 137. These are Ukrainian publications.

This is the satellite photo that shows you clearly at the upper half of Rivne and Volyn oblast is ecologically different from the lower half. Look at it. It's a different soil, it's a different ecology, and in fact this is a different region called Polesye – they live differently, they eat differently, they talk differently. And there are said to be historically isolated so that they are probably intermarried between them more frequently.

This is cesium in milk – highest in the nation here. Cesium is like calcium. It goes to the bone and if you are extra-sensitive, you don't make the spine perhaps. We have not proven that.

But when we break the data into polluted and non-polluted, what happens is that in the polluted area we find a higher frequency of neuro-tube defect than in the non-polluted area. And in the non-polluted area we find no difference with the central area, which is joining geographically.

Yet we find a much lower frequency in Crimea. That's doesn't mean that we can attribute this to anything. This is just naked fact. What is a credible fact? The next stage is to find the cause. So, I'm not saying that this is attributable to Chernobyl, nor can I say that this is attributable to nutrition. But the Crimean rate on the right is still two or three times higher than it should be. So, I do know today that if I give folic acid I will reduce the rate in Crimea in half. And I will reduce perhaps the rate in the polluted areas by three-fourths. So there is no reason to delay prevention of spina bifida in the name of science.

Now, another strategy is to say, well, let's look at the exotic birth defects. Once that the journalists would go and publish about it. And these exotic and rare and very rare anomalies get a lot of publicity.

Well, this is an argument not to delay fortification with folic acid and start preventing spina bifida. The blue line is what you expect or that's the European frequency and the one flashing is what we can prevent.

So here you have Siamese twins, two joined twins. This is a very rear anomaly. Ten registries with ten surveillance system with one million pregnancies each. Not in one found more than one case. Zero out of ten. Yet in Rivne alone we have a cluster, we have one in the year 2000, another one in 2002, another one in 2003, another one in 2004. We qualified to be the major leading partner in an international study of conjoined twins, because Rivne alone has more registries than ten registries for ten million pregnancies. So I think it is worth looking at. This is not attributable to Chernobyl, but it is attributable to something. And this happens to be in Rivne, not in Volyn, not in Kherson. And now we found one in Crimea just about fiver days ago.

So, I', grateful to all of these colleagues. I invite you to get in touch and I invite Professor Igor Baryliak if could step here. He is our scientific advisor and he will draw recommendations based on this preliminary observations. Thank you for your attention.

Mr. Alexander Kuzma.

I'm giving the floor right now to the highly honored Professor Anatoly Cheban who will be giving a speech endocrine's consequences of the Chernobyl tragedy. Thank you.

Dr. Anatoly Cheban. PhD. Association "Physicians of Chernobyl"

Chornobyl Disaster: implications for health

Why I want to tell you about these consequences is clear because the greatest emission of radioactive substances was the emission of radioactive iodine. The biggest disaster before Chernobyl was on Trimail Island. At that time 10,000 Curie of radioactive iodine was emitted into the atmosphere. In the United Stated, where there was leakage of radioactive iodine for 12 years, 5000 Curie were emitted, while in Chernobyl, you know in what short period of time, it was emitted 12 million Curie of radioactive iodine. Compare the figures. Moreover, it was mentioned that that was not the true dose. It is believed that a lot more radioactive iodine was emitted.

Who got and who achieved that radioactive iodine 131? Look, 20% to Ukraine, 19% to Belarus, 12% to Russia. Europe received 28%. Count it! This means that 3 million Curie of radioactive iodine went to the European countries. The cloud moved around the whole Northern Hemisphere and 7% were even transferred to China and Japan.

What does this all say? There is the resolution by the National Committee for Radiation protection according to which the dose in little children above 5 centigrade is recognized as high. With bigger kids and teenagers over irradiation is estimated at 10%, and 30% in adults. I chose from the statistical data carried out almost in all villages of Ukraine data on children. Unfortunately, the smaller the child is, the more iodine is absorbed by his/her thyroid gland. Here I chose several villages in Ukraine specifically children born in 1986, 1983, 1985 and up to

7 years of age. While the appropriate dose is not to exceed 5 centigrade, children got about 2000. How can estimate this irradiation of thyroid gland…

Unfortunately, according to the dosage data in Kiev, Chernygov and Zhytomir regions, there isn't a single village where children would not over irradiate thyroid gland. From that data I took the so-called clean Ternopol region. And there in 170 villages there thyroid glands were over irradiated.

I am not going to be talking about thyroid cancer right now, because it has already been talked about a lot. It was said that there were 400 cases in Ukraine among children with irradiated thyroid glands. But if there were no contamination there would have been 40.

Moreover, I was yesterday shocked by the statement that people with removed thyroid gland are deemed healthy. In this case, we may say that people with two legs amputated are healthy as well, because thyroid gland is a vitally important organ.

I am not going to be talking about thyroid cancer right now. I am going to talk about things that are rarely talked about with the doses like this. There is a notion of non-tumor irradiation effect. What are their features? They are featured by the primary reaction to the irradiation, dose abuse and dose effect availability and the latent period before sickness progress. Here, on this slide we can see thyroxin content in blood a year after the irradiation. Here are age groups here… With the high level of a hormone like that no clinical reaction has been observed. That was a biologically hormone, it does not penetrate, because of radiation the penetrability of cells has changed and that is why autoimmunity reactions will launch. And that is why we didn't see clinical effects. I was in the (IAEA) team and really in 89 and 90 years we didn't find pathologies in the thyroid gland. But it was due to the latent period. In 1992, you can see the red columns, it's Lochvitsky District, Poltava Region, and Narodichi District. And in 1991 there were signs of damage of thyroid glands in of people damaged with radiation. Two years ago, under the Ukrainian-American program of assistance to children of Chernobyl we reviewed 5,000 people under 3 years in Kyiv and Slavutich. Children in Kyiv leave just in the same circumstances. The first column you see children who have nothing to do with Chernobyl, in the second column children from Kyiv, and the third one - children who were evacuated in the year of 3 from the town of Pripyat. You see a very big difference, the difference is 15%. The number of thyroid disorders is greater. The common practice in thyroid disorders is hypothyroidism - the thyroid gland stops its functioning. Not so long ago, we made one more international research, we reviewed the families of people from Chernobyl; and at present women - we may state that 40% of women in Pripyat have thyroid disorders. More than 30% of men have just the same problem, and about 20% - it's the figure of inhabitants of Kyiv who have chronic thyroid disorders. Now you can see official statistical data; above you can see the data on liquidators of emergency situation population, evacuated population. You can see the growth of disorders. And you can see that allegedly nothing had affected people. I would like to ask – who just examined those inhabitants? There is only one specialist in every district and only diabetes is established by those doctors; and thyroid disorders are quite different, they do not cause pain and require sophisticated tests. We used computers to establish diagnoses, and with the help of the American Space Agency we just transmitted the visual image of a thyroid gland to the United States. The methods, the approaches have been developed by us, but unfortunately no one so far uses it. In the future, progressive pathology of the thyroid gland will tell on mainly physical, sexual, and mental development of children, and as far as adults are concerned, they will be aging prematurely. We should just compare the biological and official passport age, the latter I am sure will be greater than biological.

Professor Angelina Nyagu. Thank you very much; this following group of reports is devoted to another development. The floor is given to Mr. Shapiro from Israel. He is Director of the Israeli

Center of Health of new repatriates and victims of the Chernobyl disaster who live in Israel. You are welcome, Doctor Semyon Shapiro..

Doctor Semyon Shapiro (Israel).

Perspectives of international assistance at disasters"

Dear Ladies and Gentlemen, colleagues, friends. The international community admitted that the Chernobyl disaster recognizes no borders; it's a global disaster. It is established that international efforts should be used to overcome this Chernobyl disaster. It seems that when I go to Israel and start talking about Chernobyl, they would answer: it's too far from here, we do not feel the consequences of Chernobyl. But the facts are quite opposite. Israel after 2-3 years of the disaster, beginning from October 1989, the repatriation to Israel goes on, and it's clear that tens of thousands of new repatriates or immigrants, who used to live in northern and central Ukraine, Byelorussia, Southwest regions of Russia, who were subjected to influence of radioactive pollution; just go to Israel, it's more than 350,000 people who used to live in the Chernobyl regions; it's about 5% of the Israeli population and about 20% of the total number of new repatriates who arrived after 1989; among them there are 1217 liquidators. Vinnitsa, Berdichev, Gomel, and other towns are the places of a dense Jewish population, and these areas are the most damaged by the Chernobyl disaster. After the ecological disaster, the entire planet draws its attention to these areas, but we do not remember that the town of Chernobyl was a great center of Jewish culture in the 17-18th centuries. After many repatriates came to Israel from the damaged areas, our country is the fourth country in the world whose population was influenced by the Chernobyl disaster. We have the problem of increasing the quality of medical services for all those who were damaged by the disaster. And really, like people who live in Russia, Ukraine, and Byelorussia, Israeli citizens who arrived from the damaged areas need protection and health services. Our center, which was created more than 10 years ago, is unique for Israel. It is a structure that deals with medical and social problems of repatriates who arrived to Israel from the countries of the former USSR. There are many directions of our work. Medical examination of repatriates, examination of the participants in liquidation of the emergency situation, researches of health conditions of repatriates to Israel, medical, physiological, and social adaptation of the population damaged by the disaster, information on the healthy was of living. More than 10 years there is a hotline – we call it "red hot telephone line". It's free of charge; it's a hotline for persons; more than 100,000 people used this hotline in the course of 10 years. I mean, the liquidators obtain free of charge examination. It gives the possibility to in time detect such disorders as cancer of the thyroid gland and others. We are going to create a list of new immigrants who came from the damaged countries and the Chernobyl area. Tens of thousands of new repatriates were examined in our center, children who were born before and after the disaster; by the way, we several joint projects with our Ukrainian colleagues. More than 20,000 people and about 1,200 people were just examined in our center. More than a half of the repatriates who came to us used to live in Byelorussia, 40.1% used to live in Ukraine. Out of the former Byelorussians, 46% used to live in the Gomel region, and 18% in the Minsk region. People from 42 to 51 years of age – it's 15% of our clients and so on. The Chernobyl disaster, unlike other catastrophes, it was the first to provide the science with a possibility to study the consequences of irradiation on a great amount of the population. It's a tragically unique disaster; the great amount of radiation was concentrated in the critical groups of population and the great amounts of population; that's why it's critically important to follow up the remote consequences of radiation over the repatriates who newly move to Israel. More than 15 years it's the period of pathological changes in nutrition, in psychology, and in organically functional disorders. In 10, and even 15 years we should collect data about the pathological changes. It would be a priceless and very useful database for the specialists to be used to improve the health of our population. The years, which have passed after the Chernobyl disaster, let us to sum up the materials we

have collected in all those years and make use of this database to improve the population of our people, and to form the contemporary vision of influence of radiation over the human organism and social structures. Additional causes of health problems in Israel from inhabitants of the polluted areas are attributed not directly to the dose of radiation, there are also demographical, social, ecological problems, and they negatively tell on the growth of dangerous diseases. The fact of being present in the polluted areas is certainly a factor, but the stress of integration in the Israeli culture, immigration into the new country also contributed to the growth of diseases in this group of people. The level of diabetes is 3.5 higher with new repatriates than with the indigenous population. The Chernobyl population in Israel is most susceptible to diseases, various diseases. The level of risk of oncological diseases depends on the age of those who were subjected to radioactive pollution; the cancer of (chest) is at a very high level in Israel. We have only 5 cases of cancer of the thyroid gland in children, but adults have a lot of such cases. There is one more tangent group, those who were children and teenagers during the disaster, because they were subjected to radiation, which led to genetic mutations. The social and psychological factor is also very important; it's a very traumatic and long-term factor. It's possible to say that the social and psychological consequences of the Chernobyl disaster are the reaction of a collective psychological disorder. More than 50% of the population who used to live on the polluted areas even in 20 years are sensitive to possible risk. There are high levels of comprehension anxiety; it indirectly influences the state of health and weakens people. I want to dwell especially on the topic of liquidators because I understand I don't have much time, I almost have no time I want to tell you that we conduct all the time; practically there are no places which have not been visited to research; we have not been visited a lot of places, we have met many people, and we continue doing this research work. Unfortunately the tough experiment of Chernobyl still has a lot of effects in Ukraine, Russia, and Byelorussia, and in Israel as well. The results of this accident are important to eliminate in 10 years and in more decades. We have a lot of genetic consequences, we have unhappy results. The health and genetic consequences are really tough, and we'll face them in the future as well. The level of cancer diseases, we'll face it much frequently in 20-25 years. It means that Chernobyl will stay with us in many generations to come, forever, because it's a process, it will go with us, and it will stay with us forever.

Professor Angelina Nyagu

The next is Professor Gennady Sushkevich, he is an expert of the WHO organization, and he is also Deputy Head of the International Relief Fund for Children affected by War and Disasters, the Russian Federation. Please, we welcome you !

Professor Gennady Sushkevych. International Relief Fund for Children affected by War & Disasters. (Russian Federation).

Thank you, Angelina Ivanovna, thank you my colleagues and friends. I will present here the International Fund of help for children after wars and accidents. The fund's work groups have worked in many places that were affected by earthquakes in Pakistan, Algeria, Russia, Armenia, Turkey and Afghanistan. Our groups have been worked in military conflicts in Karabach, for example, in Yugoslavia. This is the experience that we have gained during the last 15 years, and this experience shows, proofs that, first of all, that to provide medical assistance for children should only specialized groups of doctors who have experts and specialists who have a lot of experience in working with children, precisely. Our groups have surgeons, pediatric surgeons, anesthesiologists, reanimatologists (experts in resuscitation), and specialists for working with radiation diseases. Our experience proves that when working in the hot spots where there is an emotional factor and physical factors as well dwell, which bring different cases of problems with children. When specialists work, for example, when they have the crush syndrome, for instance,

we end up only with 5 cases of amputation, whereas with surgeons working with adults they amputate in up to 40% of the cases if the patient has such a crush syndrome. It proves that one so as ….to be best prepared for such a work, for work in such accidents, and radiation accidents are not the (exception) in such a case. The Chernobyl accident had many different consequences, but only the liquidators in certain cases they had combined consequences, but children had no combined health consequences, the only one the most frequently mentioned one is thyroid consequence, but the huge radiation medical consequences are those of the combined consequences – radiation plus crushes, radiation plus different complications, so as to be prepared for such radiation accidents or terrorist acts one should take into consideration using special groups of medical brigades with pediatric doctors. Not any surgeon who works with adults can provide correct, right assistance for children. Many adult doctors who work with all grown-ups, I am afraid, (can not) provide medical help for children because, for instance, they know that children can answer in not a correct way to the questions…but the pediatrician as he works with children he knows the ways how to ask correctly, how to diagnose correctly the child. The Chernobyl experience helped us in a certain way – it helped us … to make the right results and decisions. We understood that we have to have different ways of approaching children and adults affected by the accident. If the iodine prophylaxis that has been mentioned in the main reports, …if it's a 100 …thyroid… the data that proves that …if it's a 10(mg), one should use iodine prophylaxis with children. This principal helped a great deal, though it does not help all the time, sometimes not only 10mg used, sometimes it's much less, but what if we consider the traumatic consequences if we take the case of radiological accidents. These cases are not mentioned with children because in 2004, for instance, they had a common plan of action that …… the (IAEA), WHO, UNICEF organizations, but they make no mention of specialized approach to use on the children. That's why in my short speech I would like for you to take consideration of this aspect because it must also be taken into consideration because it will help us to be better prepared for future accidents and disasters. What I see, I believe that sometimes we spend too much emotion, and spend too much time so as to prove which factor is the topical in radiological accidents, the kind of; is it stress, the induction, or chemical inductions that are very important, it's complex. These accidents are very complex; they have all of these factors and many more. I believe that in such cases the scientists and public should dwell only on one factor. In the situation we should dwell on argumentation only as additional to our picture, what was the reason of such tragic consequences of Chernobyl? We have to know what is the reason of this or that biological effect because if we know the reason we then 90-80% ….doctor is prepared and he knows how to cure this pathology, but we should approach also in such a way that the complex accidents have also specific components of crushing effects, as well as unspecific factors. That's why we can talk about the radiological factor as also a complex crushing factor as well, so as ….to prevent such arguments between the public and scientists who dwell only on one or several factors. I believe that in such situations the complex approach will be the most right one. I want to thank the authorities and the forum itself that they gave me the opportunity to speak here on this stage. I represent the fund of help and assistance, who (which) is headed by Dr. Roshal, the famous Dr. Roshal, who is a humanist himself in such a way that he believes that the huge accident who (that) is accompanied by traumatic accidents and consequences with the children. Thank you very much for (your) attention.

Professor Angelina Nyagu. Well we see now that… we ask to come the deputy Minister of Defense of Ukraine major general Vladimir Pas'ko. He will tell us about his views on this topic.

Major general Volodymyr Pas'ko. Deputy Minister of Defense of Ukraine.(Ukraine).

"Military Medicine in Response to the Chornobyl catastrophe"

I was listening to my predecessors. The depth of penetration and the scope are impressive with them. But I would like to use this opportunity and briefly to discuss some of this agency-wise, but nevertheless this is a substantial issue of Chernobyl and the force Chernobyl, army, military Chernobyl medicine. The first strike was accommodated by firefighters; already in the first hours some military units and civilian defense forces were involved. And the first days, and then months and years about 90% of recovery workers for (NPP) were military officers, those who were career military officers and who at that time were mobilized because the army was the only structure in the colossal country capable of mobilization of considerable human resources and capable of localizing the catastrophe because of its technical and scientific capabilities, which used to be substantial. What happened on these tragic days? On the April, 27th the first military units from the Kyiv military constituency, engineers and medical officers, radiologists and hygienists, together with chemists, got down to (evaluate) the situation, and in the course of business 27th and 28th of April they made first qualified evaluations of the NPP, the town of Pripyat, and they took samples of the air, water, and soil for medical assistance for military brigades, sanitary, first aid where… were seconded 25,000 survivor kits, 100 kits for first aid for ionized irradiation victims and 25,000 respirators. They deployed medical sites with 25 tents and the clinical lab. On the same day, on the 27th of April, they transferred from the Privolzhye military constituency units of motorized regiments and also mobile detachments of chemical forces for liquidation of the after-effects of the radiation accident, the latter detachment was created after wide-scope accidents which took place in South Ural in 1957, and there was a big contamination, unfortunately, but the 30 years of experience had been wasted by that time. I would like to dwell on some medical aspects of medical provisions for the population and the force. That was the sole responsibility of the military medical doctors because the civilian doctors were paralyzed in their operations. The medical forces were responsible for participation in radiological intelligence, surveillance of the territory, and also in identification of cases of exposure and first aid provision; provision of medical assistance to those who needed it, and of the evacuation of the victims to the safe sites and hospitals, and also maintenance of the sanitary measures and the exclusion zones. Within one week, 2000 military doctors were mobilized into 5 medical battalions, there were deployed division hospitals practically and over 200 medical sites, brigades, and regiments. And that grouping was even reinforced later. The very presence of military doctors from the first days and their active professional activity mitigated the psychological states of military officers. They did not feel abandoned knowing that qualified medical care was given to them, secured for them. As to medical care, the quality was deteriorated by the atmosphere of strict confidentiality, which governed all the nuclear sited without exclusion. The original cure for radiation disease, such a diagnosis would have been established only in the cases when it was impossible to hide such effects from the population. In all the other cases, the irradiated had the diagnosis of vegetative vascular dystonia syndrome. And the first original reason would be covered for. That was a semi-official requirement in the military forces. The first sufferers who suffered from the first hours were transferred to Moscow to a special clinic. The second wave would be acute radiation disease, starting from the 27th of April would be directed to the Kyiv constituency hospital, and as of the 25th of May, we already had 275 military officers accommodated by the hospital in question. I would like to say that in the course of the recovery works, especially in the original stage, medical service encountered the severe complications because of a lack of practical experience in recovery work for such accidents. And representatives of different agencies and academics had no shared opinion as to the original radiation factors or defenses possible under such circumstances. They also lacked clear-cut instructions with the admissible dosage for the people involved in the recovery of the accident. Also, the thresholds of contamination of the water, foodstuffs, and environments. And in that connection we had situational ad hoc proposals developed to regulate the admissible doses of radiation for (military)… officers 25, and also the contamination of outfits, foodstuffs, water, and other media. The medical service was focused on sanitary inspection of safety through organizing reliable control in the course of contamination, and this work all the

commanding officers and stuffs allowed reduction and keeping of that level to a minimum. As it was this, the governmental commission (on a monthly basis) decided not to use conscription, soldiers, in such developments save for communication… The mobilized population was all above 35 years of age, in localization, liquidation of the Chernobyl accident we have eloquent data. As of May 2, they informed on the 25 military units and subunits amounting to 6,000 people. By the middle of May…excuse me but… I am concluding, the concentration of force was 30,000people; by the 25th of August we already had 111 units with the number of officers reaching 40,000 people and 10,000 articles of machinery. This is the army in itself; and the level was maintained at 20,000 for two subsequent... So, Chernobyl, all 300 units with a number of people, there were 600,000 people; this was the number that we had within 10 years of the Afghanistan war. And in conclusion, I would like to say the following: the army is the only institute ready to protect the nation in warfare. So, this was the most capable means of defense in contingencies of the peacetime. The Chernobyl accident is a significant testimony to that, so it is worth our consideration to plan for participation of military units in big-scale catastrophes and disasters of modern time. Thank you very much for your attention.

Mr. Aleksander Kuzma. Thank you very much, Mr. General.
Mrs. Lamella Bonne and Mrs. Elma Colman, representing the United Church of Christ from the Marshall Islands. These are the guests who have come the longest distance to express their solidarity for the people of Ukraine and Byelorussia, and we thank them for this great effort to join us for this symposium. Than

Mrs. Lemeyo Abon, Mrs. Elma Coleman. Members of the United Church of Christ
ERUB Atomic Survivors' Organization. Marshall Islands.
"Challenges to the Recovery of the Marshall Islands"

This is the flag of the Republic of the Marshall Islands. Greetings, I am very pleased to stand here, in front of you, and to participate in this memorable event. I stand here, before you, as a survivor who has already experienced the result of atomic testing before. I am very pleased to stand here to participate in this event, with the children and people of Chernobyl, as you observe the 20-year anniversary since the accident happened that touched and altered the lives of everyone forever. My name is Limie Amon, I am from (Romlat) Atoll. (Romlat) is one of the atolls in the Marshall Islands, and the Marshall Islands are located in the middle of the Pacific Ocean. Even though the Marshall Islands are very small, the United States chose the Marshall Islands to test their atomic and nuclear tests from1946 to 1958. In 1946, one of the military officials approached the people of the Bikini atoll and asked them if they could use their land for a test. He informed the people that the test would be something that was good for mankind. He did not tell them that he himself was not sure what the effects of this test would be, and whether the people would be able to go back within a few weeks, within a few years, or months. The people were misled to believe that they could return home after a short period of time. It has been 60 years now since the people of Bikini left their homeland; 52 years since my people and myself have not been able go back to (Romlat) due to the fact that the United States has not given enough funding to clean the contaminated soil. And in 1954, on March 1, the United States tested its strongest hydrogen bomb, which exposed people of (Romlat) and the other atoll, … "Bravo" that was called. It was one 1000 times the strength of the Hiroshima bomb. I don't even know if there has ever been a bomb stronger than "Bravo". What happened in Chernobyl 20 years ago is very similar to what happened to us. As the information about the nuclear reactor accident was kept secret from the people of Chernobyl, so it was very similar to us, when the nuclear fallout from "Bravo" happened in (Romlat). We did not know what happened, and we did not even know what to do. After the nuclear fallout we children played with it, we rubbed it all over our bodies and our hair. A few hours later we began to get sick. In the U.S. military, they knew 72 hours ahead that the wind direction had changed, yet they did not relocate us fro where

we were staying, they left us alone, they did not even let us know to do in a case like that. We believe that we were left alone. We were used as guinea pigs to study the effects of radiation in a human body. Young mothers gave birth to deformed babies, as you see in this photo, yet the Department of Energy that has been monitoring the progress of the people who were exposed to the nuclear fallout insists that these deformities are not caused by radiation exposure. We suffered from radiation. We say: take care of our children; treat our children until there is proof that that cancer disease is not the result of a nuclear exposure. We don't care about ourselves because we are already sick, we are already exposed, but we do care about our children and our grandchildren. We don't want them to suffer. We want the United States not to turn its back on its responsibilities, on the injustice that had happened to us. We don't want the reason for it, because there is not enough funding to treat us. We say: stop the war in Iraq, and there will be lots of funding to take care of all the problems. I stand here before you to ask your support to help the survivors in the Marshall Islands, push the United States to make sure that justice is done, that there is enough funding to take care of the health of the people, to clean the land so we can return to our homeland, and also to make compensation for the loss …
I stand here before you to ask you to help me make it clear to the United States that the responsibility that it has, has not stopped, has not ended, as long as our health problems continue. On behalf of the children, our children of Chernobyl, and the children of Hiroshima and Nagasaki, the children of Tahiti where there was nuclear testing also, and also the children in the Marshall Islands, and the children all over the world where there has been nuclear testing and exposure, I say here that let us stand together, work together to renew our promise and our pledge that we will be working toward a free and clean world, and safe for our children in the future. God bless you all and thank you.

Mr. Oleksandr Kuzma. Thank you very much, Ms. Amon. I would like to invite Dr. Irina Labunskaya, our distinguished colleague from Great Britain.

Mrs. Irina Labunskaya, PhD. Greenpeace International. United Kingdom.
A look into the future

Esteemed ladies and gentlemen, thank you. First of all, I would like to thank all the sponsors for getting this audience, this congregation together. Thank you all the people of goodwill who have come here. Today, I am speaking to you as somebody who was nearly touched by the consequences of Chernobyl. At the time of the accident, I had been living here, in Kyiv and I was pregnant. Knowing about the devastating effects of radiation, especially on children, I was terrified to even think of what happened to my child. Thankfully, she was in the number of lucky ones who did not suffer major consequences. I wish to speak to you today, not only on my own behalf, but also on behalf of the other mothers, whose children were not so lucky. The images of people, which you will see as I speak, are of those who are suffering today. As we remember the tragedy of Chernobyl, we must look to the future, we must learn a lesson from this tragedy and make a conscious effort to help those who are still suffering. Moreover, the time now has come to revise mandates of the national and international institutes concerned with nuclear energy. The Chernobyl catastrophe has resulted in the sufferings of an unthinkable number of people, millions, hundreds of thousands of those affected are already dead. Granted, nuclear energy production has become somewhat safer, but it remains an undisputed fact, even among professional nuclear physicists, that a catastrophe of the same proportion can occur in a year, next week, even today. And if it does, people, millions of people like you and me will bear the consequences, which for many may be fatal. If nuclear energy is going to be use din the future, it is not the question of whether a catastrophe of that type will happen, it is the question of when. And do not even speak now of the extent to which we endanger the future civilization by leaving radioactive waste to the next generation. When international bodies, and the first and the

foremost, the IAEA, when they tell us of the 4,000 deaths following the Chernobyl catastrophe, it is hard to reconcile this against that much higher number of deaths and illnesses which have been documented by health professionals in the region and beyond, and against the continuing suffering you can witness with your own eyes. We must ask the IAEA to explain these differences and to justify how such low and simplistic expressions as the 4,000 … comes to death can ever capture the true scale and extent of the Chernobyl legacy. Only yesterday the IAEA spokesman outlined social and psychological effects, and not those of radiation as the main consequences of Chernobyl. In view of all those who have suffered and those who are still suffering, this is despicable. We must ask ourselves – whose interest the IAEA serves? Our people, our planet, or the nuclear industry? Relatively few people died directly of radiation especially immediately following the incident. But the devastating effect radiation can have, for example on the immune system, can lead to a host of illnesses and complications even long after the exposure. Unfortunately, it is not always possible to make a definite link between the persons' illness and the dose of radiation they have received, all the more so due to the shameful level of classification and secrecy surrounding all issues connected with the Chernobyl catastrophe. But given the high doses of radiation so many people have received, combined with the growing evidence for long-term effects even in the next generation, I ask you: is the existence of such a definite link really necessary for you and me today? And was it necessary for those who are already dead? What is necessary is to prevent this from ever happening again. For this reason, we must stop the development of nuclear energy. National and international energies, responsible for nuclear safety, must not support the development of nuclear energy. At his moment, its support is of prime concern. Have any of you ever wondered why our money is still being invested in the development of ever more hazardous and expensive branch of energetic(s), when all that is constitutes is a mere 2.1% of the worldwide energy consumption? Compare this with the 14%, contributed by renewable sources. Would you call this a reasonable investment? So, where do you go from here? Our neighbors still live in the territories with such levels of contamination that they should not be inhabited. Neither of the three most effective countries has ever managed to organize a complete resettlement from these areas. Often the people there do not have access to professional medical help. There is a lack of medicines, medical equipment, a lack of means for scientific investigations into problems connected with radiation has on the health of the population. Have you ever looked into the eyes of a child like Anya Pasenko, who has lost her childhood spending countless months in hospitals being treated for various diseases caused by radiation?

What can you compared with the grief of the mother who learned that her child has been given that sentence? Who will bring back tens of thousands of liquidators who lost their lives prematurely? It is unacceptable to produce energy at the cost of a human life. It is unacceptable to leave our future generations a nuclear dumpsite instead of the blue planet we call Earth. The people who have suffered as a result of the Chernobyl catastrophe need our help. It is inhumane and unacceptable to invest in the development production and to provide the national and international agencies that support this development with resources when hundreds of thousands of victims of this safe energy cannot receive the medical help they need. And this must not be confined to the goodwill of individuals who sympathize with the sufferings of others. This must be a part, a necessary part, and an integral part of the duty of the IAEA, to provide the victims of Chernobyl with everything necessary for their rehabilitation. And, at the same time, while the nuclear energy is still in existence, the agency must be prepared for a repeat of the same global impact as Chernobyl has caused. Let us not forget the lessons of Chernobyl, let us develop safe energy production; after all, it does exist, it is known about, and if it had been invested with the means to the same extent that nuclear energy is invested by now, we would longer have need in neither nuclear energy, nor in fossil fuels. And let us be frank – there would have been no need for the suffering of millions to whose eyes I cannot bring myself to look now. Thank you very much.

Professor Angelina Nyagu. Ladies and gentlemen, we did not hear from the representative of Byelorussia. Please do proceed to the stage. Maria Khudoi is a Deputy Speaker of the House of Representatives of Republic of Belarus.

Mrs. Maria Khudoi. Deputy Speaker of the House of Representatives. (Republic of Belarus).
Esteemed Katerina Michaylovna. Let me, on behalf of my delegation, to sincerely thank you for my participation in this forum. And I would like to express my deep gratitude for the high level of organization, for the wonderful conditions you have created for us in the course of these 2 days. To the conference, to the humanitarian forum, kind-hearted people are invited who are eager to provide assistance to damaged people. The pain, the bitterness of our people should be reduced as much as possible. We held international conferences in Byelorussia about it and we are aware of the great importance of this work because we have understood our mistakes, we have learned the lessons of the Chernobyl disaster. And maybe it's unreasonable to reproach the scientists and politicians today because the Chernobyl disaster was unprecedented. It's a common knowledge, and all international organizations confirmed the fact. Nobody knew how to act correctly, even the scientists failed to provide us with correct ways of actions. There were many blunders that were mentioned today; I mean the enlisted young soldiers who were involved in the process of liquidation and others. I would like to mention the problems we face in Byelorussia. This is the country which was damaged to the greatest extent in the world. Mr. Shevchuk, Deputy Head of the Chernobyl committee, mentioned that every fifth inhabitant in Byelorussia is damaged by the disaster in Chernobyl. And one more figure – according to the data of European Map, the number of Cesium-137, with a degree of pollution of more than 40 Curie in Byelorussia, is 70% of the pollution, in Russia 11%, in Ukraine 19%. The degree of pollution more than 40 is 60%; and about strontium - 10% of our territory is polluted. If we take into consideration the duration of life of these elements, consequences still will be with us in decades. What should we do to minimize the consequences? Only the Byelorussian Republic, beginning from 1990, has spent 18 billions of U.S. dollars to minimize the consequences. And the estimates of international experts, we had lost about 30 billions of U.S. dollars. What was the strategy to minimize the consequences? First of all, we had to remove people from the polluted areas. In 1986, 25,000 people were removed from Gomel Region, and more than 200,000 by their own will left the polluted areas. We made great attempts to build new dwelling places for the removed people; we tried to create a new infrastructure for social and cultural needs and to provide our people with clean food. There are respective legislative bases, there were a lot of laws directed to protect the interests and vital needs of those who were damaged by the Chernobyl disaster. And also we have the law on protection of population from radioactivity and technological and natural disasters. Now our assignment is the following: the population doesn't want to leave polluted areas, and, to some extent, they even come back to their homeland. But they must be provided with clean drinking water and food, and to prevent pollution of the air with radionuclides. We try to provide the inhabitants of the polluted areas with gas. 20,000 kilometers of roads have been built. We have developed the program "Children of Chernobyl", which is aimed at providing children with clean food, to provide with conditions to recreation and improvement of their health. And I think that the strategy is correct, but it needs to be funded. And two questions more. The science has a great role nowadays. My colleague from Estonia mentioned this. We would like that Chernobyl problems, the problems connected with minimization of the consequences of this disaster would be resolved jointly by three states – Byelorussia, Russia, and Ukraine. We should create an international center for these issues because the experience we have accumulated in our countries is of vital necessity for all countries in the world; because we shall not close the atomic stations and radiation recognizes no borders, and that's why we need to promote cooperation. And the second problematic issue

which I would like to mention: we badly serious assistance of all international agencies to minimize the consequences of the disaster. And the last what I would like to mention: we discussed a lot of the mistakes of construction patterns of stations. We would like to in advance think over the deployment of such objects. I would like to draw your attention to depositing the nuclear waste materials in Byelorussia, not far from a river in Byelorussia. It's unacceptable because rivers are like the veins in a human body; we should prevent such deployment of dangerous objects. Please, dear friends, let me wish you a good health, well being to your families, to your states; that all of us should have a blue sky, that we be happy in our countries and our families. Thank you very much for your attention.

Section B:
Perspectives for renewal and future development. Heightened Preparedness and Challenges for the Future

Moderator:
Oksana Garnets, PhD. UNDP in Ukraine.

Mrs. Oksana Garnets,
I have already placed the turn in which everybody's going to make speeches and I suggest that we fallow our agenda. What I mean to say is that when he comes here we will give him the floor or if he is not then his representatives will make the presentation. Then I'm giving the floor to Mr. Tolstoukhov, his speech is "Perspectives of renewal and development in future. Experience of Ukraine". Here you are.

Anatoly Tolstoukhov. President of Charitable Organization "Center of Practical Philosophy" (Ukraine).
"Perspectives of renewal and development in future: experience of Ukraine"

Thank you. Dear friends and colleagues. It has been 10 years since Chornobyl. And it is time to remember and think about the future. 15 years we have been independent and it's the time to unite and work. It is much to realize that Chornobyl explosion has been and it has transferred into a continuous Chornobyl process. Human beings tend to measure everything by the duration of our own lives, for Ukraine the life of whole generation, but the nature measures it in a different way. The period of plutonium and uranium half-life is a very long period and in comparison with the life of a person it's just an instant, but the history of a country consists of such instances and civilization progress is often measured by it. All depends on the human being and on how this human being... what it makes of the duration of its life and how it enriches its activities. The same is with our state. Age of our state is not that long and we need to work to adjust the past with the present. After the human being has eaten from the tree of evil and goodness the human being has stepped onto the road of sin and human beings probably decided that they should sin without looking backwards. Even before the Great Patriotic War … looking back into the past was looking like seeing but presently our enemy is ourselves and stepping onto the nature we fight with ourselves and we face helplessly into the partisan movement in our areas. We face social and environmental problems. Chornobyl is not the only face of this war. Chornobyl has become sort of a name, a diagnosis of our way of lives or in other words activities that destroy and revive … performed at the cost of the nature and environment. Chornobyl is an environmental catastrophe and there are other environmentally unsafe regions like Donbas. We have polluted the environment and this was perceived as a progress. Still we can not blame our ancestors in these activities because we are going to live for our children and we will have to preserve what we have received from previous generations not only for our children but for all successors who are going to live during the coming half-life of nuclear materials, that is going to take thousands and millions of years. Our communicator in this forum is the future generation,

they depend on the decisions we are taking today. Our parents didn't know what they were doing, but we do not have this …. to tell the future generations. Only now we realize what lack of knowledge, how strong it is. We can not think or work clearly planning our future. We don't know the status of the remaining fuel underneath the confinement. The confinement is being destroyed after 20-30 years. Of course we started constructing the new one, which will probably last for 100 years.

And what do we say about the consequences of the catastrophe if even the experts have different opinions in this regard. How do we act in the condition of non-transparency of the world surrounding us? The more human beings know the wider is the horizon and range in the lack of knowledge surrounding it. The more we get into the secrets of the universe the more we need humanity of our knowledge and we also need to consider the emotional sphere of the work. As Alfred Einstein said: "Nuclear power doesn't create any new problem but makes us realize the problems surrounding us". This has to be the culture of safety that we have to consider and the culture of environmental development and the culture needs to go ahead of the development of science and technology. These ways can compensate for the lack of knowledge and be the roadmap for the future. We have to make the priority of the future compared with the priority of the being. Do we not allow the pendulum to go into the different side? Are we thinking about grandchildren living just by the priorities of today? We have pessimistic attitude towards our future. We try not to notice the threat to our being or dissolve ourselves in this problem that we don't know what to do further on. The history of our land is very sad, ruins, wars, revolutions, genocide of the 20th century and hunger. We remember all this, but do we not blame too much the external forces in these problems. The fact that only 35 million of Ukrainians will have remained in Ukraine by 2050. How do we explain this genocide that we create with our own hands? We mustn't blame the external circumstances and we mustn't diminish our own fault. We have to add and do something about it. This is the culture of our activities. We need to look optimistically into the future rather than sadly looking into the past. Or creation of our state we'll understand as a copying of the past practices. One can only look optimistically into the future or not look at all and not think about it at all. This will be pessimistic. One might ask me, how we look so optimistically into the future with such a sad past. With the continuous war, I have mentioned at the beginning, this is the very thing that the future is only possible if take … if we sit and wait feeling sad about ourselves, we shall have nothing but … even the deepest sadness.. so, we do not have to cry after Chornobyl but make conclusions about the tragedy, work on this and work on the program of development and optimistic policy that would be based on the principles of morality and sometimes this morality of policy not only in words but in action is more or less necessary. I'm sure that this policy impossible because in the modern global environment we have to fallow the policy rather than exaggerating the problems of the future at the cost of … The environmental policy and the environmental ideology must not distinguish between our people and the rest of the world, it has to be common for the north and the south, for blue ones and for the orange ones, from the point of view of nature, eternity and existence of the planet. Our routine every day rose very minor and small. So, we can not put the question whether it is being or development or economic and social progress. These questions make no sense as well as the questions whether we go to Europe or approach Russia. I think that the secret of success and belief in our own strength must not be blind. It must be … actual belief and this is the culture of self-respect and balance assessment. We must build the system of values, where we realize ourselves to be Ukrainians. West has a better life than we but do we need to envy them? The old technogenic civilization can not solve the problems of modern time and both economic and environmental. We have to think about the ways and about how to berry them. We have to think of consequences of old catastrophes, of the coming ones, new catastrophes. The old technogenic civilization, the old democracy doesn't meet the requirements of today. The person must think about how to act in the accordance with the requirements of nature. This is also the culture. Humans also need to think about nature and it's not only protecting the right of animals and plants. We need to realize the integrity of nature, how they are, entwined into culture and

development. We need a new paradigm of thinking and activities and among linearity of thinking and activity and integrity of activities, nature and ecological development. This is a new model of progress of human civilization and production with no waste technologies. The human being can not perform further on at the cast of nature; we can see it from Chornobyl.
The lessons from this experience are that we have to look ahead of us into the future creating it rather than feeling sad about the past. The existing disputes should make the foundation for the development. Only in the modern world our culture and values can show us the right way to the future.
Also I would like to draw you attention to the event that took place few days ago in the Fund facilitating development of arts. There was an exhibition of works of the girl who had passed away at the age of 27. She had finished school but at the age of 15 she had diabetes which disabled her to lead a full life. She didn't study to be a poet or artist, but she left 30 artistic works and over 200 poems. Her name was Nadia Kurbatova. And with you permission I would like to cite one of her poems in the language of original. I think it very actual and adequate in our modern attitude to life.
I think that today we have time when we need to understand terms like eco-development, eco-democracy and it will be the best monument to those who protected lives in the tragic time of Chornobyl. It will probably be the best lesson learned out of catastrophe that which we had in our past.
Thank you for your attention.

Mrs. Oksana Garnets. There will probably be some questions after our discussions and I give a word to Professor Yury Shvalb, the doctor of psychological sciences, Professor of the Institute of Psychology sciences at the Academy of Medical Sciences of Ukraine. He will present the speech on the "Men in crisis society. The values before and after the accident"

Professor Yury Shvalb. Institute of Psychology, Academy of Psychological Sciences (Ukraine).
Men in crisis society. The values before and after the accident"

Over 20 years… The studies in which I have been directly involved commenced in 1986-1987, and for the period of 20 years we have been conducting, with a certain periodicity, various kinds of research; and although there have been changing to a certain extent, after this 20-year period we managed to obtain a rather clear pattern of dynamics of psychological consequences. Today, I would like to make this presentation dedicated to such dynamics. First of all, the key point consists in understanding of the sense of this disaster. Here, we may clearly discriminate two fundamental moments. The first one lies in an attempt to understand the Chornobyl disaster as the one that took place in 1986, and in discussion of all the other consequences as a prolonged effect of this disaster. Another understanding is associated with the fact that the 1986 disaster constitutes an accident whose catastrophic factors continue and will continue for many years to come. This is the position that has been right now presented by Mr. Tolstoukhov. It is possible to state that we cannot discuss consequences of this disaster in such sense, but instead should discuss a long-term impact of the disaster on human psyche and health. Understanding of these consequences should constitute an evaluation of the factor that is permanently developing and changing. I think I would start these basic statements with a brief overview of the major characteristics formed in 1986-1987. Our information dates back to about 1996, the latest study being completed in 2004.
First of all, we should discuss the situation formed in 1986-1987. This situation is characterized by total lack of understanding of the meaning of disaster itself; lack of any experience with disasters of this kind; lack of any substantial information; even the information that was

available at that time did not provide any adequate understanding. As a result, the basic characteristic of the period of 1986-1987 comprised total lack of understanding, by the public, of what was going on. Such background initiated the formation of such psychological characteristics and public attitude to the disaster where people were trying to substitute actual understanding of disaster for something else that would provide some sort of understanding of what was going on. First thing that happened consisted in a very strong fear of radiation and in formation of very stable phobia. These existed for a rather long period of time, and such anxiety and fear of radiation constituted the initial thought that governed people's attitude toward the then existing situation. Fear itself is generally associated with any catastrophic events or impacts, while the fear related to a catastrophic impact that is not subject to visual or any other monitoring is two or even three times more powerful. Such fear is intense, and creation of any rational behavioral models aimed at resistance to this fear is impossible. Therefore, second or third parameter that governed the situation in 1987 consisted in a deep loss of control over the situation, and impossibility to govern people's own lives. For a human being, this situation may be psychologically characterized as just living a life, i.e. the life is here but we cannot influence it in any way. Such a feeling of exclusive nature of life was among the global ones, and we could classify it as a forced loss of all the priorities of life. It is a situation where goals of an individual aren't worth anything in this life. In such situation, the only way out, at least for mass consciousness, comprises an attempt to just physically survive. In 1986-1987, this situation actually consisted in a loss of vital force and a switch to the position of a pure survival. This was the then existing situation. In such individual psychological area, these are possibly 4 main points, to which we may add the 5^{th}, i.e. enduring a simple emotional stress: this was the main characteristic of the individual psychological life. But as early as at that time, there occurred a rather strict distribution of consequences into social and individual psychological ones. Generally speaking, at that time it became clear that the post-stress theory of catastrophes was rather restricted and did not provide any understanding of the processes occurring not only at the level of personality but also at the level of person's attitude toward socium, and what is the most important, that it did not provide any understanding of powerful social processes that had started forming during the postaccident period. At the level of social consequences, I can name two of the most important ones. The first one consists in shaping of an absolute distrust in the media, said distrust being preserved for a very long period of time. The second one comprises a sociopsychological consequence, i.e. a very strong personal estrangement of an individual from society, and primarily from the country. We could probable also discriminate a number of other aspects, but these 7 major items characterize the basic state of an individual during the post-Chornobyl period.

In some way, these consequences have been governing the life of a total generation. In my opinion, a direct result of these consequences consisted in determination of specifics in psychological development of children and teenagers. This phenomenon became apparent 10 years later, when in 1995-1996 we began conducting research aimed at studying 13-14 years old teenagers who experienced Chornobyl disaster in a very young age. By 1996, the situation changed substantially, and the current top priority is fear for individual's health rather than radiophobia. Such opinion dominated among the people involved in various tests. We took results of this and other studies into consideration, and now we may state that this fear for person's own health became one of the reasons of the actual psychosomatic condition of the total population of Ukraine. Unfortunately, I do not have any medical data but I know for sure that this period of time was characterized by an absolute peak in the number of visits to psychologists for the reason of various psychosomatic disorders. Neither before nor after this time, despite an increase in the amount of various psychological services, the number of such visits was such as in the mid-nineties. Fear of getting sick constituted the reason of numerous actual diseases. Another type of fear consists in refusal to control the situation. While in 1987 people wanted but could not control their lives, 1996 was characterized by the conditions where people completely refused to control the situation; this may be expressed by words such as "trusting to luck". From

the psychological standpoint, a very deep "externality" occurred, i.e. refusal from controlling own life, and transfer of control responsibilities to other institutions; by the way, these other institutions constitute a very interesting matter. In 1996-1997, a teenager would typically reply: "I will not keep on my studies because I have only 7 to 8 years of life ahead, and I want to enjoy these years". Of course, it is refusal from control. Such teenager transfers control not even to the state but rather to some mythical idea about his/her future. Such refusal from control appeared to be very closely associated with refusal from life prospects. I remember our 1996 discussion at a similar conference, jointly with Mr. Sayenko, of the issue that the most fearful consequence of 1996 comprised the situation where both adults and children refused from setting themselves any goals for their lives, and the life prospects disappeared. And of course this background resulted in development of a social position consisting in a high level of dependant's attitude, and in development of a victim complex which is more social than individual-psychological. Personal aggressiveness became very widespread. Of course, we should take into account the fact that 1996 was a part of a five-year period that concurred with not only post-Chornobyl but also deep social, economic, and other crises. Despite all this, our studies have clearly revealed lack of any personal or social-induced crises: they always have a multifactor nature, and we may state that in 1996 we received a whole continuum of crisis societies whose life mechanisms were leading such societies to the state of a permanent self-deepening crisis. At that time, this factor seemed to comprise the most severe consequence, and now we can state that the gravity center has shifted from individual-psychological to sociopsychological consequences. Finally, brief report on latest results obtained in 2004. Here, parameters were again shifted considerably. Regarding individual-psychological consequences, we should discuss the following. First of all, it is a change of fears. The fears started acquiring a latent manifestation: these are very interesting fears because everybody is worrying about state of health of relatives rather than about own health. At the level of young people, it was manifested in a very grave form. Most of all, these people worry about health of their parents because they are looking at these parents and think that they will now fall sick and die. On the other hand, young people are afraid to deliver because of the fear to have future problems with babies' health. Connected to this factor is a very interesting phenomenon of inadequate evaluation. According to our data, however paradoxically it would appear, residents of Chornobyl-located regions evaluate the situation existing 20 years from accident in a more optimistic way than residents of adjacent regions that have not suffered. Generally speaking, it is a very neurotic reaction. We have to pretend that everything is all right, and then probably something will be all right. The third point that is very important to characterize existing consequences comprises a backward wave of such peaks of infernality. While in 1996 people were refusing from control, at the moment the situation is quite opposite: they are too infernal, i.e. this infernality, attributing the sources of control exclusively to each individual, made a very bad impact on them because they started undertaking all the responsibility for everything that is going on. Now they are still saying that all of us are responsible for everything that's going on. From psychological standpoint, such position cannot be characterized as very positive. Finally, such position preserves and deepens pessimistic attitude to the possibility of implementing plans for their own lives.

This is an approximate description of the existing picture. We have obtained it from the dynamics of psychological studies. As a total, I have generally became convinced of a very negative result consisting in that the whole dynamics throughout these 20 years have led to the demonstration of a very strong capability of adaptation, that is typical for our residents, i.e. adaptation to the conditions of life. Such adaptation is of psychological nature, while at the active social level nothing has happened. After these 20 years, we have come back to exactly the same way of living as that existing prior to Chornobyl disaster, but combined with attempts to interpret our fears. I could mention existence of an analogy saying that at the present-day stage the consequences of Chornobyl disaster may be compared with traditional worries of people engaged in the kinds of activities associated with permanent risks, such as coal miners. They are aware of permanent danger but got used to such risk and take it for granted. Now we perceive

the possibility of a disaster, including a nuclear one, as something which is not very unusual, like "OK, we will endure it". Such conclusions are very pessimistic, so shall we wait for a next disaster to occur?

Mrs. Oksana Garnets.
Thank you, Yury Mykhailovych. Are there any questions?

Question 1

I am not a psychologist, and therefore my question is amateurish. You have partially answered this question. Post-Chornobyl period of time concurred with global changes in this country, and therefore in 1986 it was impossible to foresee the future situation to exist in a quite different country, with quite different principles. Therefore, how do you discriminate this multifactor situation? I understand that it is very difficult to discriminate the Chornobyl factor, nevertheless in what way do you ensure a pure experiment? If possible, would you provide an answer to my question. Thank you.

Answer to question 1

First of all, we cannot completely discriminate the impact of all the social factors, and this is true. However, during the period of 20 years, every 4 to 5 years we have been conducting our studies with the use of the same tools: with such method, we are able to discriminate rather pure factors obtained as a result of such a through analysis. I would also like to emphasize that when we describe consequences of Chornobyl disaster, we should not think that in 1986, it was in any way discriminated among any other factors, and today such consequences are also acting in combination with other factors. When Mr. Udovychenko says that it is a good way to forget about person's own health, being a psychologist I can tell that when a teenager puts concern about his/her own health as a top priority in the system of values, such teenager is sick and wrong; at the same time, the teenager who believes that the life is eternal, that everything is OK, that he/she should take care of his/her own health, but at the same time does not do anything in this direction, is also wrong. Therefore, we should not be too optimistic about the existing picture. We must understand that all these factors are closely intertwined, and only analysts are capable of separating them. Of course, my attitude to young people is very positive, and it is young generation that makes us discuss these problems.

Question 2

You said that teenagers lost their confidence in the educational system. Don't you combine various drawbacks of educational institutions of the former USSR, related to this accident that gave birth to such nihilism? A person cannot control everything. This is first question. Next question is: have you conducted any studies related to an origin or transfer of any concerns about health of an individual to the Creator? In other words, is it in any way connected with religion? Such position is typical for older people who state that we are not eternal and that everything is in the hands of God.

Question 3

Do the indicators to which you are referring differ in compliance with the "city-countryside" criterion, or according to the indicator of more active cities from the standpoint of different types of management and various forms of local governments, and areas where such phenomena do not exist? Of course, we were speaking in general terms.

Professor Yury Shvalb
Thank you. I will begin with the last question. The point is taking into account the difference between town and countryside, and between megapolis and medium-size town. If we take such categories as migrants or "liquidators", and if we take all these categories, the general picture will be different each time. Since I could not conduct an analysis for all these categories, I had to simplify this general picture and somewhat generalized it. Of course, all these factors are available for all the groups of population. The only issue consists in the degree of aggravation of a certain factor.
Talking about educational nihilism, I did not mention this point. I can state that the existing situation exerts a very favorable impact on the development of education. It would be sufficient to say that in many sectors where such system is developing in the proper manner, up to 60% young people are already studying and willing to join higher educational institutions. The point consists not in their negative attitude to science or education but rather in their opinion on inability to completely implement their plans for life. Of course, when we are doing something and do not believe in success, this results in a negative psychological situation.
Another question was related to religion. We have not conducted any studies dealing with the impact of religious mentality. Therefore I cannot give any answer based on collected data. Personally I do not think that we now have such a strong perception or influence of religion factor among young people.
If you will use these average indicators, it will simply throw us back. We believe that we should keep on moving in this direction. I think that our studies were of great importance. Thank you.

Mrs Sophie Fouace, Director of "Le Pont Neuf" Association (France).

"Social mechanisms and instruments of development"

I am the director of French association **Le Pont Neuf**, which name is, which has been created by Mrs Scherak in 1990, 3 month after the fall of the Berlin Wall. The association is turned to Central Europe and Eastern European countries to encourage the democratic and economic development. We deal with medical cooperation by offering grants to young doctors, we train in France and then come back in the country, grants for political sciences students and arts. I am better specialist in development then in disaster. But after the statements of the officials today and especially in terms of Mr. Matkivskiy's speech, it is difficult to have positive words even to speak of a renewal after the disaster. And now I will try to show that it is possible to stimulate actors and to elaborate social mechanism and to maintain development. Since the Second World War in France we didn't have major disaster as was the tragedy of Chornobyl. But France has been prisoner in terms of international fields after humanitarian disaster on ecological catastrophes. I think of the Balkan conflicts, Kosovo, catastrophes in Africa, Turkey, Iran, South-East Asia, New Orleans, Pakistan.
After disaster a society has mourning, there is no more administrative organization, no social relationships. Everybody tries to survive. In France where we have long tradition of state intervention, people tern to laws and state. But we also have very dynamic civil society, different organizations and NGOs. Last but not the least, the enterprise appear on the humanitarian emergency field in link with NGOs. In France we have nearly 1 000 000 associations and NGOs called International Organization are about 1000, they are for social causes and within international dimension. Even if they are less important than Oxfam or care we have some big NGOs like "Medicines sans frontiers", etc. The geographically African and Asian areas are first, then Eastern Europe, Latin America and Middle East. We are acting in the situation of emergency, but also help the process of development in favor of education for development,

international solidarity. The four main fields are health, education, world development and economical development. As far as I know in link with Chornobyl “MITSANDEMOND” is the coordinator of action of sanitary survey to the family of the Chornobyl stricken Belarus, and especially for the radioactivity control. The association is part of Chornobyl, whom president Sienger Michel Fugan brings a concrete help to the children who survived the catastrophe of Chornobyl. The foundation “Les enfants de Chornobyl" also helps the children. The association “France Nature Environment”, the association “Pour le control ….”, “….” Tell people to remember the tragedy of Chornobyl and be vigilant towards nuclear power.
Even artists, French artists have testified, Luis Games in 1992 went to Chornobyl to make photographs in order that nobody in France could forget this tragedy.
After the Kosovo crisis were many NGOs attempting to bring humanitarian aid as national troops and French army are also this mission, the French state decided to create an organ of coordination between the military force, the diplomats and the NGO. To my mind the main idea is in the coordination. At last a new actor is more and more active, and enterprises, banks, insurance, societies, laboratories, air companies act through the foundations to develop humanitarian programs for the drama of tsunami, the tragedy of Pakistan, French enterprise active boss in the emergency and then for the economic and social development in the countries in link with NGOs selected for their confidence. This new humanitarian intervention is developing in France since 2003, and it can be logistic providing food, water, electricity, and means of transportation, but also health, education, public services, agricultural, juridical consistence either for emergency, post emergency or development. This is an increasing mean of intervention private enterprises financially supporting the NGOs.
In emergency situation the first aim is to reduce mortality without destroying environment and people cohesion. One must help by offering free visits in hospital, for example, family help, and especially children help, financiering demnitees for victims without creating a situation of dependency, without disturbing the balance of local economy respecting family laws, avoiding privilege grouping.
On the second hand on must evaluate the local resources, organize clear partnership between all the NGOs and local administration towards the same purpose to under crisis in a positive way to show that there is a capacity of energy and not victims. Associate the people to the economic and social rebuilding and prepare the evaluation of the actions.
Under long term considering the instrument of development public services which organize them the principal purpose is economical development through new financial aid for reinvestment of enterprises, absence of taxes during some years, trade development. It can also be consolidating health system and education. These instruments have one principal purpose to reduce poverty, decrease unemployment, give people work, improve the level of life and give hope.
These are of course idealistic principles. I wish they would have been followed in the region of Chornobyl either in Belarus, Ukraine and Russia. We have seen this morning the importance of coordination and international solidarity. But many problems still remain. And I wish that you could join our effort to develop bilateral or international cooperation.
Thank you for your attention.

Mrs Oksana Harnets

Will there be any questions? If there are no further questions, then I would like to give the floor to Mr. Edwin Lyman, senior researcher from the US. He’ll be talking about the Rule of safety agencies and public health.

Dr. Edwin S. Lyman, Senior researcher, Union of Concerned Scientists (USA).

“The role of safety agencies in protecting public health”

Thank you. It's a pleasure to be here today. My name is Edwin Lyman. I'm with the Union of concerned scientists in USA.

Just a little bit about our organization. We are a public interest, non-profit organization, which focuses on issues and arranging for environmental protection, clean air to nuclear safety. And we have over 100 000 members in the United States.

I really appreciates the opportunity to come to Ukraine and speak about Chornobyl accident since when it occurred in 1986 I was a young graduate student in physics and the accident had a serious impact on my development and contributed to my desire to take up my current line of work which is partly related to insuring the safety of the nuclear power plants both in the US and internationally.

I went to the Chornobyl site on Saturday just to experience the tragedy that occurred there for myself and to achieve new results in the work that I do. Because in the US right now we are facing the situation where the Government wants to build large numbers of new nuclear power plants and the only way they can do that is by cutting costs in reducing safety levels. And so it takes great struggle to try to prevent such a deployment of new nuclear power plants from occurring without having to cut costs and reduce safety.

My talk is to discuss some of the aspects of the Chornobyl accident that I think should have made an impact on the agencies that regulate nuclear power plants throughout the world, most prominently my own which is US Nuclear Regulatory Commission. The problem is that this organization which was created in 1975 to mean independent nuclear regulator has become increasingly under the influence of the nuclear industry that it's supposed to be regulating and it's compromised its ability to carry out its mission safely and without buy us. And the role of NRC to people of Ukraine is when I heard US ambassador Mr. Herbst say this morning that NRC has been here in Ukraine working with the nuclear regulatory authority here to try to give a lesson on how to be a nuclear regulator. And that concerns me greatly because I don't have much faith in my own nuclear regulatory agency. So I wouldn't advise people here to keep a close watch on this type of activity.

May I have the next slide, please?

Also in addition to Chornobyl since the theme of this conference is unified view of a disasters natural and man-made, certainly September 11 terrorist attacks in my country in the city where I was born, New York, are obviously different type of tragedy but one that also have lessons that I think should be learned but unfortunately are not being learned now by the authorities of the US. Both Chornobyl and the September 11 terrorist attacks had some common elements. Both resulted from the superficial attitude, and the view that catastrophes simply can not happen. In the case of Chornobyl it was the lack of vigilance with the respect of safety. In the case of September 11 it was the lack of vigilance with the respect of security, especially at the US airports.

Chornobyl. Some of the grave lessons that should be obvious to everyone but I don't think that they are obvious to some people in my own government. Either first of all severs accidents at nuclear power plants can cause catastrophic release of radioactivity, back home in the USA many advocates of nuclear power continue to point at Chornobyl saying it was an unusual case, it was based on Soviet mismanagement, and it was based on the bad reactor design. However all scientific evidence indicates that such types of accidents are possible in any type of nuclear reactor under any type of control regime if procedures are not adhered to.

Another lesson of Chornobyl was the impact of radioactive iodine, clearly the largest impact that is visible right now is the epidemic of the thyroid cancer among children in Ukraine, Belarus and Russia. It became clear from the accident that exposure to radioactive iodine excessive levels can occur many hundreds of kilometers from the reactor site, but if potassium iodine is taken quickly after exposure you can reduce the health affects. And this was seen in Poland where as we heard this morning if there is timely administration advertising iodine you have big affect in the amount of radioactive iodine is observed. This is a simple cheap measure.

And finally we learned that Cesium-137 released can lead to long-term persistent contamination that 20 years later is almost as bad as it a few months after the accident. And the biological, environmental half-life of this element is long, it's not disappearing from the agriculturally accessible environment and it leads to the situation like I saw in the exclusions in Prypiat. What do we learn from the September 11th? We learned that critical infrastructure is vulnerable to terrorist attacks, for instance, jet aircraft being high jacked. We learned that high security standards are to be maintained, and if you have gaps in security they have to be addressed. And we also learned that threat assessments have to be realistic, and not base on prejudice and prior believes. They have to be forward looking and anticipate advances in terrorists' capabilities

Now in the US the Nuclear Regulatory Commission is not paying attention to any of these lessons. For instance, right now the regulations require that only potassium iodine is placed to be pre-deployed within about 16 km off the 67 nuclear reactor sites that we have in the USA. In 2002 the law was passed which said that that should be extended to about 32 km increasingly distance which this very important drug will be pre-deployed. And fortunately the NRC is refusing to implement this law. Another aspect is that the number of people who live near the nuclear power plants in US, we have increase of suburban stations and many nuclear power plants which were formally in rural areas are becoming densely populated and there is no restrictions on the number of people that they move into the areas 5 or 10 km from these plants. And in fact some of the plants are located on the lakes, which is for cooling water. They are beautiful areas and very expensive homes may be built there. And people are moving in. And this doesn't make sense to me.

And finally the lesson from September 11 is that those high jacked planes could have flown to any facility, any building in USA without being stopped including nuclear power plants. And , so our nuclear power plants are vulnerable to that kind of attack. But today after more that 4 years after September 11 NRC is taking no measures to increase security against the threat of aircraft at nuclear power plants.

What is the outcome of all these lessons that have not been learned? I come from the New York City and there is a nuclear power plant which is only about 40 km from the city. There are 300 000 individuals living within 60 km off that plant. And there are over 17 000 000 living within 80 km off that plant including New York Metropolis area. I've calculated using computer codes, that if there were an aircraft attack on this plant we would have had 44 000 fatalities from acute radiation syndrome, and over 500 000 fatalities from cancer. And the potassium radioactive iodine would spread many-many kilometers down the wind side far beyond where the NRC currently provides potassium iodine.

So conclusions are that I'm afraid that the nuclear industry and the NRC are very anxious not to remember Chornobyl or September 11 but to forget them as soon as possible. And obviously it is shortsighted and lead to further disaster. And I don't think that this is the approach that is consistent with the humanitarian goals.

Thank you.

Mrs. Oksana Harnets. PhD. UNDP in Ukraine

Any questions to Mr. Edwin? None. Then I have to give the floor to myself. The point is that I have already presented a portion of my presentation in the brief speech at the plenary meeting; therefore, now I will demonstrate several slides dealing with the provision of psychological support to residents.

Today, we have spent much time to discuss psychological consequences of the disaster. Now I would like to spend several minutes to discuss the strategies of their overcoming.

The point is that in any normal society the people who suffered from such disaster would be provided with an urgent assistance during the most stress-inducing events. Unfortunately, at that time this country did not have any system of sociopsychological assistance. Therefore, such

assistance was not provided at all; I think it constitutes one of the reasons that resulted in such widespread psychological consequences.

As for long-term assistance programs, these are programs that appeared thanks to international organizations such as UNESCO, UNDP, and UN itself. As a model, the Center for sociopsychological rehabilitation and information of residents was established in three countries that suffered from the disaster, i.e. in Ukraine, Russia, and Belarus. By the end of functioning of these three programs, the number of such centers amounted to 13. I would like to emphasize the complex approach used by these centers; in other words, they provide not only individual or group psychological assistance. They combine psychological assistance, social activities, and community development. The point is that these centers represent Ukrainian or Russian interpretation of sociopsychological rehabilitation. From the very beginning, we understood such approach that fell into our administrative framework. In English, such centers were and are still called Community Development Centers. This means that community development constitutes the basic approach and concept governing activities of such centers.

Initially, the scope of responsibilities of these centers comprised support to psychological health of residents who suffered from disaster, and development of interaction within communities; this was of special importance for the centers located in the areas of migration and was aimed at providing support to the people in their intent to take their lives under control, i.e. provision of support to certain individual initiatives. In addition, it included development of social responsibility of people through various methods of sociopsychological support, development of individual and group skills aimed at solving problems. and provision of residents with information on actual consequences of Chornobyl disaster. These tasks were identified from the very beginning, although it turned out that such centers are completing wider-scale assignments. Today I can speak only about Ukrainian centers since in Belarus such institutions were liquidated 2 years ago. In Russia, relevant centers have somewhat changed their orientation, however they are still solving the problems of residents who suffered from the disaster.

First of all activities of such centers consists of development and implementation of target programs that comply with the needs of a specific community; in other words, their task is to study the needs and to respond by way of social technologies that permit to meet such needs. And of course the institutions that operate in various types of settlements that suffered from the disaster are solving practically the total scope of sociopsychological issues. It has to be noted that such institution is not a detached one, dealing with provision of solutions to obscure psychological problems. It is an institution operating in full harmony with the total social structure of a respective settlement, and the programs that are developed and implemented jointly with the general infrastructure of the settlement.

Now I will present the list (although not a complete one) of such programs to clarify the scope of activities carried out by such institutions.

This includes reduction of the level of residents' anxiety, individual psychological assistance, assistance to schools, information activities, psychological support of vulnerable groups, career-guidance work with young people in the settlements with environmental and economic problems; educational programs, work aimed at consolidation of communities, development of civil society, psychological support of unemployed, training young and adult people to start their own business; another issue that is of special importance consists in sociological and sociopsychological monitoring of the situation existing within the community, and in studies of dynamics of community request relating to activities of the centers for sociopsychological rehabilitation.

These centers constitute very influential institutions in their respective communities, which fact is demonstrated by figures on slides. Practically the majority of residents and administrations believe that such centers exert a strong impact on community development and generally on the life of community, and may comprise institutions for implementing the programs that could actually become influential and efficient.

Now, some short conclusions:

Activities of such institutions that are actually model-type can be partially or completely created in other communities that have or have not suffered from the disaster. These are social institutions that may and will be useful in any community. Generally speaking, without any reference to a specific community, establishment of such institutions permitted to develop the scope of social services and the system of psychological assistance in Ukraine. I am not exaggerating because for the first time such institutions were created in 1994 when social or sociopsychological services did not exist at all. In my opinion, another very important fact consists in a change of the paradigm of relationship between individual and socium. In other words, the psychology of professional social and sociopsychological support have forced out the ideological method of interaction between individual and socium.

Another conclusion consists in a specific result at the level of specific communities: it comprises stirring up individual and community with the aim of changing own lives and overcoming the consequences faced by practically all the communities that suffered from the disaster or were moved, or by communities located on contaminated territories (the latter facing some special features); it is however quite obvious that such consequences exist and their overcoming may move only by way of such combination of social activities, psychological assistance, stirring up and development of communities.

Now I would like to the floor to Mr. Pavlo Zamostian who is the manager of UNDP for Chornobyl on revival and development.

Mr. Pavlo Zamostian. PhD. UNDP in Ukraine (Ukraine)

"The Rebirth and Development of Contaminated Regions"

First of all, good day to everybody. Thank you very much for inviting me to participate in this part of the Conference and Forum. I would like to begin by introducing to you my colleagues who are also present in this audience today: it's Mrs.Oksana Rymyna, senior manager of the Development Program in Ukraine and Professor Osiatynski from Poland, who has extensive experience in state administration as a former Minister of Finance and Member of Parliament, and for many years has been a World Bank and UNDP expert (since I will be referring, in particular, to our joint work).

I represent the Chornobyl Recovery and Development Program and would like to say right away that its launch in 2002 should be credited to Mrs.Oksana Harnets, its moderator, as it were.

Our Program was launched in response to the recommendations of the well-known UN Recovery Strategy Report of 2002 and is one of the few direct results of this report as, for example, the UN Chornobyl Forum and our Program in Ukraine. Of course, there were certain preconditions for both the Report itself and the formulated objectives of the Program. In the first place, it is the synergy of the socioeconomic consequences of the accident, as was mentioned yesterday and today, and the processes that attended the disintegration of the Soviet Union and the following economic difficulties. To date it is actually the key factor that determines the opportunities of development of the Chornobyl communities and Chornobyl territories and, possibly, one of the greatest difficulties for integration as well as strictly medical and radiological as well as socio-psychological and socioeconomic consequences of the accident. It is precisely this synergy, which, as we see it, raises most of the disputed questions, including the conclusions of the Chornobyl Forum and other questions that have been discussed in Minsk and Kyiv over the past weeks.

Besides, the Chornobyl accident, as Ukrainian Professor Illya Likhtariov aptly remarked, was a rural accident, because the majority of rural residents suffered from it. It is precisely the rural population that is effected by large radiation doses, consumes contaminated milk, sustained the

heaviest ionic blow, and at the present time has the worst conditions or preconditions to deal with these consequences and development. Also, for the largest part of Ukraine's territories the radiation situation to date is rather safe, or safe altogether, although in one way or another they have the so-called Chornobyl zone status. On the one hand, this status really allows certain strata of the population to receive small social benefits, but on the other hand, it is perhaps the biggest barrier to the development of these territories, keeping away from them not too frequent investors and denying these territories to compete on equal conditions with the more developed Ukrainian areas that traditionally were more developed than the Polissia. Apart from the Chornobyl status, the situation in these territories is aggravated by a considerable outflow of a young, experienced generation that essentially has to be the mainstay of development. It's something that has already been said today, when all health problems without exception are associated with Chornobyl, even those that can be found everywhere. That's a fact. It's a dependence and a fostered culture of dependence, including the fostered approaches to minimizing the consequences of the Chornobyl accident, when all the responsibility of authority and the center of decision-making is in Kyiv, and to this day Kyiv makes decisions on where to build a school, where gas is needed and so forth, while the population is actually excluded from the process of decision-making. The outcome of all this is that we practically have a situation when the current poverty and socioeconomic status of the population is no lesser an evil for the people of the so-called Chornobyl territories than the radiation effect that had been registered in the past, or of those territories where the radiation effect persists to the present day. And, of course, there are the oft-made remarks about lack of information or insufficient information, its trustworthiness and all other sympathetic statements. Therefore, as Mr. Kalman Mizei, Assistant Secretary-General of the UN, pointed out in his report yesterday, we have three areas proposed by the UNDP for dealing with the Chornobyl issues. First of all, it's development based on the involvement of communities, awareness campaigns, strategic development and development of political decisions, support of changes at the level of strategies of dealing with the Chornobyl problems on the whole, gradual transition from humanitarian assistance to victims to assistance for development, and the formulation of a new paradigm of development for the Chornobyl territories to rend the wicked circle of contradictions between the possibilities for development and the consequences of the Chornobyl accident. It is exactly this wicked circle and its presence that Professor Osiatynski is concerned with in his analytical study of the Chornobyl programs in Ukraine. And, of course, we are developing regional cooperation between affected territories where it is less burdened by, say, and political considerations. We apply an approach of regional development that is well known in the world. And we have a rather a strong relationship with our national partners represented by the Ministry of Emergency Situations as well state administrations in the oblasts and districts. On the other hand, there should be the donor assistance, of which I will speak later on. Appreciating very much the assistance of our donors, in particular the governments of Japan, Canada, Switzerland and a number of UN agencies, and referring to yesterday's report by Kalman Mezei, I would like to say that today it is necessary to support the participation of donors, demonstrating to both the Ukrainian and world communities that there is a way out of the Chornobyl situation, but what is needed today is not humanitarian assistance but assistance for development with the participation of those affected communities that live on the so-called Chornobyl territories.

We work in the worst affected territories with inhabited localities referred to the zones of radioactive contamination. We work in a number of districts of compact resettlements, such as Brusyliv District, Borodianka District that has territories under extensive radiological control, and inhabited localities of compact resettlement with people who were resettled from the thirty-kilometer zone.

At the Chornobyl Forum we hear critical remarks about such words and expressions as "victim," "victim syndrome" and the like, although this term is used in legislation. Today I feel the more comfortable, because a scientist used this very term "victim" today, just as it is used in Ukrainian

legislation, and its English equivalent is absolutely the same. But the matter is not how to call these people, but the condition of the people who really see themselves as passive victims instead of someone who, regrettably, lived through the Chornobyl accident.

We work with people in the districts by uniting them into communities, thereby achieving much more in dealing with urgent problems that exist in the territories today. As it proved, these problems are absolutely not related directly to the effect of radiation. When people come together for a meeting, they discuss the problems of their village, about schools, medical establishments, the leisure of their young people, and the operation of a local bathhouse for that matter, but not radiation, because that's exactly what they require and need today. These are issues of social infrastructure, which, incidentally, suffered from the Chornobyl status. It's no secret that capital investment in settlements of the second zone, such as the township of Narodychi, for example, is prohibited by legislation altogether, although it exists. The opportunities for investment in settlements of the third zone out of the state budget are considerably limited. The Chornobyl accident raised the principal question whether the settlements will continue to exist or whether they will gradually and regrettably cease to exist on the map of Ukraine? Therefore, we see our assistance as an effort to keep most of the settlements that lived through the accident on the map of Ukraine and give them a chance for development.

Our approach is the key element of what is called "from humanitarian assistance to development," i.e. little projects of socioeconomic recovery initiated by the communities. They are implemented by joint financing. If our role in financing this assistance accounts for 30-40%, the rest of the funds are raised from district, oblast and village budgets, donors and, the main thing, by the community members through contributions either in cash or work. First of all, this reduces the cost of the projects, because it's no secret that people can perform a lot of repairs in the countryside independently, making repairs much cheaper than when ordered to be performed by specialized construction companies. It releases tied-up funds or, say, gives the opportunity for district administrations and village councils to do something more with their limited funds. But the main thing is that it kindles hope in people. They cease to be passive, since they actively join this process and become co-owners of either a youth center or water pipelines. In our opinion, they will then take care of the social infrastructure facilities lest they go to ruin in the future. Moreover, the communities established with our participation become equal players in what we call the civic society. It is no secret that our purpose is for the communities to be able to gradually work independently with donors, NGOs and government institutions without our assistance. In this respect we already have some good examples when one community in Chernihiv oblast received assistance from the Government of Japan, while another community in Chernihiv oblast as well (township of Zamhlai) is successfully cooperating with the Local Self-Government Support Foundation and received financial assistance for implementing a project based on our initiatives. Both the district and local authorities gain a benefit and begin to feel the taste for greater independent and the opportunity to impact upon the processes. Working with the communities and directly with their leaders, the authorities see how much greater their independence would be it there were more decentralization, financial decentralization included, in the country. If they were to have more funds at their disposal, how much more would they achieve in a district and deal with a multitude of problems that, regrettably, can be deal with today only by visiting one or another minister in Kyiv.

The projects I was talking about – schools and other establishments – numbered over 50 in 2005.

In the critical inhabited localities mentioned today at the conference, people are affected by doses that are much higher than 1mSv and in some points 5mSv. But wherever the demographic situation is positive and where children are born, we observed that people were more actively involved in working with communities. Economic development is yet another important area. Last year we managed to support the establishment of five local agencies of economic development: in Ivaniv District, Borodianka District, Brusylov, Korosten and Ovruch. These agencies are also established on the bottom-to-top approach and their co-owners are local bodies

of authority and local businessmen. The decision on their establishment was made harmoniously, so to speak. One example in point is the city of Korosten, which we recently visited with a highly esteemed delegation under the Japanese and Canadian ambassadors to Ukraine. Ten years ago the situation in Korosten was next to catastrophic as regards both the socio-psychological and socioeconomic conditions of its population. But the pro-action approach of the local authorities to the problems has dealt with the consequences of the Chornobyl accident rather successfully. Today it has a much more attractive investment image, and we hope that the agency established in the city will work in the district as well, while the local authorities are assigning the agency quite substantial projects for implementation. The same is true for Borodianka where the agency is active in achieving the objectives of the local authorities, thereby relieving them of functions and assuming functions that are not specific for the authorities. As regards awareness campaigns, a lot has been done here. We've focused our work on teachers, medical workers and the local administration. Unfortunately, teachers proved to be almost in a vacuum as far as the consequences of the Chornobyl accident were concerned. After all, they communicate with young people, i.e. with those former children for whom Chornobyl is already something from history. Nonetheless, they, too, have the same problems, fears, and the like. But the teachers lack a single intelligibly written manual with simple and clearly framed answers to the questions that are most frequently asked about the Chornobyl catastrophe. Such a manual has been produced and is being distributed. We hope to have it reprinted. Besides, a film was made and over 20 titles of sample information material were designed thanks to our cooperation with leading research institutes. For us it's pleasant to know that President Yushchenko mentioned our work during his official visit to Japan and in a joint statement with the Prime Minister of Japan commended the successful performance of this work. It is our hope that the world community will continue centering great attention on these projects, and we will continue our work, seeing perhaps as its main direction to develop the policy of a respective national program. We were very much pleased that in response to the adoption of the national program, the Ukrainian Parliament, before abnegating its powers on the eve of parliamentary elections, enacted a document that is very important for us. It's a national program for mitigating the consequences of the Chornobyl accident, which has a number of important provisions oriented precisely toward development and implementation of the program in this area. We will build our cooperation with the Parliament to make Ukrainian legislation really conform to the issues of development. We will continue working in the area of economic development through the Chornobyl Economic Forum which we initiated last year at Chernihiv. This year we intend to forge ahead and really implement our investment projects and hold a conference on this matter in Korosten, and develop sub-regional cooperation. And, of course, we would like to use the opportunity of the 20th anniversary of the Chornobyl accident to bring across to everyone the principal message: there is a way out of this situation. It has been confirmed by practical results and requires the support of both the country's governments and the governments of the donor countries, national governments and NGOs.

Thank you for your kind attention.

Mrs. Oksana Harnets

Thank you. Are there any questions? None. I understand that we've taken away some time from our break for coffee. Generally, ours is a difficult problem, because we are the largest section, i.e. with the largest number of speakers. So we'll have to rest a little and at 17:30 continue our session.

Dr. Rostyslav Omeliashko. Ukraine

"The Rebirth of the Culture of Polissia: The search for sources of renewal in the individual and in the community"

I invite everyone to visit the exhibition that features a little part of the diverse material collected by different expeditions in the Chornobyl zone. It has a large archeological section and also a section of ethnography displaying works of folk art, ceramics, woodwork, weaving, and even a scene from a Podillia wedding. An urgent issue today is to preserve archival and museological values, furnish them legal protection, and put them into scientific and general cultural circulation. Therefore, the Center for the Protection of the Cultural Heritage is currently working to set up a museum-archive of ethno-cultural heritage of the affected districts of Ukraine's Polissia as an optimum form of preserving the saved cultural values and recreating an integral cultural and historical image of a lost cultural territory. It can be said that so far not a single country affected by the Chornobyl accident has created anything similar to a regional museum-archive. This has imposed on Ukraine a tremendous responsibility internationally and also promotes its international image as a country caring for the preservation of a unique cultural heritage of a region that is an important part of the world's cultural heritage.

Thank you for your kind attention.

Mrs. Oksana Harnets

Thank you. The next speaker is Vladimir Udovychenko, the mayor of Slavutych town from Ukraine.

Mr. Vladimir Udovychenko. Mayor of Slavutych (Ukraine).

"Slavutych – A Unique model of technical policy".

The profession of a mayor implies that once you're not talking throughout two hours or so, you begin to feel sick. Esteemed ladies and gentlemen, esteemed friends, 10 minutes are not enough …. but I'll begin with a protest; not with a speech, but a protest. I protest, because today I'm at odds with certain things. Parallel with the Humanitarian Forum the Chornobyl Conference is going on at the Ukrainian Hall in the immediate neighborhood. As a mayor of a town, I should be there listening to the International Atomic Energy Agency (IAEA) that in Chornobyl nothing but a minor radiation accident took place. Excuse me, I'll be using philosophical and literary terms supported by evidence, and I can do that throughout an hour and a half if you want. Over there, I should be hearing and rejoicing and saying … well, supporting all that. Now, how many … 28 people, then 200, after that a little number of children, and then another 4,000 will die, as the UNDP representative said, until the inhabited localities cease to exist. He left somewhere, and I'll be telling him later on that after the people die the inhabited localities will really cease to exist. You know well enough and I, too, should be for the development of nuclear energy, because this means jobs, technologies, and all that is needed for Ukraine today. But, on the other hand, as a citizen, as a Ukrainian, as a human being, as a father of his children, I protest against such an approach; there'll be not future for the development of high technologies, in nuclear power engineering included, if we do not understand what Chornobyl was all about, if we do not carry on from today to the future the lessons we are learning now, the lessons we know about for certain after having lived these first 20 years after the accident. To conclude this subject, I would like to say that on the whole the IAEA is claiming today that it produced a scientifically substantiated report. But I say that's it's not scientific, not substantiated, its statistics are not trustworthy, but even the participants in the UN Assembly supported it. I feel sorry for such an organization that supports such conclusions so easily. Why is it not objective? I'll prove that

right now. It says that 600,000 cleanup operators were involved. There were more, but only 600,000 were registered. You need to know that these people were engaged without any individual dosimeters. The ones who had dosimeters left them behind in their lockers so as to continue the cleanup and earn a little more money. If they say today that the information of those who performed other jobs is trustworthy, it means that they did not have any dosimeters at all. Military service record books had the usual entry – 20 rem. But actually it was more than 25. Such an entry had to be deserved through the special favors of a manager. Usually 20 rem were entered, while in real fact it was up to 100 and 200. A resident of Slavutych, Vladimir Chuhunok, a professional nuclear station operator, accumulated 400 rem. God grant him good health. Do you realize what that means? If we want to speak today of a scientifically substantiated report, we must by all means learn to live with Chornobyl, to remember and know that every new technology is a threat to world civilization, and if the world unites, if we can master this technology, we would only then introduce it into operation. If not, forget it. Now some words about what we should do today. What's the worth of such reports? Translated into Ukrainian, it just means that Ukraine does not need anything, there should be no cooperation with Ukraine to continue mitigating the consequences of the accident, no efforts, financial, material and technical resources should be pooled, that's how it is translated into the Ukrainian language. So I beg your pardon. What should be done to pool these efforts? Now just think what it means to make the Shelter environmentally safe. Nobody knows what amount of work it will take. And we won't know for a long time, because nobody is prepared to perform this work. Adopting programs, putting the Chornobyl nuclear power station out of operation, taking a number of technical and social measures – the work is of tremendous proportions. Processing of radioactive waste has not begun at all. Long-term and short-term programs for the 30-kilometer alienation zone are nonexistent. Take, for instance, the environmental rehabilitation of the contaminated territories. Who said that it concerns just 200 people? In real fact, there are 2,294 contaminated settlements with a population of 2.6 million. Then, the socio-economic development of these territories, for which a legal framework has to be set up to deal comprehensively with all the problems, including a systematic scientifically justified analysis of the consequences of the accident and their current status and also avoid the very possibility of such environmental and social tragedies in the future. Monitoring should be in place. Had there been any state monitoring in this fraudulent country? We and I, for one, lived through all the systems, and I know what is the best for people today. There was nothing at all, and this practice, regrettably, goes on to the present day. Fifteen years Ukraine is living as an independent country. Speaking about a way out and what models there can be today, I'll tell you in brief what I think about it. I am happy to report to you that the concept for Slavutych had been devised through much suffering, because, as the UNDP representative said, funds for the third and fourth zones just were not allocated for a simple reason: "You have not prospect," we were told. But I kept on proving that nobody knew as well as I the effect of small radiation doses, and a high standard of living would compensate for any Chornobyl. And that's what I was doing. I can say today that there is a result. The result is the town of Slavutych, its social infrastructure and standards of living. The people who reside there can confirm it. The definition of the model we adopted is a technopolis. Slavutych – a technopolis. And that's not a current definition, but a definition of 10 years ago. Today I can proudly say that it's really a technopolis. A territorial, economic and socio-cultural complex with a system of education, medicine, culture and science that requires environmental and social rehabilitation through the implementation of a healthy lifestyle on the basis of the most favorable conditions for the economic development of territories, attraction of investments for small and medium-size businesses, creation of competitive and high-tech jobs, provided the state lends is all-round support. Speaking about a healthy lifestyle and yesterday's speech of the WHO representative, I also disagree, because jointly with the WHO we designed The Healthy Cities Program. It includes, as we see it, a somewhat untraditional component. It singles out not only physical health, but also psychological and social health. That's what the tragedy of Chornobyl is all about. It's about the deterioration of social health and the consequences we have today. I want

to say that this formula has been translated into reality and is effective in the town of Slavutych to date. The town has registered a natural population growth, and its young people are no fools and pragmatic enough to know that Slavutych is for them a fortress. That's why they give birth to children, that why's there is a natural population growth, and Ukrainians do not decrease in numbers but the other way around. That's why they are confident in the future. The reason behind it is psychology. Social psychology. Enlarge the term. Not simply psychology, but social psychology. Now some words about the Manifesto. Item one – health care. In this area we have made a good start. The gained experience is wonderful, and I'll put my signature under every lesson and every lesson of truth. Incidentally, we have remained deceitful to this day. It must be a malaise of our generation. I think that the new generation will nonetheless learn this lesson. Item two – urgent strategic initiatives. Oksana, I think that when you will report to the section, don't begin with health care, but begin with social relations. We have an excessively centralized state. Such a model is doomed, it has no opportunity to be successful because it's excessively centralized. It remains authoritarian to this day and it should be decentralized. Professor Poliakov spoke about these elements and components of self-government, not only local self-government, and decentralized adoption of important strategic decisions. So the first set of issues is to pool efforts for building a Ukrainian civil society. That's what we should begin with. Through joint efforts we will set up a legal framework when the public will have the opportunity to influence strategic decision-making legislatively. It will be enshrined in the law and make it impossible to disregard public associations and unions on issues, for the sake of which the associations were founded. For example, under local self-government an association cannot adopt a legal act if there is no discussion or a regulation to this effect. So let's do it – social relations and the building of a Ukrainian civil society. Then, the third item is to establish global partnership for development. Just take a look what's going on in Lithuania. They haven't yet closed down their power plants that are the same as in Chornobyl and are already planning to build new ones. Yet all these questions have been resolved in the European Union. For leveling out its standards, Lithuania is receiving €2.3 billion. If instead of humanitarian assistance Ukraine would have received such a boost, I don't know where we'd be today. I'm convinced that we'd outdistance Poland for sure. That's the goal of my life – to outdistance Poland. We should write in the third item that Chornobyl is going on and what Kateryna spoke about. Combine financial, technical and material resources to continue mitigating the consequences of the Chornobyl accident. That's what should be written in Item 3. That's an order, Oksana. I'll check it. That's what we propose – to leave the Forum as a standing organization. Nadia, it's very nice that you are with us, a lot of thanks to all our friends from other countries, large countries. I say friends, because you're with us today, and I know that deep in your heart you want to facilitate and help us. Thank you for all that. Continue this Forum, continue history. That's why I propose to hold it not only in Kyiv, although I'm now in Kyiv and my elder son is in Kyiv. But God sent me to Slavutych to build it up, to Chornobyl. I gave 19 years of my life to it. I'm not against Kyiv, but simply for holding such forums in other cities in the future. I propose a competition for holding the Revival, Renewal and Human Development Forum in Slavutych in 2007. And I'll prove to you in practice what had been implemented in terms of revival. Today Slavutych means the revival of the Polissia country. Instead of a lost Prypiat, a lost civilization, Slavutych has become a symbol of revival and renewal. It symbolizes the transformation to a new society, a new generation is growing up on the basis of general human values, all its schools today are Ukrainian without any coercion applied to this end, and everything is working just fine, and there's human development. Today the conditions for the development of a mighty young generation are, undoubtedly, restricted. Therefore, Slavutych will take part in the competition of cities for holding the 2007 Forum. Oksana, write all that down. Present Lady Kateryna and the wife of the Polish President the Svlavutych-2006 calendar. It opens with a scene from Chornobyl and ends with normal life. Those are the two prospects we have. Everything's fine, everything's normal. I want to thank you sincerely for your attention, and if there are no questions – the questions are much more than answers to them – I would like to say goodbye to you because the residents of Slavutych are

waiting for me. Today in the evening we will open a museum, then there will be a minute of silence, and tomorrow a visit to the Chornobyl power station. I bow in gratitude to all who at the cost of their life protected not only Ukraine, but also Europe and the world from what the Chornobyl catastrophe could have really been instead of a simple radiation accident.

Mrs. Oksana Harnets

Thank you, Mr. Udovychenko. Ukraine's problem is that not all mayors are like Mr.Udovychenko. The next speaker is Mr. Svitlana Plachkova, manager of the Ukrainian Parliament Secretariat.

Mrs. Svitlana Plachkova, Verkhovna Rada of Ukraine (Ukraine)
"Normalizing the legal and moral climate – lessons of Chornobyl"

It's very difficult to speak after Mr.Udovychenko. I'll never be able to outclass such an emotional presentation, the more so since I will be speaking about extremely boring things. Legislation is not that beautiful or emotional. Following up on Mr.Udovychenko's theme of life going on, I think that by combining efforts to deal with the problems of development, it will help society to take a closer look at its needs and reject egotism. I will now make an attempt to speak about the lessons of Chornobyl insofar as they concern morality and law. The accident at Chornobyl not only impacted fundamentally on the further development of nuclear power engineering, but also essentially changed the attitude to it and posed a number of very important questions to society. The first question is the continued development of high technologies and the price of progress. How much does it cost, to what extent are we prepared to pay for it? How can such accidents be avoided, dealt with, and what should be the responses? Society is aware of the conflict between technological progress that ensures economic development, primarily as regards poverty prevention, enhancement of the quality of life and security, as well as environmental protection. Technological progress is attended by the search of methods of protection against possibly negative impacts. The main problem is that the more we delve into matter and the laws of nature and our existence, the more are the questions to which we try to find the answers. Bernard Shaw has a beautiful aphorism to the effect that science is always in the wrong, because by resolving one question it poses dozens of new ones. Regrettably, not a single sophisticated technology in power engineering can guarantee mankind absolute safety at the best possible price for energy. But in this case we can speak about the lessons of Chornobyl, i.e. to what extent can we restrict ourselves as consumers of energy so as to give future generations the opportunity to consume energy, prevent poverty, and enjoy a comfortable life. In the past years a lot has been said about the causes of this accident, especially about its technical aspects. At our Forum we transcend beyond the bounds of technology and turn to the problems of culture, medicine, and humanitarian issues. I hope that at this Forum we will be able to affirm the need to shape and ensure a culture of safety. Incidentally, that's what Mr. Boug spoke of at yesterday's session, and it was mentioned, it seems, by Mr.Tolstoukhov today, i.e. the culture of safety as a set of characteristics of human activity and behavior when safety is of priority importance above everything else. This has been commented on a long time ago, but only when the preconditions of the accident were discussed in the report "Ten Years of Chornobyl" which confirmed that not only technical aspects were behind the preconditions of the accident, but also organizational and legal aspects. First of all, it concerned the lack of legislation governing the relations in the area of nuclear energy utilization. We did not have any law, only a number of ministerial regulations and secrecy that made the area off limits for public scrutiny. Second, the main principles of nuclear safety were of a recommendatory nature, i.e. they lacked the power of a law. We did not have an independent agency of nuclear regulation, i.e. it was not independent from the state nor from companies whose main concern was the business of generating electricity. Fourth, there existed the general practice of what was already mentioned at lot of times – the practice of centralization.

Under this practice the responsibility was imposed on the generating station, while decision-making, distribution of resources and other important powers were delegated to other agencies. Yet law, as a system of rules of behavior, and law, as a regulatory act, is the principal method of governing social relations both at times of accidents and at times of mitigating their consequences as well preventing new accidents. It can be said that the relations at the time of the Chornobyl accident were extraordinary and catastrophic. In principle, we can say the law that exists at times of normal life changes once an accident occurs. In what way changes the system of rules of human behavior that we call the law? The need for legal regulation increases, it becomes much more acute, and even the need in moral regulators increases. I think that everyone who witnessed the accident can confirm my words. It's when there is a considerable increase in the role of informal, frequently professional authority (prestige) and its related formal and informal agreements. The substance of the regulatory potential of law changes and becomes adequate to the emergency. Some of the legal provisions are not executed, since this justifies the emergency of the situation. Some of them become unwritten laws, i.e. the unwritten law is executed. The law – and that is its third specific feature – becomes more authoritarian and, in principle, more stringent. No civil remedies at law are applied. We can ask now whether such a young state as Ukraine was prepared to regulate such legal relations that had evolved between the citizen and the state, between an enterprise and the state, between the citizen and the state. The situation was extremely complex, and I do not think that at any time in general it was ever considered how such a large-scale accident should be regulated. Before the accident Ukraine practically had no legislation to govern the procedure for taking emergency measures. Right away we have in mind the machines of enterprises that could be taken from them and used during the accident. After all, this was radiation contamination. A lot of mechanisms were lacking to make it possible for the state to discharge these emergency functions. Some of the regulatory enactments were adopted only after the accident, such as the regulations of the Communist Party Central Committee, Council of Ministers, then the UkrSSR Council of Ministers, and Trade Unions. They were concerned with all the aspects of dealing with the consequences of the accident – from provision of housing for the evacuees to the wages of the cleanup operators. As to the laws governing relations, they were adopted only five years later. Now with your permission a little more of the legal material… the only relief for the victims was the application of the Civil Code governing compensation for damages. It had two articles – 440 and 450 – stipulating compensation in full. In any case, a victim could apply to a court for compensation. But nobody applied to the courts. It can be said that the world did not know of such practice when you could claim compensation in full for nuclear damages by a court decision. I'll speak about it later on. Habitually, our citizens did to apply to courts after an incident to have their damages made good. I have in mind damages caused by a technogenic accident. Besides, the very term nuclear damages did not exist at all. These and a number of other reasons explain why Ukraine did deal with these problems legislatively, and instead the state completely assumed the expenditures related to mitigation of the consequences of the accident, protection of the population, and compensations for the victims. First the State Budge of the USSR and then of Ukraine became the principal source for offsetting these damages. Later on, the international community provided humanitarian assistance. The inadequacies of the measures built into the Chornobyl legislation as regards dealing with the consequences of the accident and the state's financial capabilities were obvious. It was only in 2000 that actual financing approached the projected figures, while all this time such a situation was always a source of tension, since what was written in the law could not be delivered. In conclusion, I would like to say that the legislation on Chornobyl based on the principles of the exclusive responsibility of the state for the caused damages did not – for all its highly humanitarian orientation – become an effective instrument for dealing with the consequences of the accident. From 1994 on, Ukraine began to formulate its own nuclear legislation that relied on the principles of international nuclear law. Ukraine is now a party to practically all nuclear conventions, practically all, perhaps some of them in a new wording. It is a party to the conventions on early warning and provision of

assistance in case of accidents. It is a party to the convention on the physical protection of nuclear material and nuclear reactors. This makes us confident that, given the availability of relevant legislation, Ukraine abides by the world standards in this respect. But however good laws might be, their execution, compliance with provisions, and the presence of legal nihilism is a problem in our society. International nuclear law as it is today is a rather complex and orderly system. But as our colleague from the US Scientists Association said, even in the US, where nuclear legislation is being constantly improved, they are now thinking how to assess the possibility of a threat to nuclear power stations. They are even considering how to ensure the physical protection of nuclear reactors against possible air attacks by terrorists. That's a tremendous problem, since it entails economic and various organizational measures. Now I would like to return to civil accountability, of which I spoke about before. When drafting nuclear legislation insofar as it concerned civil accountability for nuclear damage, a theory was applied whereby the risk of using nuclear energy was distributed between everyone who enjoyed the benefits from it. It was just then that the concept was born to introduce civil accountability for nuclear damage. So some extent the accountability is restricted in scope because, as Chornobyl proved, it's probably impossible to set off all the damages. There is a three-stage system of offsetting damages. A certain part is borne by the operator, the second part by an insurance company, and the rest by the state. Unfortunately, with us this system has not been completely developed and it consists only of one stage. Yet this system is also restricted in time, because 10 years later you can hardly expect to receive compensation under the convention. Under our law, compensation for damages caused to life is unrestricted, i.e. throughout his entire life a victim may apply for compensation. The only thing that's not good is that accountability is guiltless, i.e. you always know who is responsible for the damage. It's the operator appointed by the state, which means that you do not have to prove his guilt to receive compensation and must only prove the causal link between a disease and the incident. Although Ukrainian nuclear legislation is developed enough, it still lacks clearly defined mechanisms that are in need of constant improvement. This is where a dialog between professionals and the public is needed for future development. Returning now to the culture of safety, I would like to point out that it foresees not only technical knowledge and professional skill of the people involved in nuclear power engineering, but also their will to comply with established provisions, rules and procedures, their creative and initiative approach to the problems of safety and emergencies, including the ability to foresee the emergence of problems. I've already mentioned the possibility of air attacks. You have to have the ability to foresee them and be prepared for them. The improvement of the culture of safety consists of a set of managerial, legal and organizational measures, but, above everything else, it is a question of morality and consciousness. Every professional must see safety as a top priority. I have in mind not only those who make decisions, administer the management and regulation of the nuclear sector, engage in the business of using nuclear energy, production of equipment, design, and construction. Now, what can I say about the Manifesto of Accountability? I think that this document should become the underlying basis for developing this dialogue, which should be ongoing, and I agree with its main provisions. But I concur with Mr.Udovychenko that it should also include a chapter on public relations to regulate them. For me it is very important that the Ukrainian President, in the concluding part of his speech yesterday, said that in the Chornobyl zone a mighty scientific institution should be built to study not only the technical, but also the humanitarian issues of this accident.

Thank you for your attention.

Moderator

Thank you, Miss Svetlana. Are there any questions? I would like to give the floor to Mr. Vladimir Gubarev, the Russian writer and a famous Chernobyl Journalist. I asked him to make his presentation slightly ahead of time.

Mr. Vladimir Hubarev. Writer (Russian Federation).

I stayed in Chornobyl since April 27, 1986, worked there for 40 days, and later on visited this place on a regular basis in 1987, 1988, and 1989. Due to my position, I was aware of absolutely everything that was happening there; in addition, I had the opportunity to directly contact with Gorbachev. On May 7, I visited Gorbachev: I flew by plane to meet with him and told him that we had to address the public. I also met with Scherbitskiy, and am aware of the decisions that were taken. I was editor on science of "Pravda" newspaper. Here however I feel like an alien. The point is I have two higher educations, physics being one of them. I received it as far as at the end of the fifties. I found myself working for a newspaper. I was asked for help since it was the time of preparation for the space flight of Yuri Gagarin. Of course, in the sixties I was attending numerous nuclear explosions and tests, and therefore I was like an alien. I can tell you that at one of the meetings of the Supreme Soviet of Ukraine I presented to Scherbitskiy an operable dosimeter because at that time there were no batteries for dosimeters: their manufacture was stopped in 1969. Petrovych told that we had been actually putting away all our dosimeters when entering the zone; during the initial, hardest days in May, when nobody understood what was going on, people behaved really selflessly. I was very much surprised about one thing, i.e. by horrible ignorance that existed in the zone. Of course I'm not blaming anybody for the errors under those conditions: later on, people corrected these errors. They corrected these errors one or two years later. There were some very simple things. For example, it was necessary to use helicopters to suppress the reactor; of course, before May 19 it would have burned out itself, but in this case half Europe would have been contaminated. This fact must be known because only due to the fact that pilots of planes and helicopters were dropping various materials into the reactor, Europe was saved. At that time, I was astounded by the lack of professionalism. You know, three days ago when I came to Kyiv, Borys Yevhenovych Paton invited me to make a presentation at the General Meeting of the National Academy of Science of Ukraine. It was not an accidental invitation because we had met in Moscow, at a symposium-conference dedicated to the twentieth anniversary of Chornobyl disaster, held at the Academy of Science. I came to the Academy and made a presentation. I was very much surprised by the fact of absence of a single representative from Ukraine or Belarus. It turned out that the meeting of the Academy of Science of Ukraine was not attended by a single representative from Russia. I'm very sad about this fact. I'm also very sad that this meeting is attended by few guests from Russia. It looks like collapse of the Soviet Union has divided Chornobyl disaster into three parts. It so happened that during the tenth anniversary of Chornobyl I was invited to make a presentation at the IAEA conference. This conference was attended by Shoigu (Russia), Lukashenko (Belarus), and Marchuk (Ukraine). So what we were doing? We were dividing Chornobyl disaster into three parts: who suffered more, and who suffered less. I am very disappointed with these three days. During these meetings, it became obvious to me that you do not like science any more. And nobody needs the things your scientists are doing in connection with Chornobyl. It appears that nobody needs science; the science is at a standstill; the industry is at a standstill; the economy is developing only through natural resources. It turns out that we do not need science. I forgot to mention one more point. Immediately after Chornobyl disaster, we managed to overcome ignorance. One of our greatest achievements consisted in the ability to combine international effort. We received great assistance. As for Japan, I am aware of the fact that equipment was delivered to the Center for Mother and Child in Kyiv, and to the Center for Mother and Child in Minsk. We established a Hematology Center in Moscow. For the first time, I and Oles'

Adamovych came to agreement with a Spanish minister to send the first group of children from Bryansk Oblast (Russia) to Spain for rest and medical treatment. We agreed to send children to Spain, France, and Italy. On August 19, 1991 I was in my office and, using my direct line to Kremlin, was trying to get a plane to transport children. This was exactly during the putsch in Russia. I was trying to convince people in Kremlin that sending children to Italy was much more important than the putsch itself. You can only imagine what it meant to send a plane on August 19, in the middle of the putsch. We are very proud of this. Japanese nuclear industrial forum supplied to Ukraine 10,000 devices for studies of thyroid gland. From the very first week everybody understood that children's thyroid glands were filled with radiation, and there should be an outburst of thyroid gland diseases. I would like to emphasize that we had delivered this equipment to all rural hospitals in Russia, Ukraine, and Belarus; all of it was embezzled, and nothing worked. Therefore, during a visit of a Japanese delegation I was just hiding my eyes like a watchdog that could not prevent a theft. Today I would like to appeal to you – bring back public confidence. Look, in Kyiv, I have already attended the meeting of the Academy of Science; yesterday I met, near a theater, with managers of all Ukrainian NPPs. There were slogans like "Down with money-bags!" And I just came there with these "money-bags". I would like to ask you one thing: Don't again divide Chornobyl disaster among more than our three countries. Don't divide it within Ukraine, Belarus, and Russia. At the same time, it turns out that we are dividing it. Scientists torment themselves over this problem; they don't know what to do about it. Now I don't want to confirm or to simplify the statement on their being "money-bags" or not. Nobody however will settle close to NPPs if life will be dangerous there. I just happen to know these people. How can you hold two forums in adjacent premises? Wasn't it possible to combine them, the more so the matter discussed was funds, about 500 million that fail, or 300 million; I don't know what the funds are required. Funds are insufficient to build this arch. The arch will not be constructed – it's impossible. The fuel cannot be removed. To remove the fuel and to complete all these jobs, we will have to expose 100 thousand persons during a 200-year period. If people would have similarly treated "liquidators" or those who burned down in 1986, then of course nobody would go to work there because everybody knows and remembers the attitude to these people during the catastrophe. I beg you: do not divide this disaster either vertically or horizontally. Don't let politicians push yourselves around. It was politicians' idea that we had created three states plus Chornobyl. Since Chornobyl is located on the territory of Ukraine, what I am supposed to do is I am one-quarter Ukrainian, half-Russian, and one-quarter Belorussian? How am I supposed to divide this disaster for myself? You know, in any case catastrophes will happen in the nearest future because the beginning of the 21st century means a total advance of ignorance. At the same time, I can say that today the personnel of NPPs have much poorer level of training that in 1986. I visited Dr. Guskov at the radiological clinic, and he told me that at present they have not cured a single person because of the lack of equipment and laws; besides, it turns out that during the 50-year period their treatment of people suffering from acute radiation sickness has been illegal. Therefore, the name of a specific country does not matter; the point is we don not have specialists in a very important area. Neither Ukraine, nor Belarus or Russia are capable of solving these problems independently, and not only because of high costs of such effort. People are sometimes very upset; you had political passions. You declared two individuals persona non grata; I will not tell their names. But these individuals saved Kyiv. If they would not have undertaken responsibility, 3 million persons would be evacuated from Kyiv. I attended that meeting of the Politburo of Ukraine, and it was an objective reality. There existed a probability that the reactor might explode. I don't like participating in various forums because it is a very painful job. Afterwards, you feel very sad. My best friends are not alive any more. Three young people died. Those with whom I started working together in Chornobyl, mitigating the consequences of disaster. So let us change our attitude. Excuse me if I said something wrong, but I am really late for the train. Thank you for your work.

Mrs. Oksana Harnets

Thank you. It was a very interesting view at the problem. We have 20 minutes for four presentations left in the list. Now I invite Mr. Rostyslav Sherstyuk.

Rostyslav Sherstyuk. President of "Saturn Deyta International". Ukraine

Systems of technological, ecological and personal security: future responsibilities"

Dear Chairwoman Kateryna Mykhailivna, ladies and gentlemen! Looks like I am one of numerous engineers and economists present at this respected meeting. This fact has somewhat reflected in the subject of my presentation. Specific capabilities of economy of any country constitute one of the major prerequisites for importance of such country in the world community. It is impossible to create a competitive economy without making use of modern advanced technologies. However, utilization of everything that's new is associated with a risk and possible consequences. The economy of a modern developed society should have a postindustrial orientation in compliance with modern socio-philosophical aspects and components of the dynamic economic development in the world. The latter aspect implies that a human being becomes a priority of development of the modern era jointly with his/her personal values that include security of life and personality. In addition to economic indicators, a priority of the modern economy should comprise orientation at harmonious combination of technologies, ecology, and personal security of a human being. This concept is based on a systematic approach and paradigm of sustainable development of environmental-and-economic development of society, being a methodological basis. This block has been initiated by the wish to implement the principles of responsibility of the mankind to future generations. Security systems of the human being should be considered as the mechanism that has to reduce the gap between the levels of man's technological capacities on the one hand, and intellectual development of society, on the other hand. Unfortunately, existing situation is characterized by emergence of a distance of such gap since technical capabilities of the mankind permit to easily annihilate the life on Earth. At the same time, the level of intellectual development of the human mankind is far from perfect. Therefore, the importance of systems providing technological, environmental, and personal security cannot be overestimated. Human life, as well as harmonious and integral unity of living and inorganic nature, is among greatest values on our planet. Therefore, it would be unreasonable not to worry about their security and harmony, the more so that the experience of previous technological disasters forces us to think about responsibility for such disasters and responsibility to the future in general. This implies the need to carry out mandatory environmental audits of possible consequences of any technological and environmental developments, as well as any other consequences of human activities. Thank you.

Professor Olga Hryva. Humanitarian Institution "Artek". Ukraine
Tolerance as background of personality and society

I would also like to be very laconic in order to let other people say something. Today we talked much about safety culture. At this Forum, I would also like to identify this subject from a different side. The point is that safety culture cannot be associated only with technological side of this issue. First of all, it is human culture, personality culture. Hence, I would like to rely on one such thesis that has already sounded here several times. The thesis consists in that all the technical, technological, and scientific projects should be subjected to "moral" audit in order to evaluate project safety for a human being and for the mankind in the future, in order to implement the principle of safety and responsibility to the generations to come. In this connection, I have an idea that maybe now we should audit everything; here, we should use the concept that the God had given to the man everything that exists in the nature. And our future

will depend on our attitude to all this. In this way, we will implement the principle of our responsibility to the future. As an example illustrating these theses we can say that Sakharov has not created the H-bomb. It was just the way his discovery was implemented. Therefore, in order to ensure responsibility to the future, we must today bring up the young generation, i.e. children and youth who will tomorrow implement this principle of safety. Hence, my main thesis of today consists in the need to bring up a tolerant generation with the aim of creating a safe society both today and in the future. I am representing "Artek" International Children's Center, including "Artek" Humanitarian Center. Now, I have no possibility of telling you about procedures and programs we have developed and are implemented; they are directed at shaping tolerance in children and youth, and primarily in their teachers. Because lack of tolerant teachers (in our case, they are "Artek" guides) means absence of tools and mechanisms for shaping a tolerant generation that will be responsible for safety and future. Therefore, I can only emphasize that such technologies exist. Using this opportunity, I would like to appeal to all participants of this forum with request to preserve "Artek" as a place of origin of such technologies and their further development. Thank you.

Mrs. Yoshio Matsuki. Embassy of Japan (Japan).

"A review on the aids from Japan to Ukraine for the recovery and development of the Chernobyl Accident: past, present, and future

Today I would like to introduce to you the paper which analyzes the… the supports, which is analysis from the Japan to Ukraine on the supports and the development of the first people in Chornobyl accident.

The finding. It was found that an emphasis is to be made on the community development of the effected people and at the same time just there are many demands on the long-term equipment for the long-term monitoring and the recreations and the child education and the medical services.

Next slide please. The objective and the scope is to access the sponsors from Japan to Ukraine and to show the types and trends of the directions and to compare the social and convective roots of the communities and the large output of the welfare systems provided by the former Soviet Union and then also it is to review the role of foreign aids…

Next site please… There are many-many donations and supports from Japan to Ukraine. Today I would especially talk about a smaller size project which is this project there – Grassroot Grand Project – which is … second last one, Grassroot Grand Project which has started in 2000 and up to now. And in either of that you need to see the individual recovery and development projects.

And these are the examples of the Grassroot Grand Project which has writing on the donations to the local communities and hospitals and also some prevention dwell process in some contaminated zone. The purposes are say 5 forces. The first one is health monitoring for the long time as the health monitoring is necessary so we the Japanese government has donated those equipment to the households.

And also medical services including the counseling and some medicine supplies

And also child-care education and the recreation and community development, and community development

And to analyze the future and present and future, I said there are four models, one is a hypothetical nation who serves, the second are the ministry procedure and third is a different fallacy juridical system and the fourth is that people's self-recovery motivates recovery. Those four models form upright to those purposes of the small-size projects for medical services, child-care education and the recreation, community development …

And with using national service and juridical systems all those five different demands can be satisfied and never juridical systems can bring in new aspects for the supports of Ukraine on the Chornobyl accident affected people. However, the community development can not be satisfied on that child care and the recreation medical services are… care. As long as the cause and

relationship are proven, because good is to judge the cause and relationship between the demand the claim of the damages and loss of the affected individual in the accident.
And the last one the people self-recovery without getting any government support the affected people cannot get satisfied about the compensation on the new life and say welfare. However, without this last hypothetical model - people's self-recovery, the Committee development can't make/
The conclusion is that trends and directions of the aids for serving the existent problems identified, the key are still key to international support but history of the support also gives suggestions on the future national frameworks and the current international aids are made into two different type of institutions: one is the social framework started by the former USSR and another is direct supports of the community of the affected people and recovery and development of the community can be also achieved by the people's multi-dimensional preferences and the market incentives and all international aids to the affected people should all fall in this line too..
Thank you

Mrs Oksana Harnets
Now I would like to invite Ms Oksana Khodorovska who represents the Institute of Sociology of the Academy of Science of Ukraine.

Mrs. Oksana Khodorovska. PhD. Institute of Sociology of the Academy of Science of Ukraine.

Twelve social lessons of Chornobyl in the context of the future"

Good evening, ladies and gentlemen. I will try to somewhat replace Mr. Yuriy Sayenko who is absent today. The Institute of Sociology of the Academy of Science has been carrying out studies of sociopsychological and social consequences of the Chornobyl disaster since 1990. Our latest studies, supported by UN, were carried out in 2005. It was an expert poll. We may now summarize our major conclusions that today are considered the most relevant. We have already discussed the need to advance people, and tremendous ignorance of people, specifically of those who suffered from the disaster. We shall not talk about those responsible for having left people without information on the situation; let us however mention that now people don't want to apprehend such information any more. Why it so happens? We can name the direct reason of this. If people do not possess any means of protection against a risk, the information on such risk is simply forced out of their consciousness. Therefore, such information and knowledge should be provided to the people as information on risk and on protection. In this case, such information and knowledge will be kept in their consciousness. Let us discuss one more issue. In addition to knowledge, people need everyday skills of their vital functions with account of the need to upgrade their own safety. We can see that people cannot rely on laws or on expert assistance of physicians and psychologists because such assistance is not sufficient for them. Unfortunately, such assistance is in shortage for the people who suffered and whose number exceeds 2 million persons. Therefore, we should concentrate on the possibilities of teaching, in particular children and persons suffering from chronic diseases, the skills of upgrading their own safety. Of course, we should immediately clarify the issue of the people capable of teaching. Unfortunately, the expert poll of 2005 demonstrated that such knowledge and skills can be provided only by the national-level experts. At the regional level, a considerable portion of knowledge and skills is already absent; professionals do not possess such information, not to mention levels such as district or a regular village. As it was already mentioned, the accident has primarily rural nature. It is because rural areas do not have any infrastructure, information, any notion on self-protection except for some experts on crops etc. These experts are very few. Therefore, I would like to switch to proposals and to offer, for section 2 of the Manifesto on responsibility, the issue of improvement of the system of education. This would mean

improvement of education of physicians and teachers working on contaminated territories and with migrants. Today, physicians are not able to provide consulting services. While they are capable of diagnosing and provide medical services, they cannot do any consulting on preventive measures and self-diagnostics. It is quite possible to train these experts in such skills. In any case, they are providing recommendations to residents. It is an integral part of their professional activities. Next. It is education of teachers dealing with population that suffered from disaster. For such teachers, it is absolutely necessary to add to their professional areas of knowledge such as chemistry, physics and safety of life activities, a certain amount of knowledge about radiation and Chornobyl disaster in particular. Today, safety of life activities tells us how to protect ourselves from lightning and at the same time tells nothing about protection from radiation exposure. Meanwhile, such protection is possible. First of all, it means awareness of the most contaminated areas, territories of specific residence, specific village. It also means the knowledge of places suitable e.g. for gathering mushrooms and berries, and of places where such activities are impossible. In other words, it is very simple and elementary knowledge that may be completely apprehended by children and all the more by experts who are working with people who suffered from disaster. And, of course, it must include integration of managers' efforts… Unfortunately, the poll carried out by our experts has demonstrated that activities of managing structures are poorly integrated, which is shown in evaluations provided by employees of these structures. In addition, it would be worth initiating or extending the system of dosimetry control that would let people to check the level of contamination of e.g. food products. Now, there are 466 settlements with reliably confirmed elevated level of contamination for milk and some other local food products. These products are produced by households. It would be necessary, in addition to dosimetry control accessible for any person, to allow any person to check the quality of products consumed by such person. In addition, it would be of course necessary to explain these people, maybe on the basis of schools, how to keep their households in order to reduce the risk of producing contaminated food products. I think it is the most promising and simple task that we may offer as a result of our discussion. And, in particular, propagation of such knowledge and skills may result in improvement of the psychological condition of residents, which fact is confirmed by the studies of 2001, when the practice used by the Ministry for Emergency Situations included mandatory incorporation of all the scientific projects in the life of population. This year was the only one when we registered that one-third of people involved in the poll were using some means aimed at protection of their health, as well as some risk-reducing technologies in their everyday economic activities at their own ground plots. These people were feeling better and had better psychological condition than the rest of the population. Thank you.

Using this opportunity, I would like to disprove statements of my sociologist colleague. Here, I am representing "Safety of Life Activities" magazine, and now I would like to present our subject collection, issue 3 of this magazine, dedicated to coverage of this event. Apart from other publications, our publishing house is issuing magazines such as "Fundamentals of Health and Physical Culture" and "Life Against AIDS". I would like to ask to include the work of our section in the final resolution, and to cover this work in our publications. Thank you.

Mrs. Oksana Harnets

OK, now I will make a brief list of the issues that in my opinion should be mentioned at the plenary meeting. First, I think that a significant portion of participants express their certain disagreement with the conclusions of the Chornobyl Forum. Manifesto should be amended with the area of social relations, and first of all with a modification of the system of decision making, and with involvement of the civil society in making of important decisions. Development of safety culture. Creation of a relevant legal framework, being regulator of social relations. Further shaping of sociopsychological support of individuals and communities with the aim of

overcoming the culture of dependence. It would be necessary to implement humanitarian or ethical audit of decisions that are taken at the managerial level. Now about educational system. As Professor Yuri Shvalb mentioned, global catastrophes bring suffering to individuals and whole communities. Therefore, it would be necessary to introduce such position as personality, community, and social relations.

People are already waiting for us in the conference hall.

Thank you very much for your involvement; now we shall move to the plenary hall to attend the final meeting. Thank you very much for the very interesting discussion.

Section C.

General Overview: Evolution, Catastrophes and Humanity's Future

Moderators:
Academic Myroslav Popovich. Director of the Institute of Philosophy, National Academy of Sciences of Ukraine
Dr. Reiko Watanuki. Chernobyl Health Survey and Health – Care Support for the Victims, JAPAN Women's Network

Professor Myroslav Popovich. Director of the Institute of Philosophy, National Academy of Sciences of Ukraine
The Chornobyl Catastrophe and the Future"

So the issue is whether we share and keep this metaphysical approach to the fear or we should rather deal with Chornobyl and potential Chornobyl as a risk which is similar to any other risks in other areas of our activities. Secondly, disaster is method of development and human reality. There is a mathematical theory of disasters that actually raised that a disaster is a normal phenomenon. So we can not have a negative connotation of a disaster, we can also have a positive result, meaning moving towards something new according to the theory of disasters. So the role of causality and of human factor seems to be extremely important. The point is that different disasters sorrow not just exception of course of things; it's just a normal phenomenon in our everyday life. Any accidents can be classified in the following way. We can split them into those that are not desirable but you can not avoid them as the consequence of a progress, then consequences of coincidence of events that can be avoided and then the consequences of unavoidable processes that appear as a result of natural or human factor then like tornados, earthquakes, etc. We can classify in the similar way the man-made disasters like wars, economical depressions, etc. So the question is whether Chornobyl was A or B meaning was that just one of the disasters that could be avoided or should we really expect any other disaster of that kind as something unavoidable which you can not avoid as a consequences of progress. And thirdly, the question about society and disasters. I'd like to note, mention 1986 not the disaster but enthusiasm and a spiritual rise that was immanent for the people who went to Chornobyl area not at all recounting consequences. Probably it can only be compared with enthusiasm that was seen on the Maydan during the Orange Revolution. Because you could feel this readiness, this preparedness to give whatever one can give up in order to save the world. Maybe different point is that we were not able to preserve this enthusiasm in 1986 and to convert it into some new social form the same way we are now wasting the enthusiasm of Maydan. It also seems to be important to know who is responsible for the consequences of disasters similar to Chornobyl. So we have now a general issue what should be the participation of the public in this responsibility. On the one hand, the public are not experts, while these processes certainly need very exact scientific expertise and up to now we don't know what threats are coming from the site left from Chornobyl. On the other hand, public gives us help for an impartial review of the problems linked with the progress.
And final thing that I'd like to say is rebirth and renovation of the society. I'd like to mention the reserve, the stock of this political enthusiasm. I have already mentioned that, I'd like to say something different. The sociological consequences or implications of Chornobyl, we see that these implications are not something conventional, because the mass resettlement of the people from those territories entailed very unexpected results. We need to talk about preservation of the roots of the rural landscape, I'm not talking about just geographical but about human landscape that used to be considered something marginal, but now we really feel how much we lose when we lose the human factor. This simple countryside that appears to be rids for high civilization. And finally to conclude I would say the following. Since we can not really do our valuation based on the most modern approach we can not valuate the modern contemporaneous phenomenon from the standpoint of our past. Since the future is still open we can not be

confident of the future, because the future depends on today. The question is what this ethical criteria should be in order for them to be higher than just thoughts about the profit is an open issue. So I'd like all of you to think about it. That's all I wanted to say before we start our discussion.
Now, let me give the floor according to our agenda to Mr. Serhiy Krymskiy, who is PhD, it doesn't matter what degrees are.

Serhiy Krymskiy PhD. Institute of Philosophy, National Academy of Sciences of Ukraine. (Ukraine)

The Chornobyl Catastrophe and the Future

Chornobyl accident is often called the major man-made disaster in the history of humankind. This is true, but it is not a complete truth. At the same time the Chornobyl tragedy is an anthropological disaster that is concerned that destiny of humankind especially genetic fund and the genetic fund is present in all our lives which we can very easily calculate. Normally anybody would have four closest relatives they are parents and grandparents. But the previous or second generation I mean the man generation what have eight closest relatives. If we talk about the third generation then we will talk about 16 closest relatives then we go to the fourth - 32 relatives, etc. by geometric progression. So, on the 40^{th} generation almost whole population of the planet becomes relatives. That means that the people have a single genetic fund and this atomic distraction of Ukraine affects the whole humankind. The same kind of distraction was the famine organized against Ukraine in people affects in irreversible way the whole genetic fund of the humankind. In both cases it was due to the negative results of the social disaster of 1917 that occurred in Russia. It was kind of a warning to the humankind and it was accompanied by some cosmic signs then the non-protuberance of the solar disk which made astronomer Chigevskiy to declare the sun exploded. And other implications of 1917 disaster there were man-made protuberance of the explosion in Chornobyl. So social, anthropological and even cosmic disasters all resulted in Chornobyl events. Moreover all these events as that used to be in eschatological phenomena were linked with bible images and forecasts. And the point is not only whether star falling from the sky, there are more serious links between the human attempts to become equal to God. We are used to think that knowledge means strength, power, but this power may lead not only to the saving but also to distraction. The humankind together with the scientific technological progress, the humankind achieved not only big successes but also became hostage of a mistake. A mistake, whose anthology was not realized by the religious dogmas of Middle Ages. In those thinking an absolute of the God was the object of the creation not the human being, but with the beginning of the industrial society the construction of the life was declared to be business for the people. That's why the 18^{th} century had the declaration of Cromwell "My brothers remember for Christ's sake that you may make mistakes". So appearance of this technological civilization with all its power meant the ability of a human being to create something that is harder then human being's limits which means loss of control over unexpected circumstances and transformation of a success into an error. That was the situation of Chornobyl events. After those events the humankind lost its right to make mistakes because it became clear that might not have enough time to correct them. Moreover it was found out that the equipment became something extremely complicated for a human being and we can not do without full automation because if we have semiautomatic system it can lead to the very threatening precedent of shifting of psychology of hand labor to the application of electronic equipment. Because of all that new theory of decision-making needed to be developed thus when we search for optimization it has become an illusion because the major success is within the area of maximal financing and maximal risks while the strategy of an optimum doesn't help to overcome this obstacle. Under these conditions the strategy of sufficiency has became adequate which depends on your expectations. If your activities are successful then expectations grow. If

you fail expectations decrease. This is like moving on the edge. When you have to check every man, how efficient you are, Chornobyl disaster reminds once again that human being lives on the very risky limits and the way of human being is always like that with lighting and threats. Human being lives in the way of disasters and explosions, this is the picture of the universe is fed through the explosions of stars, planetary volcanoes and the black holes that even absorb light. Biosphere is another object of disasters, about million of species disappeared. The human history is marked by disappearance of Atlántida, crisis of number of different civilizations, distraction of Rome, disaster of Tatar-Mongol invasion, distraction of aborigines of America and 2 World wars. All around the world the humankind survives thanks to wisdom only thanks to the mere brain thinking. The historical path is more towards construction "Noa sphere" which comes from Noas which means wisdom, knowledge. So the whole drama of the Chornobyl accident consists in the fact that it has been the first conflict between man-made sphere and Noa sphere. So how can we combine the technical rationality with the wisdom which represents the human brain and consciousness? And imperative can only be social control over scientific and technological progress, understanding of the fact that any activity can not be allowed to do whatever they want because anything rational and expedient has certain humanitarian, environmental and economic limitations. Only fools have no limits.
Thank you.

Professor Myroslav Popovich . I would invite to have the floor Mr. Grodzinskiy, and our young scholars will speak later.

Academician Dmytro Hrodzynskyi. Chairman of the National Committee of Radiation Protection, Verkhovna Rada of Ukraine. (Ukraine)
Ecology and Disasters

Esteemed Chair, esteemed audience!
I am by 100% a specialist in natural sciences, so I'm asking you to have the same attitude to my speech as you would have towards Mark Twain's famous story "How I edited a local rural newspaper". So, have some irony. Speaking about the disaster we have to view two types of disasters. One type is disaster of human beings, for the human beings, for the public. And the second disaster is the disaster for the environment. You know they really run across each other, they influence each other and actually we live under these impacts of these two types of disasters. So, you know that illustrates what I mean, I've mentioned nearly human disaster when a great Prince adopted Christianity and he baptized the Rus of Kyiv. That was a disaster. What kind of disaster? You remember they threw the pagan gods into the river and nothing happened, there were no lightings, no fire and that was a huge deception for the people. So, then this real disaster allowed to switch the monotheism and the new vision of the universe appeared. Also another disaster was mentioned. Here I mean the English revolution with Cromwell, but actually it didn't go to the very end because of the parliament, they had by that time in England. Now, disasters of the nature, these disasters lead to the situation when the condition of the environment becomes worse. And this impacts conditions the human lives and over also the social and psychological component. We need to state that Chornobyl disaster was a huge disaster of both human nature and it was disaster for the nature because huge territories was contaminated with radiation and because of that there has always been permanent threat. Talking about the human aspect of Chornobyl disaster it consists in very scary thing that we may not be able to realize. What do I mean? Everything that we believed to be very reliable, very certain because you know you can never rely on policy or relations with other people, you could rely on the ski, on the air, on the tree growing in your yard. So, all these things we believed to be extremely reliable all of a sudden became a carrier of death meaning it changed its sign from plus to minus. So, this kind of deception, I repeat we probably have not been able to realize what happened because it's a very slow process and we really become aware of what happened. It's much deeper then any other

aspect of Chornobyl disaster and because of that we need to think about the future, what kind of future will we have. But I will tell you another thing. We should understand that we live now in a permanent environmental disaster. Chornobyl added just a small part to it. Why? Because Ukraine doesn't have any clean water anymore, I mean something that doesn't have any carcinogenic substances, heavy metals, etc. We don't have any more water like that. During the 2 hours that we spent here every one of us will pump though lungs about several milligrams of aerosol particles that we can not see. We are all the time in critical condition of our environment and we are certainly impacted by that because of that we certainly need to change something in our life style. To prove that it is true let me give you just one number. Emissions per person in Ukraine are 12 metric tones per year; if you divide that by 365 then you will get the figure that you receive every day. That certainly doesn't help a lot to improve our life and now the life expectations here become much shorter. We talk much about our European expectations but lets talk about life expectations in Spain – 82 years, in France its 80 years, here 49 years and women live maybe 10 years longer. In our community we can see a lot of women who lost their husbands, so we live 20 years less than men in any other countries. That's not normal of course, so, we need to create something in order to overcome these negative factors and here I need to mention what other results of the Chornobyl disaster in this systemic environmental disaster that the humankind lives in. First of all the attitudes towards the key issues in our lives changed. First, there used to be some images or some marginal ideas or maybe interests of certain agency or ministry but now the firs role belongs to human being. We say that the highest value is the human life and the human health. It's extremely important because all democratic movements tend to forget about agencies or ministries whatever. In soviet times it was different, we had an image of an enemy so, we would develop an industrial military complex and all of us were serving to this phantom. Second, here we deal more and more with globalization as a method to resolve confrontations. To this permanent environmental disaster we realize that we need global efforts because we received 38% of radioactivity, while 60% of radioactivity from Chornobyl fell on Europe. So we talk about collective doses for European population and Europe it is bigger than for Ukrainians. So, we need to unite and our sufferings due to the poor environment leads us to the idea of protecting our ethnic roots, that's how we have this kind of two way street. Globalization is in one hand and ethnic roots on the other hand. That's why some big empires or countries become split. It can be linked with these environmental issues. And now we are facing an extremely important challenge. We need to revise priorities and values of our life and certainly the humankind will survive only if we do that. Why? If we calculate the price of a human life or cost of human life in production let's take energy cost of a human life in 19th century and we apply the same unit to the present time we will realize it became 1100 times bigger, how is all this money spent? Because now we cost much more, metal per capita say 140 kilos … speaking about aluminum 347 kilos per capita at the end of 2005 imagine that you try just to put all that over your shoulders and carry it. Where does it all go? So, I analyze what do we spend energy with? This is exactly what we spend it with to castle this metals but the major part of the energy is spent with stone construction I mean we construct all these roads, airports, etc. meaning we spend most of the energy in order to insure we can move very quickly from one point to another. But do you really need it, do you really need to go that fast? We could really reduce the energy spending if we could have global agreement about slowing down our movement. So, if we measure the value of human life where the abstract phenomenon of happiness, then believe me this quick, fast movement is not part of the happiness. Second item for energy spending is that every day, almost every day we want to eat the same food, that's why the United States import from Israel all these fruits or they bring something from California to Norway. All these transportations take a lot of energy. That's why we have to construct roads from stone, we need to cast aluminum and that respectively produces a lot of waste that makes our life worse. And all this waste is also something very interesting. Friends, how do you store the nuclear waste? Do you know how? All these submarines they unload these assembles and then just store them all along the Northern Ocean coast. So, the coast of the ocean is all

radioactive and our scholars say: “We still don’t know how we can process this waste.” So, you understand we need to change our life style this is the only way out. We need to know the scale. What do we spend all these extra things with? Now we are talking that we need to improve the core of energy spending like Iran is going to construct another 11 nuclear power units, I mean we do not raise the issue “hey, let’s review the way we live” in order to save good life style and in order not to eliminate exterminate the nature because unless we do it now, we will really return back to caves in 40-50 years because all these sources are exhaustible. Now in Ukraine we do not have phosphor, we will not be able to grow crops; the silver mines are being exhausted. So, buy as much silver as you can, uranium is about being exhausted, some people say we have stocks for 50, others say for 200 years. So, we need science which would create absolutely new technologies that would not distract the planet in the way we do it now because this life style leads us to absolute exhaustion of the resources and we will return back to the poverty unless we change the life style, unless we find the way to radically change our consciousness.

Professor Miroslav Popovich I am happy to invite to the microphone our Japanese college Reiko Watanuki.

Dr. **Reiko Watanuki, Yuko Yoshida , Kiyoko Futagami .** Chernobyl Health Survey and Health – Care Support for the Victims, JAPAN Women’s Network.(Japan).

Ecological morality and the unborn generation

Ladies and Gentlemen, thank you for taking time for my report today. I am Reiko Watanuki from Tokyo, Japan. I am a science writer while I represent an NGO called “Chernobyl health survey and health care support for the victims - Japan Women’s Network”.
It is a great honor to be invited by Ms. Kateryna Yushchenko to report in this significant meaningful humanitarian forum today. Before going into my presentation, I would like to express my deep sympathy to a number of people especially children who had suffered from the Chernobyl catastrophe. Theme of my presentation is Ecological ethics and unborn generations. It is based on our comparative study of Chernobyl, Seveso and Hiroshima and Nagasaki. We established Chernobyl Women’s Network in 1990. The motive of our organization is based on Watanuki’s 30 year study concerning major incidents in the world which have affected subsequently generations. Our philosophy and motto is “Human being is a part of nature(ecosystem), and is not more than a part of a nature”. During these 16 years we have made some medical materials assisting to victim-children as well as health survey from the view point of relation between pollutants and health of women and offspring. Our main concern here is non cancer disease of children.

Looking back at the history of ecological contamination from the last half of the 20th century towards the 21st century, what define this period with significant difference appeared in the quality and quantity of contaminated substances. Unlike in the first half of 20th century new properties of pollution have come into play. As we have studied in the three cases, transgenerational effect of pollutants has become an important worrisome agenda that marks the history of mankind. In other words, new form of challenges to life has risen beyond human experience. In 1990-s American ecologists discovered endocrine disrupting effect of pollutants, additionally radiological study showed genetic instability can be induced by low level radioactivity. These findings are recognized as scientific evidence of low dose effect. The level of ecological contamination in the background which had been regarded as no effect in the past could cause damage in the future generations according to some theories.

Through the comparative study we argue the current situation as follows. Environmental pollution by radiation in Chernobyl must be also causing endocrine disruptions. I will illustrate

an example of a woman who was 10 years old at the time of the accident. Her endocrine system is affected by radioactive iodine and cesium which interact with immune system, nervous system or reproductive system. By continuously living in the contaminated area afterwards and taking contaminated food, she would accumulate cesium into her body, and if she gets pregnant, cesium will be transferred to placenta. Although it might be low doses fetus would be exposed to radiation in uterus or maybe even taken cesium into its own body. The intake could disturb gene expression program. As a result the baby is born with weaken health and subject to various diseases even abnormality is invisible upon birth. Our point is that this weakness is the very factor leading to high incidence of non-cancer diseases among the children who were born in contaminated areas after Chernobyl. We call such non-cancer disease a new type of disease. This is our hypothesis table. And actually what we can grasp through today's biology, medical science, chemistry or ecological science is very limited. However it is already shown that the health effects on babies caused by exposure to pollutants in utero before birth has significant importance to the future of human being. Even if it involves some fields not yet well understood, we must go insight into ecological meaning of the fact what was done in the past and present has much impact on the future. We must accept the reality that the pollution created by present generation is suppressing of the health of future generations. Based on this kind of ecological viewpoint I would like to bring up the issue of ethics in today's technological society. The framework of ethics in its original meaning indicates morality among people who coexist in the same historical age, however in the human society of the nuclear age with substantial scientific potential it is no longer permitted to consider this ethics to be only the problem arising among people living in the same epochs. It is required acknowledging the ethics implying inter-human relations that exceed current generation as well as relations between human being and all living things. We call it ecological ethics. We think it is necessary to reconstruct and extend the ethical framework from traditional ethics to essential ecological ethics. The ecological principle of human being is a part of nature and not more than a part of nature might sound a self evident truth. But it is extremely important to deeply catch the essence of the principle, because a culture in which we live has been practically based on the concept that human being controls nature. I would describe my idea on how present generation should choose technologies. I would rather ask this kind of question of what we must not do rather than what this generation should do in order to decrease suppressing to life of future generations.

This is what we have learned through our study. This sort of situation has significance in suggesting problems related to ecological ethics norm. The alarm bell given by the soundless voice of Chernobyl children has revealed the responsibilities of our generation. More specifically it is our responsibility not to produce, use or not to discharge such pollutants that might affect future generations' ecosystem and that might cause genetic disorder. As conclusion of my report I would like to think about "yardstick" to major ecological ethics norm together with you. What we can capture based on the actual evidence through our study of Chernobyl children is that after 20 years difficulty in maintaining inhabitants' health has become big problem.

Throughout the contaminated area especially the effect of exposure to parent reproductive organs has widely showed as new disease among the second generation who were born after the catastrophe with exposure before birth. Although I didn't describe in detail I believe and I would like to propose that 20 years of exposure experience transmitted by children with their own body can be considered principal yardstick for turnaround of our viewpoint toward life. We think this paradigm should fill the gap of today's ecological ethics norm.
Thank you very much.

Mr. Miroslav Popovsch. Thank you. It was very informative, very deep and very anxious. We are ready to unite our thoughts and we have the same understanding of ecological ethics. You

remember one philosopher Jonas and between our reporters there is one who translated Jonas into Ukrainian. Now we know very well this attitude and it is very near I would like to underline that it is very near to our understanding and we are ready to congratulate our Japanese friends. Thank you.

Valentine Lukyanets, PhD. Institute of Philosophy, National Academy of Sciences of Ukraine (Ukraine).

Chornobyl Disaster. Diagnosis of post-Chornobyl days

To continue the philosophical discussion that has been opened by our colleagues, I would like to examine the unique features of the post-Chornobyl era. The two decades that have passed after the Chornobyl tragedy are only the beginning of this phenomenon. What it will bring to us? What are we in the post-Chornobyl time? Are we sufficiently advanced in moral terms to use with impunity the incredible potential of the atomic nucleus or DNA molecules? What new anthropogenic disasters we are going to face in this era? The nuclear Chornobyl is a tragic lesson of the civilization which entered the super-technology era; it is a warning against potential techno-apocalypses as the result of our naïve confidence in science, our reliance on the super-tech industry.

The sense of this lesson is that no super-technology has a guarantee that it will never get out of human control. And when it does, it will not bring benefits with it but will cause worse and worse 'techno-Chernobyl's'.

We, who survived the Chornobyl tragedy, do not believe that the technological development is the way to freedom, equality and prosperity for all, things which the Enlightenment heroes dreamed of. We are aware that this era takes us to quite different shores. These shores are more often referred to as 'the globalizing risk communities'. There is a threshold that divides the pre-Chornobyl era which began some 10,000 ears ago and the new times. Back at that time, the humankind began to domesticate animals, appropriate resources of the macroworld, acquire energy. These efforts were completed sometime in the middle of the 20th century when the macroworld resources have almost been mastered and the time has come to begin exploring resources of the worlds that go beyond the macroworld, including high energy, genes, genomes, nanoparticles, etc. The traditional technologies of the past have proved not efficient in helping us to reach out to these worlds. We have found that we need supertechnology, nanotechnology… DNA… computer technology, etc. And because the post-Chornobyl era requires supertechnology, the evolution of supertechnology will determine the nature of the human civilization till the end of the 21 century. There is no doubt that the use of supertechnology will expand to all aspects of human life on a global scale. Within several decades, the technology will be a basic thing that helps our megasociety to reproduce itself in the world. Technological expansion, high-energy world, nanoworld, and the world of living molecules are not just a whim of the mankind. They come about with the need to survive in this world. The expansion or evolution cannot be stopped or discontinued. Such disruption in a postindustrial community will put an end to the conditions that it created for its self-preservation in the world. The post-Chornobyl time, therefore, is the time to explore the huge benefits of the high-energy world, nanoworld and the world of living molecules. As the human being explores these worlds, he transforms the traditional approaches to manipulation by the most important resources of civilization, including the substances, energy and information. The use of supertechnology enabled the human being to domesticate not only animals or plants but also DNA molecules. Today the genome allows to use living molecules as biofactories, bioreactors or biomachines that produce various protein substances. With the help of supertechnology, the world of living organisms on this planet is being gradually transformed into a specific industry.

Unfortunately, the technological expansion, the high-energy world and the world of living molecules can be the source of both great benefits and serious disasters. We have not yet

overcome the consequences of Chornobyl but the experts already warn us against a genetic Chornobyl which is even more dangerous. The genetic Chornobyl is not only related to the oncoming H5M1 pandemic. Even if the H5M1 virus strain never transforms to the extent that it can pose a global threat to human life on the planet, other similarly dangerous viruses can do that. The greatest threat of the genetic Chornobyl is that the virus strain is able to mutate faster than our immune system can detect it. The genetic Chornobyl enables the virus to spread across the globe at a great speed. Like nuclear radiation, this virus knows no national, racial or social barriers and can sweep over huge regions of the world and result in a geo-Chornobyl.
The neuro Chornobyl is a special type of the genetic Chornobyl, which can be triggered by not a pandemic virus but a retrovirus that can infect people like the AIDS retrovirus. The main causes of nuclear, genetic and neuronal Chernobyl are not the acts of nature. Natural forces can only facilitate the techno-Chornobyl. It is caused, however, by humans, i.e. the users of scientific knowledge who use it to promote their corporate interests. It is impossible to prevent technological Chernobyl's in a megasociety. If in the next 50 years out megasociety fails to generate more food energy than in the all previous history, we will not be able to survive. This is what drives the technological expansion towards the world of high-energy, nanotechnology, etc.
In the 21st century, the most dangerous source of genetic and neuronal Chernobyl's, could become, the practice of using scientific knowledge about the human nature, i.e. the knowledge of the human genome, human genocode, human genotype. Awareness of the scale of this anthropogenic threat enables philosophers of our time look for new approaches to the essence of human being in this world. It can be summarized as follows: after Chornobyl, that is in the era of supertechnology, it all becomes the ocean of anthropogenic processes; and this ocean is a calm and serene water. The human being is not a captain that navigates a reliable ocean liner. The ocean of anthropogenic processes is very sensitive to the ever increasing technological activity of the megasociety. Nuclear, energy and other Chernobyl are the anthropogenic waves raised by the planetary use of supertechnology. Leading social experts of the 21st century have different views on the anthropogenic ocean, from the position of humanists of the modern time to the perspective of the trans-humanists of the postmodern age. Humanists believe that Chornobyl, Hiroshima and Nagasaki are only little waves or rather a random and small excitement of the generally calm ocean. These waves will naturally calm down themselves as the technological progress evolves and the people gain more experience on how to restraint natural forces. They think that the progress in nano, bio and other technology is a credible guarantee that the humanity will be able to keep this ocean of human existence calm and quiet.

The proponents of trans-humanism, however, reject this vision of anthropogenic waves. They treat this approach as a relic of the naïve trust in the calmness of the endless ocean of human existence. Trans-humanists have no doubts that this series of anthropogenic disasters are not just accidental minor waves. This is a storm warning. Whether we like it or not, we must prepare ourselves for an approaching storm. This storm has many names today: technological singularity, global risk community, technological apocalypses, etc. The position of trans-humanists allows to assess the post-Chornobyl era more adequately. By explaining the reasons of the oncoming anthropogenic storm, the proponents of trans-humanism focus our attention on the fact that the supertechnology revolution speeds up significantly the transformation of knowledge about the human nature into a socio-humanitarian supertechnology that allow to intrude into genotype codes more aggressively and faster. We all understand now that the humankind jumped on a supertechnology train which has only increased the threat of technological disasters and risks. Because the human beings increasingly exploit powerful technology, the humankind is exposed to incredible forces of nature like never before.
Post-modernists warn us that the greatest risk to us today is our self-complacence and self-confidence based on the myth of correctness and appropriateness of the scientific process. The more we are aware of this, the better we can resist the oncoming storm. Thank you.

Mykola Kyselyov. Institute of Philosophy National Academy of Sciences of Ukraine

Chornobyl Phenomenon in ideological and ecological context

I will do it making projections just for tomorrow; I'll talk about the past a little bit, too. In the humankind history there were events that made us change our vision of the world and of existence. You remember about the first astronaut to walk not on the Earth. It's not a huge planet, just a small ball in the space that needs to be preserved. Chornobyl persuaded us of that fact that we have a wrong visions and it just dist??? our expectations towards peaceful exploitation of atomic nuclear ?? It created new responsibilities for everything we do in this world. In Russia there is an interesting group of academics which includes philosophers, doctors, psychologists and they demonstrate that the modern humankind undergoes debilitation. And the first sign of it is loss of responsibility. The human beings according to what I have found in the literature kind of general national global and psychological surveys. The implications of Chornobyl disaster have not been fully analyzed, while the coming chain of overcoming implications is just has turned into reality. Information about implication of this terrible event up to now is not trustworthy I mean are attempts to really scare the public and we still do not have sufficient funds and efforts in order to monitor these events. Ms. Yaroshinska wrote a famous book "Crime with no punishment Chornobyl 20 years later". This book was published by VREMJA Publishing House and the author draws attention to this aspect. We remember reports from Chornobyl in Soviet newspapers describing their vision of deployment of events like "Nightingales singing in Chornobyl forest". Actually we surprised ourselves with our lack of responsibility. Let's remember 7 mln requirements to the nuclear power plans reliable power core, reliable operation, the sound geographic situation, efficient system, social protection of the population and the public trust to the development of nuclear technology. If any one of you can demonstrate at least one of these requirements of the International Agency for the Atomic Energy has been complied with I will be really happy. None of then is complied with, so we are getting used to these threats, we are now planning for further deployment of the nuclear energy. We have no other choice and we enter this extremely dangerous mode of undesirable but unavoidable consequences. Up to now we can indicate the underestimation of the implications of the disaster in lack of dosimeter control, in lack of exhaustive information, monitoring, involvement of poorly qualified people into these works and of course some imperfections of our legislation. This is something that is evident, which is important from the standpoint of implications so we need to rely , take that into account first of all. And now just to talk a little about the philosophy we certainly envision the global problem of rethinking the strategy of development of course we should have started that much earlier now we will have to hurry up and we will certainly make more mistakes. Sergey Borisovich was right in saying that when you achieved the technologies, Prof. Lukyanets has mentioned that too. We have no right to make mistakes. But let's think are we capable, able to avert ourselves from these kind of mistakes. From the standpoint of future of the humankind is there problem that makes even more topical. Unfortunately these environmental problems were not perceived in the required way, we could hear some people saying that we need to protect the mother nature, we need to protect our smaller brothers, it was kind of observers' position that sees very general and wants to defend the nature, etc. But in reality we are lying to ourselves and now we realize the when we defend nature we defend ourselves. We create future for ourselves. Many scholars draw attention to the fact that the act of development of the ecology, of NGOs, environmental big environmental concerns is over. Remember Kyiv, the situation in Kyiv, people do not allow to cut the parks, to destroy the flora, so we got used to not really place attention to that. And this is also part of very dangerous situation. The international community in general doesn't have the core perception of the essence and sources of the environmental crisis of Chornobyl. We are afraid to perform proper monitoring and to monitor the situation. So, now we will get into a paradox situation when we hide the dangers, hide our lack to perceive it. The community tries to blame not those who generate the treat but those who talk about this. Information of sociological nature is often

interpreted as inventions of interlocutrixes who want to just to get money for their program. The unpredictable nature of the risks, the uncontrollable nature of most of situations when we should think how we can avoid something rather than thinking how we can the world better. We want to see some specific instructions, for example, how you can protect yourself against radiation and recently you could hear a lot of instruction in case if a nuclear bomb explodes next door. That was just buffooneries. We preserve the sources of contamination but we say that we want to improve the filter system. People do not care about now technologies to the extent they care about just keeping of contamination but they try to purify the wasting the output. It has already been mentioned about the concept the tradition of interpreting crisis as a factor that contributes to the development. The ancient Thais interpreted crisis not as a disaster but as a motive to look for the ways out. With the theoretical view we concluded that Chornobyl problem should unite the society not this united because environmental issues are extremely democratic. Poor and rich, the representatives of establishment and average citizens those who work legally and illegally they live on the same planet and they breath the same air, rational environmentally ground the situation is possible or we will have a universal environmental awareness I talking about environmental culture where many specialists from different kinds of cultures understand that the culture is symbol. Academic Balkenshtein said that modern human being might call him/herself a cultural human being when he/she makes the fundamental knowledge about biosphere. Formally a person can be graduated from say school whish to have an image of a cultural human person, now those who do not have the ideas of the basics of biosphere can not be considered cultural ones. The environmental education is also very important it can lead us to situation when the public will not be able to persuade us of consuming conventionally eatable products we will not be able to establish temporal norms of radiation because those where established because of economical grounds rather to defend the half of population and then the public will be able to implement the opportunities of democratic society we will be able to fight the causes not the implications of environmental problems. An finally all of us, small people, homo sapiens, we need to be aware of the conditions that we live in and this is I believe what should ... the results also of Chornobyl disaster … if we do not think about this now, we will have no future.
Thank you.

Mykola Karpan, Liquidator of Chernobyl NPP accident. Engineering Physicist.
(Ukraine).

The Problems of Chornobyl unify the world

Dear participants of the forum,
By the chance of accident among philosophers is a energy scientist,…
From 1969 was involved in nuclear energy, attended Chornobyl nuclear plant at the day of the catastrophe because I was one of the stuff on the plant. Today many countries say about the new cycle in the development of the nuclear energy, which they believe to be the advantages in comparison with what they had. And at the background of the diminishing resources of oil and gas last year George Bush announced the plan of the construction of Nuclear power plants under the name of the global partnership for the sake of the nuclear energy and the USA plan to build the station jointly with Russia and Japan and it is indicated in the statement of Bush in 2007 for the development of the nuclear energy in Russia until the period of 2015. The similar plans were drawn by Ukraine according to IAEA estimates the countries of the world will spend more than $200 billon or the development of nuclear energy and they should if energy produces the plants will significantly grow. But is it sufficiently substantiated, I mean the report of the IAEA to believe in the safety of the nuclear power plants and nuclear energy. The contemporary nuclear reactors have the pressure of 200 atmospheres, this is a very hot and dangerous pressure. If you take off the cork of the Champaign bottle the cork will fly a bullet. And the famous physicist academician Fioktistov back in 1999 described in detail the situation in the book called “The

weapon that exhausted itself". He believes that if the cover of the reactor is damaged which holds the ranges of sulfur gasps they can beat out off the cover and under down the danger may arise since with regulation the reactor will explode as a bomb. This is not a concoction or hypnosis, it was about to happen in the nuclear plant in America in 2002 when because of the conversion in the cover of reactor there was a whole 27sm in diameter and only steel proof cover protected from the explosion. Such accidents gave reason to believe that nuclear energy was not sober to create so far the safe nuclear reactor. Only since 2001 the American Commission on Nuclear Energy obligated the nuclear power plants to check the bodies of the reactors and 10 reactors were found with micro fissures. And Kurchatov called the reactors with timing bombs and Kapitsa defined nuclear power plants as the bombs producing electricity. The second source of danger represents the source of radioactive waste. Not a single country in the world started to deposit into this eternal depository of nuclear waste. These depositories do not exist in the world now, by the way continuous used to store the fuel proposed to Ukraine and Energoatom signed the requisite contract with the American firm is not a comprehensive of universal. And just yesterday with the expert from America I had a talk whether these containers can be trusted if they are universal, if fuel can be loaded into it and stored, and unloaded in some other case, say in situation when container becomes old. He said: "Yes, you can load, you can transfer but you can not unload". This is another indicator, attempts or decisions mean. These decisions are exploited by nuclear energy and the absence of safe nuclear reactor and radioactive waste worries society and they diminish the trust to the IAEA which has repeatedly been mistaken in many occasions and even back in 1964 they said that by the end of the century 4500 energy reactors will be in function in the world but 31 countries there 442reactors which make up 10% from the declared number. Why? The prediction of the IAEA failed. Did it happen only because of the explosion of Chornobyl reactor back in 1986? I think that there are several reasons to this fact. Yes, really UN recognizes Chornobyl as a problem of a world level. And the damage made by Chornobyl was estimated at $3 trillion, more than $200 billion is the part of Ukraine, $150 billion is the part of Belarus, but Chornobyl became the place where the problems of the world nuclear energy came to the surface. The Chornobyl error does not hide the major problems especially reactors in emergency conditions and radioactive wastes. Such safety regulations do not exist, not only in Chornobyl, but in the world. That's why it's not possible to get rid of the Chornobyl catastrophe fully, and we are grateful to those countries who contribute greatly to the assistance and overcoming the consequences of Chornobyl catastrophe from US and Japan and many other countries of European Union. Much money was spent on Chornobyl but 10 million tons of wastes from Chornobyl were not processed and more than 2000 tons of radioactive fuel. And a French firm wanted try to depository but it turned out to be ineffective for practical use and the effect from the Chornobyl catastrophe is very serious. In another year or two such "successes" and the nuclear energy will lose the trust of people. What developments in nuclear energy can we talk about after that? To the 20th anniversary of Chornobyl catastrophe IAEA published the report, where the consequences where recognized as exaggerated. They advise Ukraine to diminish the territory of radioactive control since there is no serious threat to the population. Could it be that the IAEA doesn't know… that the reason is that 90 people may die being at the territory of Chornobyl area and the organization say in a couple of years the Chornobyl didn't happen at all, the nuclear energy can facilitate the development of human beings in the world. It undermines the trust not only to the IAEA and other institutions and I don't think that somebody will be able to present the Chornobyl catastrophe as one of the minor events or situations. It pulls out many unresolved problems. Nobody will be able to forget it or to talk it .. and it turned out that the planet is too small for the danger linked by modern technology and energy-technical and other areas of industry. Many understand it today and it made many people closer and countries more united in overcoming the Chornobyl consequences and difficulties. The only thing to do is to make these efforts active, not just to clean up the Chornobyl zone, but behold the planet from the radiated fuel, peaceful nuclear power plants. The humankind is ready to live on the clean planet.

Mrs. Tetyana Gardashchuk. Institute of Philosophy, National Academy of Sciences of Ukraine. (Ukraine)

Consequences of Chornobyl Disaster and development of civil society in Ukraine

The accident at the Chornobyl power plant that occurred on April 26, 1986 marked up not only the …of the humankind but also undermined the foundation of the Soviet society. Worsening of the environmental conditions caused by the disaster. The information was hidden by the Soviet leaders and it created the concerns in the society with regard to the Ukrainian environment. The Chornobyl disaster made us think not only about implications, but also about the reasons of this terrible disaster, whether we should expect any other disasters of the kind. It was due to Chornobyl that people started to think about volume of construction of the socialism and communism about value of the life and also about the right to defend our lives, lives of our children and grandchildren.

We should mention the names of Oles Gonchar, Ivan Drach, Boris Olyinyk, such scholars as Mr. Hrodzynsky, who is present here, Mikhailo Horobets, Leonid Sandulyak, and many others. The consolidation of the environmental movement became an inseparable part of the construction of civil society in Ukraine; it became an absolute phenomenon for the post-Soviet period, an inseparable part of the environmental movement; in the West, it was a different situation in the West; in Ukraine, actually, environmental activities … 20th century, were fully destroyed by the government; it was only in the 80s and 90s, when the Ukrainian society for environmental protection was found. Then, some students' organizations were created (thus)…; the environmental movement after Chornobyl, was talking not only about the need to preserve the nature, they were talking about much wider spectrum of social and environmental problems - contamination of water and air, operation of environmentally-unsound facilities, etc. As of now, the environmental movement in Ukraine, the NGO's that represent it are recognized by the national government. The status of these organizations became higher thanks to a convention about the public participation and decision-making, and access to the justice. This convention was ratified by Ukraine in 1999. Unfortunately, we need to state that in spite of recognition of the public as active independent…. public officials would remember about NGO's and the public only when they need to obtain some funding for their certain projects, and when the international sponsors remind them about the public's participation in the projects, when they discuss the grant… provisions. Also, the government tries to use their jobs for its own benefit. I mean, there is a competition for the NGO's …(on the part of) different political forces, although the NGO's by themselves normally do not belong to any political parties. Yes, some parties say they represent the positions of some NGO's, they may create their own NGO's, some NGO's may be created …(grants)… remember that the government then tends to blame them for misusing the grant money; you remember the situation with the previous elections. We need to state that the consolidation of the civil society in Ukraine is undergoing very serious difficulties. These difficulties are also (linked) to the fact that society is built on the foundation of democracy. They create and develop the third sector and, at the same time, they … rise to market economy. Under these conditions, we do not have leverages, the financial leverages that would contribute to consolidation of NGO's. Still, NGO's are, as a factor in civil society, very important for the functioning the democratic institutions. First of all, the NGO's undertake the functions that cannot be performed by separate citizens or non-organized movements. That's why political and financial conditions of their activities become important. Secondly, NGO's undertake some critical role in the social cognition, which means that the government stands to be reluctant to support major changes, the social changes, in order to improve the (current) environmental conditions in the regions, so if we talk about an increase in fees for the use natural resources, implementation of sanctions for the polluting technologies, etc. Thirdly, NGO's appear to the societies that recognize the transitions from environmental degradation to environmental

balance. Here, we need to mention that we should not state that environmental NGO's cannot be experts; I think that the public expertise is an extremely important factor, first of all, because of its mobility, because the public response is faster to any challenges than any governmental structure's; secondly, NGO's can organize this kind of expertise because they can do it by means of mobile expert groups. Let's remember some examples like the Rome club which used to be an NGO. After the first report of this club was published, the perception on many issues significantly changed. Then, the organization for the wild nature that published in 1990 their strategy of preservation, where they established the concept of the balanced development that actually became one of the fundamental factors and criteria of the global environmental social policy. So, speaking about the need to develop the civil society, we should also mention that development of the civil society provides for recognition and consciousness of the citizens. They must become, I …know how they can defend their legal interests, using the legal remedies. They need to be cognizant of their right to the clean environment. The inseparable component of a civil society should be the environmental education system, so they should be kind of a balance, a depression of commercial advertisement, lobbying the commercial interests, etc. And speaking about the need to develop the civil society, is an important factor of overcoming consequences of environmental disasters; we need to mention some reservations; first of all, the public should take it correctly, we should not underestimate this phenomenon, that we should not have too high expectations; … should fully realize what their tasks and objectives are; thus, we would avoid the …of the tasks, and every NGO then would understand the nature of civil society. The 20th anniversary of the Chornobyl disaster must become for the Ukrainian society the critical point of reference to check our civil … and our responsibility before the coming generations. Speaking about the yesterday's Chornobyl conference, unfortunately, we need to know that among the highly esteemed persons who were invited to make their presentations, unfortunately, there were representatives of NGO's that are viewed by society in a different way; by the way, no presentation from international environmental organizations, that actually made a lot of efforts in order to make the (public) …aware with the implications of the environmental disasters, in order to mobilize human, financial, and other resources to overcome the Chornobyl disaster. Now, remember the call of our president Yushchenko to tell the whole truth about Chornobyl; we need to say that the truth can be told only when all the voices are heard. Thank you for your attention.

Mr. Miroslav Popovich. I received here a note. We have Ms. Nadashkivska, who can take the floor for five minutes, and I can confirm that Ms. Nadashkivska is really present here, and she declares poetry about Chornobyl in a fantastic way. So, maybe, instead of a coffee break, our audience would agree…

Mrs. Nadashkivska. The Ukrainian Honored Artist.
There were children from Prypyat taken to the Union of Writers of Ukraine, and who perished and I remember I told them about my… when we went to Chornobyl in order to improve the spirit. And we had a conversation with the director, and, actually, he didn't go with us when we were going to Chornobyl. And the only thing that could help us was a bottle of wine. Well, in Kyiv, where they were washing the streets and all that. We went to Chornobyl and we saw the helicopters dropping sacks with sand over the power plant, and it was so very nice, fellows, young men from Donetsk. We had meetings there. I still remember their faces, of the guys who were going (near) the reactor. They were the elite of the troops, and you can rarely see a man of this kind on the street. And they just went there to die. So, we were there. I remember the women from Prypyat sleeping on the iron beds, and those women were so thankful. We were pleased that we could share just a little bit of warmth; and I remember I went back to Kyiv after that meeting; I just took off almost all my clothes, and in the room of my son, (he) had pneumonia at the time, he had fever, he didn't want to go to the hospital, so I was making injections to him. I remember I entered my apartment, I immediately dropped everything into the bathroom, I

washed my hair, I just washed all the clothes, and …were washing, and washing, and washing. But again, it was in Kyiv, not (like) it was in Chornobyl, where you could see a lot dust in the streets (not) washed. Nothing! So, Svetlana Yevenko, who at that period …was very sick, she went to Prypyat, to Chornobyl, already, in September, and she wrote poetry. Are you going to be tomorrow in the Ukraine Palace Concert Hall? Because I had a meeting with the director of that show and I was (to) start tomorrow by reading the poetry. Any way, maybe you will hear it for the second time tomorrow, but you need to really perceive what it is all about; so, it's the poetry by Svetlana Yevenko called "Explosion". I really apologize, I will not be able to translate the poetry; just try to understand the basic (dealing) behind is that how (what) calm lives we had, and then, all of a sudden, we had that explosion.

Since in Ukraine, we have rather matriarchy, and it was modeled in the Russia of Kyiv (Kievan Russia), and we expect that the Bible will be implemented – there will be a new land and a clear sky. So, we hope that the spiritual rebirth of the world will start from this… We paid a high price, but a year ago we could evidence, we could witness this beginning of spiritual rebirth during the Orange Revolution, and no one will ever stop this rebirth. A big future is in front of us, and all of us will help our land.

In order to make an easier transition from this poetic perception to … (prose)…I give the floor to (Maria Mytsio), the Ukrainian writer, who will talk about legal education and protection.

Mary Mytsio. Program of Legal Protection and Educationю Author. (Ukraine**).**

I apologize; I prepared my presentation in English, although I can actually translate that into Ukrainian from the text, but I'll be reading that in English, and maybe…
I want to add a slightly different perspective to all the things that have been talked about today. A lot of people have talked about, for example, academician Popovych has talked about how much is lost when human being are gone from a place and another … the previous speaker talked about the renewal of places and the renewal of Ukraine, and I think that the lesson offered by Chornobyl in that context is a little unexpected. In my book, "Wormwood Forest. The Natural History of Chornobyl," which will be published in Ukrainian in May under the title "Polynovyi Lis. Khronika Chernobylia," I described my travels to what has unexpectedly become a beautiful and radioactive wilderness. By forcing people to abandon a territory the size of two Luxembourg's, the Chernobyl disaster has paradoxically allowed Nature to thrive. The diversity of animal species within the zone is greater than outside it, as are their sheer numbers. In my 23 visits to the Ukrainian and Byelorussian sections of the zone, I have seen moose, roe deer, and wild boar; black storks, white-tailed eagles, and countless great white egrets. Once I saw a wolf in broad daylight, and this past March I saw the tracks of a lynx in a snow. From the limited studies that have been done, most of the animals do not appear to be suffering from radiation; they suffer far more from human activities, most of which are banned in the zone. Nearly all the zone's creatures have appeared on their own, attracted by the unexpectedly inviting habitat. Even if it is radioactive, they have no way of knowing. But one exception is Chernobyl's Przewalski's horses. These are cousins of domestic horses that went extinct in the wild in 1960s, but were successfully bred in captivity in places like Ukraine's Askania Nova Reserve. Today, there are so many Przewalski's horses worldwide that there is no more room for them in captivity. The only way their populations can grow is if some are released into the wild. But wild horse herds are not usually welcome in places where there are people; which is why we don't see many of them around. They trample fields, eat crops, and compete with domestic livestock. They are such a nuisance they often get shot by farmers and ranchers. But there are almost no people or livestock around Chornobyl, and hunting is banned. That is why Askania Nova decided it was safe enough to bring some Przewalski's horses there. After all, other animals were doing fine. In 1999, 20 horses were released into the wild. By 2003, their populations had tripled to 65-head. But today, the populations have not only stopped growing, they have declined. When Askania

Nova scientists Tatiana Zharkikh and Natalie Yasenetskaya counted them this winter, there were only 63 horses. But based on their past reproductive rates, there should be more than 90. So, why is one-third of the population missing? The answer, sadly, is poaching. With the help of forest rangers from "Chornobyl Lis", the scientists found clear evidence that the horses are being killed. In the basement of one cottage near the town of Chornobyl, they found severed heads, hoofs and hides. Since the Przewalski's horses are all carefully monitored and identified by their markings, the remains allowed the scientists to identify exactly, which horses had been killed. Most of them were from the herd that was always the most trusting of people. Now, with a good reason, that herd has grown more wary. The horses in the basement were probably slaughtered for meat, perhaps for sale to a sausage factory. But it is possible that other horses are being killed for trophies. Without a proper investigation, it will never be clear what happened to them. But thus far, nobody is conducting those investigations. Of course, many other crimes in Ukraine require investigations that are not being conducted in a way one would wish. The deaths of a few horses, even if they are endangered, may not rank high on the list of priorities given all the other issues Ukraine faces. Poaching has always been a problem in the zone. But if some wild boars are killed, it makes little difference to their population, which numbers in the many thousands. But there are only 1,500 Przewalski's horses left on the entire planet, and only 150 in Ukraine, including the surviving Chornobyl horses. Even if the poachers that slaughtered these precious creatures are not punished, steps must be taken to prevent a future decimation of this fragile population, and of the zone's other wild animals. This means that the zone's status requires some serious rethinking. It has become a de-facto animal sanctuary because human activities including hunting are banned. But that is to protect people from radioactive game. The time has come to protect the animals from people by officially making the zone a nature sanctuary with the robust security service to find and punish poachers. Of course, the sanctuary would have to allow for all the works needed to build the new safe confinement, deal with radioactive waste, and maintain the zone. But such activities are localized and are compatible with maintaining a sanctuary in the rest of its vast territories. Recently, there have been calls to renew some human activity and habitation in the zone. I can understand the motifs of the people who want civilization to return there. For many of them, the zone was home, and they want to go back. But this (piece) of land has returned to the wild, the infrastructure has crumbled; renewing it means huge budgetary outlays, and the land is, after all, still radioactive. One of the Chornobyl disaster's few positive effects has been the zone's transformation into a vast, beautiful, and thriving radioactive wilderness. There is nothing else like it on the planet. It demands protection from people.

Professor Anatoly Yermolenko,. Institute of Philosophy, National Academy of Sciences of Ukraine

Moral contradiction at global ecological crises

The point is that Chornobyl, of course, is a crisis, first of all, of environmental nature. But this is a crisis that is a factor of the global environmental crisis. And it also has some other dimension we have already discussed that; I am talking about the man-made dimension, technological dimension, but it is also a crisis of all institutions, political, economical institutions at a global level. We need to say, though, that's from my standpoint, first of all, we are talking about the moral, ethical crisis we are going through. If we'd say, …could specific facts, the specific disaster, Chornobyl, let's remember what regime we were living under at that point of time. I mean the political regime of closed nature. That means that …more that we had ... this cycle of closure in the moral, ethical area, also while the moral, ethical requires universality. You cannot have a regional ethics because the ethics of regional scale will lead to different forms of perversions, ethical perversions, if I may put it this way; so the regime, under which this crisis occurred, was this kind of perversive regime. But the point is that this crisis sends… it's a global crisis; this is the crisis not only of that regime, this is the crisis of orientation, of the values, that

the people have gone through in the newest times. This orientation towards rationality that develops the trends free from any values. That's why this crisis requires the solution of this issue, whether we again can combine this rationality with values, first of all, moral and ethical values. This is a very complicated issue because both economy and the politics develop and can be efficient only if we foster these trends. On the other hand, we can ask this question about a potential combination of the two things; first of all, the supplies to this environment situation that we are going through. Hans Jonas about the principle of responsibility was already mentioned; his book starts with the following words: he writes about Prometheus, who still urges people to be ethical in order to detain (tame) the forces that Prometheus released. I would also mention another image that has to do probably with the disaster of Chornobyl. It is the image of a thermonuclear reactor. Well, if we talk about the thermonuclear bomb, the image is clear. But how can you really control the thermonuclear synthesis? I know this problem has been resolved yet, and the only controlling tool known so far is the magnetic field, and I think that the morals and ethics should constitute that magnetic field that would keep under control the thermonuclear activity of humans in order to prevent it form destroying the life on Earth. What kind of ethics would we need? If we look at the traditional ethics, the humankind does not have an experience in resolving these newest types of problems; so, here we probably cannot say that we can resolve these problems on the basis of traditional ethical approaches. Here I'd like to remember about Kant, who wrote a very good answer to one of his critics. This critic was skeptical of Immanuel Kant's work. This critic (said) that Kant did not introduce anything new in the moral issues. Immanuel Kant wrote that this is probably the biggest compliment to a scholar, if you say that he did not introduce anything new except for the new form. So, if we are looking for the new form, or formula, if we may say so, and that's what we need to find now, the new formula for morale, rather than looking for a new morale, we need to continue thinking about the principle of (universialization), based on the golden rule – treat others the way you want to be treated; then, what …adds here (is) …Kant's categorical imperative, a universal law, and we would continue this tradition only if this principle of universialization is applied to the whole world, including the nature. Actually, the ethics by itself is developed in this way – from ego.., from anthropocentrism to egocentrism, then to bio-centrism, and, in the end, to the physiocentrism. Now, there are different developments and the modes of philosophy, and particularly, they are saying about the Mittwelte state or …. meaning that there is a common world instead of the environment. If you use this terminology, then you approach the whole world, not only animals or humans. And you don't treat it as environment; you treat it as the common world. Then we transfer the category of the subject to the whole world, but this can only be a subject because, of course, not everything in the world has the subjectivity. Well, the ethics is linked to a subject… we need to have a subject of the ethics, or, the same way, we need a subject of the law. Well, it's difficult to really operate with this concept, so I'd like to suggest my version of categorical imperative because without this categorical imperative, there is no ethics. You can have different maxims, but the ethics requires the categorical imperative, …to what unconditionally apply to everything, and that would be universal. The question is: where we can justify this categorical imperative in relation to the whole world? The question, the issue arises: to what extent the whole world can be the subject of the ethics … all the previous ethics was sufficiently anthropocentric. Let's remember about the …. The Christian religion is telling us what not to do with each other, but it never mentions the nature, so the issue, the question arises: to what extent we can include the whole surrounding world in to the ethics, not only for this world to become a subject of the ethical activity, but also so it becomes a basis to ground these ethics because here we have two traps. It may be the naturalistic error, or (normative) error, a link between the life and reality. So, in order to bypass this error, I would suggest the following categorical imperative. You need to live the way in such a way when the maxim of your acts and your implications and… aside the implications that arise from the universal implication of this maxim, would be acceptable for everything that exists.

Which and it's very important, which seems to be a participation in the discourse. Maybe, I need to conclude already. Well, from my standpoint, this is kind of version of categorical imperative; by this version we overcome the egocentrism and anthropocentrism. It involves biocentrism and physiocentrism. Secondly, the ethics of Immanuel Kant did not include that… imperative has to take into account the implications and the side implications because Kant's ethics was based on the principle of the duty without taking into account the implications. You know, this is kind of a protestant position while (where) the implications are up to God's will. So, to my opinion, we can introduce it into the context of our imperative, which then would become the universal imperative. We would include the implications and the side imperative into it. And here I remember the thoughts of Mark Weber then by Hans Jonas, one more aspect. … aspect … of this latest provision of my categorical imperative … this provision that it appears to take part in the discourse, of course, an animal cannot take part in the discourse, but who can take part in the discourse? The public, the people can take par tin the discourse, so when you reproduce some parts of the discourse, and Tatiana Hardashchuk said very well about that; it's through the public when we can defend the rights of the nature. First of all, the nature's dignity. It's not surprising that the environmental terminology now involves the notions that used to applicable only to the human being like nature's dignity, dignity, nature's rights. They used to be categories just to regulate the relations between the human beings. Now, just to conclude about this imperative… the advantage of it that through the public we introduce these ethical categories, but we also introduce this concept when everything in the world will be viewed not only as the mean, because you know even the people are viewed as a mean, or tool, quite often. Actually, Immanuel Kant underlined that a person should not be treated as just a tool. So, we overcome this attitude to everything when it is perceived as a tool. Now, we introduce the category of the public discourse. In this way, we can create certain mechanisms and certain procedures when the dignity of a human being is combined with the respect to the nature. Thank you for your attention.

Miroslav Popovich. In order to bring this philosophy to the final end, I will give the floor to Sergey Proleyev.

Mr. Sergey Proleyev. Institute of Philosophy, National Academy of Sciences of Ukraine
Abiothism of technological environment (attempt of ecological manifesto)

Thank you, Myroslav Volodymyrovych. I am thankful to my colleagues, Professor Yermolenko, because the subject matter of my presentation echoes the problem that he raised, …actually deals with the final definition of this categorical imperative, when we say that everything that exists appears to participate in the discourse. Here we deal not only with the communicative, but also the anthropologic problem, the problem of ability of a human being to deal with this "als Oppe". This is in German, meaning everything that appears to participate in the existence. I think this is a huge problem for the modern civilization and for the modern people. This is what I call "anthropologic problem" and this is what I want to say a few words about. Although, we don't have much time, and I decided to do it in a form of environmental manifesto without going to a wider explanation. Our conference has the title "Chornobyl Disaster", and, actually, we are working in the horizon of thinking when we talk about this event as a disaster, a destructive event. I think this vision makes us doomed to have more disasters of this kind because we actually ignore the main lesson that we need to learn from this event. And the lesson is that Chornobyl is not a disaster, this is just a normal course of things. This is an unavoidable course of Man-made civilization. We call disasters something that does not meet our expectations.
Because something, that were used to something normal, contains the major threat and may create the major disaster. We know now that Chornobyl is a disaster, but we are not aware of the fact that just in … industrial city is probably a bigger disaster, the real disaster, it's not Chornobyl but a human being as he or she is. The existence of humankind creates a real disaster

for alive (the life on the) planet. We, people, are the disaster for the life on Earth. Our life is the worst disaster for everything alive. If a person realizes himself or herself as a threat to the life, then the person will have a chance for the future. Only if you realize yourself as a disaster, a human being may really avoid death and destruction. I insist on this generalization. We are not talking just about technology-type of civilization, I am talking about a human being as he or she is. This awareness of ourselves in the form of disaster may seem to be utopian; I mean the suggestion to change the actual foundation, the base for the positioning of the persons on Earth, and the perception of persons by persons, but the humankind already has this experience of self-perception linked with the nuclear weapons. Just the appearance of nuclear weapons prevented the World War. And we need now to think about it within the context of self-perception of the human beings. Is that possible, what kind of philosophy should we be based upon in order to re-perceive ourselves? And let me draw your attention to one of the opportunities linked with the spirit of the new times and principles of the modernist civilization. Let me remind you that Modern Civilization started as a consolidation from justification of the idea of peace between the countries. The next step of the modern thinking and the further deployment of the social projects was a justification of the peace inside the society, which was actually the major content of the modern civil society. So, for the civilization of the new times, within horizon of which we exist now, has the highest value of peace, but need to extend that to the nature. The peace should be the principles for relationships between the human beings and the nature. And that would be the third principle for the modern civilization. We need to recognize that the humankind is a parasite on the body of the planet. We are just abusing it without any responsibility; this parasitic approach is implemented through the matrix of domination of the nature. So, now we perceive the nature as something very objective. So, the concept is our domination of the life when we reduce all existent to the substance of resource for the human existence. At the same time, the existence of the humans is identified with a sacrificial body; I mean the man-made environment. But this environment automatically rejects the existence of the humans. So, this is exactly the point that we need to overcome; and in order to do this, we need to recognize denial of the nature as it is, to the favor of other concepts like the Common World or some other notions that have been mentioned here. I need to note that Chornobyl revealed the decisive component of all processes, carried out by the humans. I am talking about the time, and this is the decisive factor that we normally do not pay attention to, but I'd like now to concentrate your attention on that. The events of 20 years ago became disaster not only for the contemporaneous people but for many, many others, for the future generations. By hundreds or thousands of years the people will not be able to forget Chornobyl not because it will be part of their memory, it will be the reality of their life. Such a projection reveals the fatal retrospective of the human existence. Now the humankind destroys, in a very intensive way, the things that were being created by millions, thousands of years by the planet. And everyone is aware of this. So, what is the essence of the situation that Chornobyl did not create but revealed? The essence is that the humankind is suicidal. It is an implacable enemy of everything alive, including the humankind itself. Destruction of the natural environment is approaching very quickly an irreversible point. These are evident facts if we remind ourselves about the factor of time. During the last two or three hundred years the humankind actually condemned itself to death. In two or three hundred years, the Homo sapiens will not survive the man-made environment. Already … there are ….human being that actually cannot exist any more because of the environment we have created for ourselves actually makes it impossible for us to reproduce ourselves. Historically, we can talk about three stages of destruction. We are talking about destruction of the spiritual and physical aspects by the man-made and technological civilization. You can see that European nations are reducing; you know the figures about Ukrainians – we have more than 50 million now; we have about 45 million we lost; more than 5 million people for just for the 15 years just in Ukraine. This why it says much people… aware of…planet at all about 5,000 years ago or 2,000 years ago. We are exhausting the natural resources, thus destroying the environment that is favorable to our existence. If we look at the long-term prospects, they are linked to the increasing activity

of the sun, but this activity is stopped by different biological organisms because they consume the overheating effect, they absorb it while the humankind is destroying these biological resources. So, in order for the brain not to become the method of suicide for the planet, we need to discover the time dimension, and we need to deny the notion of the nature to the favor of the life that go... We need to replace the anthropocentrism with the co-measured aspects and reconciliation of the human being with the live nature. When we stop destroying ourselves, the humans will certainly find the ways to preserve the live planet. If this looks utopian, and human beings cannot do that, we need to become something different from just human beings. Thank you.

Miroslav Popovich
I think that now maybe the best accord to maybe dissolve this sad note would be Mr. Vadim Skuratovsky, the famous Ukrainian ethnologist.

Mr. Vadim Skuratovsky . Ukrainian ethnologist.
Esteemed audience, instead of my presentation, I would like to make some historical comments to what has been said here; again, from just the historical perspective. Esteemed audience, as the ancient Romans used to say, let's talk very sincerely. Here we are talking about Chornobyl as the last causality of what is happening to us. And now, let's look at Chornobyl in retrospective. It began somewhere in the end of the 15th century, when, all of a sudden, next to the equipment you can see what we would call technology. This is quite a naïve approach. I mean, you have tools and equipment, and then you have intellect that thinks about what you can do with this equipment. By the end of the 18th century in Germany …term of technology… what happens then in this domain. The humankind starts mastering thinking about the material bodies, from … standpoint, how you can use it; it was a very typical phenomenon for the 19th century… Sorry, in the last century, in Ireland, it was a Ph.D. thesis describing the nuclear physics combined with the ideas of, declared by Abbot Boshkovych in the 19th century. So, what implications did it have…somewhere in the 1780s the uranium was discovered. Well, it was just a salt of uranium, but the step was made. A few years later, the German … described the country of Genius…substances in a very tough way. And the substances start quaking as they described that in the book. Now, let's see. Chornobyl, in some perception, is our past. Let's look at the 18th…, when Arago reports about the invention of photography. Then, in the 1860s, another person pulls this uranium salt over the photographic plate. And all of a sudden this plate becomes spoiled. That person starts running around the scholars and scientists asking why it happened. And now, the question is: what would have happened if they had been able to answer this question then? I mean, in the beginning of the 20th century already, we would have had a situation similar to what we had in the 30s and 40s of the 20th century. Sometime later, and we are talking about 1825, Becquerel remembered about this experiment with the salt, uranium salt, and you remember he manages to repeat this experiment. And then Anry Becquerel and Maria Curie start working on this problem. What was the end of their work? In August of 1945, they actually spoiled all the forms that were stored at the time in the basement of the military hospital. So, the physics actually answered the question, but this was not the end of the process. Imagine the situation in the 20s and the 30sof the 20th century. Rutherford was insisting that splitting the atom is not a serious idea …the use of the atom is not a serious idea. It was stated in the beginning of the 30s of the 20th century. Sometime in the middle of the 20th century, Oppenheimer got together the intellectual, young people, who decided to deal with the science that didn't have any applications. And you know that 15 years later, this group invented a very new thing, I mean the nuclear bomb. So, let's think about the speed that this human thinking has developed. I mean, the technology, and then how quickly this technology is followed by some dimensions of the equipment and tools. Now, let's look at the 30s and 40s of the past century. Hitler, finally, did not have nuclear weapons just because his academic establishment and his ideology quarreled with what we could non-Arian physics. That is, we had an opportunity to live several dozens of

years more. Let's imagine, if they hadn't quarreled, what would have happened? now, we look at the materials of Kharkov Institute of Physics; they were disclosed and they are telling that in the Soviet Union, the nuclear bomb was actually invented in 1940. Later on, the check, the patent, and these two scholars actually received this patent in 1946. But by that point of time, it was too late for them because the atomic bomb has already exploded. Now, let's think about it from a different standpoint. What if Hitler had had the atomic bomb, or if Stalin had had the atomic bomb somewhere in the late 30s or the early 40s? Probably, it would have been the end of the civilization. Now, let's look at the drama of1945. My point was mentioned here, but my point had another character, Tom Sawyer, who looked very much like American President Truman. And when Truman was presented with the materials (concerning) the atomic bomb, then Truman asked, what is that? And they said, a superb weapon. Can it destroy a house or two? Two quarters, two blocks of apartments? They said it could destroy the whole city. And Truman said: let's try. And actually, later on, when he became the president, his mom sent him a cable "Harry, behave yourself!". Now, you can see how much depends on the person who controls the situation. And then, all the situation evolves and ends up with the disaster of 1986. So, we need to talk about the same thing; it's a very simple thing, mentioned by Mr. Pryleyev, mentioned by Mr. Krimskyi; actually, they were using the academic slang, but I will tell it in the mode of certain philological naiveness. We are talking about the fact that, starting from the end of the 15th century, the humankind made some kind of a strategic mistake that is about to be concluded right in front of our eyes in these terrible forms, military exploitation of nuclear physics, the so-called peaceful atom, one of the most terrible and the foolest inventions of the Soviet epoch. Now, this genie is going out to the human history, and we have what we have; on the one hand, wee have this Asiatic, Asian pentagram, when 5 countries over there have nuclear weapons; no doubt, Iran has it already, Israel has it, Pakistan, China, and Southern Korea has it. … We can expect a kind of surprise from them. And now that we are faced with energetic blackmailing of Russia, and then, all of a sudden, the Baltic States started talking about their sovereign nuclear energy without speaking about Europe, Ukraine, or the United States. What does it mean? That means that we can start producing mathematical calculations about our disappearance from the biosphere. What should we do? Frankly speaking, nothing to be done, except for absolutely alternative organization of human control - from one pole (of the Earth) to another. When we are talking not only about stupid political elites when we can deal with masses, with the population of people; of course, we need to start with kind of nuclear pedagogy, we need to explain the modern human point of what they are doing wrongly, they should do something absolutely different; in the same way, the same issues should be explained to our political elites. Frankly speaking, I don't know who should talk to up there and down there; on the other hand, we don't have any other chance; with this connection, I'd like to draw your attention to a surprising thing. You see in the human history we can find dozens of different kind of reflections; about intuitions, you know about that potential disaster. Let's remember… a student of Russian poet Gumiliov, who writes about pressing a button and half of the world does not exist any more. This is the poetry written in 1924. Can you understand that due to some events that you are well aware about, the humankind already must hear what was said by the physics, and the humankind needs to look for a different dimension? What are other paths, what are other ways? I don't know, but we need to look for it. Thank you for your attention.

Mr. Vyacheslav Potapenko, Ph.D. Taras Shevchenko National University. (Ukraine).
Environmental Safety in the context of human development.

Thank you very much. Of course, it is not easy to make speeches after Mr. Skorotivsky because he does that very professionally and emotionally, but I will try. Actually, I want to continue the

same topic, but I would approach it in a different way. If we talk about the situation on how the humankind perceives (its soul) …themselves, we can see three stages. The first stage is the pagan period, when a human being is in harmony with the nature. The second stage is anthropocentrism, when a human being just has perception of only himself or herself. Now we are moving towards the third stage, which is somehow described by postmodernist philosophy. Now we are undergoing the globalization process, and we are achieving the level of post-industrial society .Of course, this is characterized with some changes in self-perception of human beings, the priority shifts from objective and collective perception to subjective and personal perception. Actually, the first place is given to some egoistic needs of a human being; postmodernism allows a human being to describe herself or himself as an independent unit, as it is. That's why the first place is given to such notions as comfort existence, physiological aspects which are comfortable for a human being; and, of course, the transformation of the environment does not give any grounds for that; that's why the people think about the ways they should, they could come back to the nature. Well, the nature should be secure this time. If we monitor the development of humankind, the economy has kind of a linear curve of development, and, actually, by the end of the 18th century, there were significant jumps, meaning that the level of man-made impact on the natural environment exceeded the opportunities for rehabilitation, for restoration of the environment. That coincided with the social-industrial revolution that was revealed in France, or in the United States. It was then when we went through the transformation of the system of values in the society. The first place was then actually occupied by money, business, and it became a measurement for success. Is that justification a coincidence or not? It is hard to say, but these processes were taking place and industrialization was growing more and more, so in the second half of the 20th century we faced a number of man-made disasters. The second part of bifurcation, of qualitative changes of all parameters, of course, was Chornobyl and a number of other man-made disasters that took place at the end of the 20th century. It was then when transition from the industrial to post-industrial society started, and they think that Chornobyl, especially for Ukraine, played a very important role it was after Chornobyl when the processes like self-perception started, when the peasants started fighting for their rights, their interests. It was quite an interesting reaction to Chornobyl. I dealt a lot with the ecology; I took part in many conferences… I communicated with a number of scholars, and I was asked many times: those people, who were going to the reactor, did they know it was a threat for them? So, why did they do it, how come they could have such an irresponsible attitude to their own health? I mean, the Western mentality people approach it as a responsibility (issue), meaning every human being should be responsible for their own life and health. OK, that happened, and these moments became a grain for creating a civil society, or seed. I remember one of the first NGO's in Ukraine was the Green World that actually united different layers of population, starting from ecologists and many other people. And then many other NGO's were generated by this movement, including even political parties. So, Chornobyl disaster, on the one hand, it gave an impulse to transition towards the post-industrial society. We are trying to do that; we understand we have no other way to do it based on the concept of sustainable development. We are talking about development based not on the …use of resources but based on the other technologies that would allow you to have restorable, renewable resources. On the other hand, it had a very important social aspect; it was after Chornobyl, when the civil responsibility, civil self-perception started growing. As of now, we can show quite a surprising trend. About 80% of the population is concerned with environmental problems. Within the system of values, they occupy the 4th and the 5th place, meaning that they are very important. But, on the other hand, the people are not ready to defend them. I am not meaning, well, to go out to the streets, demonstrate and manifested, but even at the electoral level, I remember I was taking part in a conference and I heard a discussion; it was a conference in Italy, and Americans were present there. So, Americans told Italians …you have a totalitarian country, you do not have local communities, you do not understand that local communities defend their right for their existence. And then I think, well, if Italy is a totalitarian country, then what can you say about Ukraine? It was in the

middle of the 90s, but this process started developing, or evolving, and the rights to the environment can now be defended at the level of local communities based on the self-perception by the persons what they perceive themselves as a team, as a group of people, on the one hand; and on the other hand, when they perceive themselves as individuals, who are entitled to have the right conditions of their existence, including the environmental conditions. So, to conclude briefly, I would like to say that the environmental safety within the context of human development as of now has, occupies a very important place. Actually, in the countries, that are considered to be advanced countries, this is something that actually determines the direction of lines of human development. And the attitude of the people to the environmental safety, the extent they are ready to defend their rights and the right of their community to the environmental safety, demonstrates, on the one hand, the level of civilization of the society, and on the other hand, it indicates that the society has a future. I absolutely disagree with the statement that we have entered a stripe of man-made disasters. I am rather optimistic, not pessimistic, and I think that the humankind always find the ways out of the situation. It will probably not be in the man-made line; it will probably be more linked with the self-organization of the society this time. Thank you for your attention.

Mr. Vladimir Lubenko. Director of the Small Academy of Arts"**.** Ukraine
Ways for resolving crises problems through functional education of future.

…So, I will just read a short presentation
Listen …to the issues raised at the plenary session, and I can suggest one of the ways out. This is the suggestion that has been developed by Mr. Lebenko through the education system. So, 36 years sago, when starting the Academy of Arts in Saint Petersburg, he discovered the system of static development model of a person, which is the system of the core truth, as they call it. So, in Saint Petersburg, …it was the facility of the Academy of Artistic Sciences, it was the school of Vladimir Lebenko. We have been working in Ukraine for 10 years already. We have here two presentations; one is about the poly-functional model of education; and the other one has the short title, "Artistic Picture of the World". Then we have a comma, then a period, and the space that deploys.
… entails the collective nature of the … world; of course, it stimulates the process of cognition, but make this process valuable and self-sufficient, and the result of this process is… degradation of the independent opinion of humankind and the … of quickly developing scientific progress. As a result, the understanding as to the instruments of self-perfection of the human being continues to function as an instrument, to which the civilization and the material turn. As a result of this process, we can witness it and evaluate today and researches conducted by Nalimov, statistical data given, which allowed to talk about development in the body of the human being a malignant tumor, which (testifies)… the point of development of alcohol addiction. And 40% of the populations have clinical distortions and clinical conditions, and the Russian example, Russia's example, 17 million exist… It is on the uptick, the adolescent criminal rate and the criminality in the world annually has increased more quickly than the growth rate of the population, or the GRP, and the other indicators of a bigger number of mentally defected people with inborn difficult complicated diseases, and this list of catastrophes can be continued, but when the human being and humankind altogether will not find a quick and prudent decision to these problems, the nature itself will tackle them and then environmental and technological catastrophes will be of global scale. But the way out of this crisis can be found in the quality change of nature, and, according to Moiseyev, new civilizations' needs are… toward the understanding civilizations for whom the imperatives will be organically available, as well as the preservation of life. Can this civilization emerge earlier or later, there is no answer to this question now; but the transformation of society and the relationship inside, and the information of the worldview is a way to save the humankind. A feature of the worldview is the unity of life and opinion; if you can move the image of opinion, intransigent for the people of the 20th

century, where the progress and conducive mass degradation of society can expect a… shift in the way of life of people and their attitude to the nature, and their understanding and self-understanding, as a point of human nature. And there is a new task to understand the world able to form new worldviews for us until the basis of the worldview of people is the… and confrontation of realities, with just one purpose – to experimentally check, who is stronger, which theory, confession, is more active in fighting for self-survival of the quality, quality jump cannot be fulfilled. Religion sciences are built on the same principle of survival, that is why in this complicated social situation, neither religion nor religious experience could fight against the quick changes of the (sanctuary), as the science proved to be ineffective on the whole. The way out of this situation can be the change in the process of world. Exception and the theory, and the lynchpin idea here lies with the imminent result of the research in the poly-functional (functionality) with different characteristics or opinions about this method of cognition when we'll allow to quickly get rid … every human being, of the collective of the world, and the aspiration to the life, common getting back in the sense of life. And the establishment and creation of a new worldview connected with the understanding of the unity of the world; and the interdependence of its parts provides for the system of categories which reflect this processing in understandable forms, and it is not only with the principle of new categories but the evolution of the old, including the old categories, the old system that acquires the new qualities which allows them to be an instrument of cognition. Now, what we are talking about is destiny hierarchy, in some other… quest for truth. Actually, for many scientists and researchers, which is a fundamental for many of the basis of the belief, and it is present in our languages where the truth speaks everyday language in the language of the science, and the truth is present in human life through the language, intuition. And the concept of the truth is the criteria for understanding and knowing which… ethics-wise new conversion points, which unites poly-functional concept of the … truth, which characterizes the object of the research and any phenomenon of the world; there is a (full)… beginning, which makes up the principle of (dualistic) nature of the world, which was the basis to single out the law of singularity and the struggle of differences, but which provides for the unity of differences and bear a mutual self-exclusion, and the emergency of ones… and destroying of the other brought about …of the …galactic nature, and we prepare to make an improvement, the quest for the unity and the addition to the…differences provided for; there is also the antithesis called the law and unity of differences, and thus the function in this context can be found in convergence of many indicators of one unity and the over-saturation where we the self-excluding realities and the quest for the lynchpin ideas, which unite for the present time being the self-excluding essences in space and time, multiple award and the criteria for the truth is not a mathematical coordination about the object of the research and this empirical experience, but the poly-function of the lynchpin idea for all possible counter-agents, and the understanding of the criteria of the truth and the means to achieve this idea as a way to find the truth, and today the scientists are interested in such an occasional phenomenon, or an accidental phenomenon which allow to predict the future. There is a hypothesis that predictive theories (in) orientation become real because a human being can (have) access to information on the harmonic composition of nature, which can transpire, even on the electro-physical level. If one surmises that the imminent … are present not only for physical but also for the development of the relationship between all the events of the environment and ambience, the quality changes in fundamental understanding will happen and having the aim of the elaboration of such a worldview system, which will allow to solve the problem of the eclectic nature and the differences of understanding of the world. We took the temerity to interpret these concepts on a new ground. As well a sit is proposed to find the result, the substantiated result. It also should be considered … action as clear as possible. And the development of the relationship between everything and all natural and social phenomena, which transpire a consequential change … in life is called by the movement, we call it a movement… composition of change, changes where there are differences… and the possible development based on the relationship, the outer phenomenon is called on the movement of the world and within the world, we propose a new

algorithm of the world of the structure of the world, which generally, and even in simplistic terms, is reduced to the understanding by us. First, the understanding of the world as a system of different flows and the study of the world as the self-imposing parts and the mutually supplementation, and the study of the functional and the limiting positions of the formations of the single one, and the study of a personal relationship of the over-saturated events and the psyche of the phenomenon, and the study of axes of the movement for the time. And the sixth, the systematization of the single whole truth, the construction of the hierarchy of all the parts, and the seventh, the formation of the conclusion for the whole in accordance with the lynchpin idea in its movement, and the eighth, the checking of test.

Mr. Myroslav Popovich (conclusion).

20 years have passed, and if we came from an idea, of the lynchpin idea and consider Chornobyl as the end of the mono-structure; it is even 20 years, the change to the functioning; and Kyiv and Ukraine, however, opportunity to be an axis, sort of lynchpin of an idea of the exceptionally new movement, poly-functional movement, and to use of the example, the art of, this system is based on synthesis of the arts such as painting, music, and so on. These pictures, we may say, are multi-functional and comprehensive, with many (much) information on the small piece of space. Children began to draw from a point; it is on the laws of the composition of the vertical. There are 66 of them, and all the objects …of the composition, the situation are modulated so that every child, every human being, we propose uninterrupted education from the very small children, and starting from the point, line, paint, and so on. Point is the physical dimension of life; chemistry has its own phenomenon; language is …presents… mathematics presents figure, and the space is enveloped for any human being; … painting be(ing) still life. And the painting is started as a means of flowing information, and "Stellar Kyiv", this "Stellar Kyiv" is practically a work of children did it 3 meters high, almost 3,000 pictures are painted here.

Well, these different studies, different paintings are dedicated to the history of Kyiv. You can see here the history of Kyiv, Lybid, Shcheck, Khoriv, all great…Princes, and Great Princess Olga that you can find on these paintings. I mean, (of) the past; and now the present time, the… study the folklore, the images of …Hanna, Katherina, Natalka, and Marichka. And, of course, you can see the views of Kyiv, the daughters of Yaroslav the Wise, who are, with their mother Engeldardia, sailing on the Dniper. This is the future of Kyiv; this is 2004, a child painted Kyiv as the Golden Gate of Europe; and this is a future family, I mean the father the Truth, the Beauty of the mother, and thus Happiness is delivered so; you can see what the imagination of the children is about, the family, that's why we hope that Kyiv and Ukraine have the opportunity to become a strategic direction; I mean, a child is the most important, education is the most important unit of …;… 14 … at the most to help children to draw. This is the strategic material of the country. I would like also to pass this document, the suggestions as to the manifesto of our conference; such as 2 pages… some additions to the manifesto. I am not going to read that. Thank you for your attention.

…no, they started painting when they were 6 years old, now they are 14 years old; yes, you can write down the phone number. Well, we have 3 minutes to seven. We need to really adjourn. We have a document, that we were supposed to comment on, maybe to add…but as far as I can understand, you haven't seen this manifesto. Well, Mrs. Yushchenko's corrections will be decisive. If you have anything to add, let's talk about it later on, after we conclude the preliminary session and discuss…

Would you like to tell something …we close our session? …by thanking you for your active participation, and therefore, an actually very good structure for this meeting; it was kind of a dialog, a poly-log that we'd continue forever. So, I am not going to make any conclusions. I just wish you a strong health, and we need to move forward to the plenary. Thank you.

Final Plenary Session

Moderator:

Mr. Andriy Myroshnychenko,

Mr. Andriy Myroshnychenko,

Once again, I am very happy to congratulate you here despite everybody is probably a little tired, but we have another last step to make. This is the final plenary session. I would like to announce it open. I would like to call to word… work of the session. First, we have 5 minutes for each session leader. Then, we have the final document, updated, and that's how we, what we end up the work of our forum at. And I'd like to call to word the "A" section leader, as we call it, the medical section.

Mr. Aleksander Kuzma

Thank you, Andrew. Mrs. Yushchenko, your Excellencies, I will now switch to English. Our (consequences) section, engaged in a very robust debate with many alternative points of view. And I think one of the great blessings of the new era in Ukraine following the Orange Revolution stems from the fact that we now have true freedom of speech and freedom of opinion in this country, and it's a great privilege to witness this freedom of speech unfold in the very lively discussion that ensued. The draft resolutions, and I will only read a portion of them because we had very many specific recommendations. I will only go through a few, on which we seem to reach the consensus. First of all, we recommend that the international community continue funding for the creation of a national birth defects registry and to provide detailed tracking of chromosome damage and birth defects among the Chernobyl-exposed population. We also recommend that a similar program be established for the contaminated regions of Byelorussia and Russia. We recommend the creation of a nation-wide cardiac screening program in Ukraine and Byelorussia to provide early diagnoses of congenital heart defects and to refer newborn infants for timely corrective surgery. Also, following on Dr. Lipschultz's recommendations, we urge that there be more extensive tracking throughout the life of children who underwent chemotherapy, and also children who were exposed to radiation for a possible damage, cardiomyopathy, and other dangerous conditions that could greatly shortened their lives.

Will recommended the Ministries of Health of the affected countries provide incentives for women to obtain prenatal screening, nutritional supplements, and to help reduce the risk of such complications, and to provide effective treatment for women in need. Given the fourfold increase in spina bifida in Ukraine and substantial increases in neural tube defects in other areas affected by Chernobyl, we recommend that effective, low-cost preventive measures be taken to reduce the incidents of neural tube defects through the distribution of folic acid in flour and other foodstuffs. Inasmuch as scientific experts have reached consensus on the high incidents of thyroid cancer in children in the aftermath of the Chernobyl disasters, nations that utilize nuclear energy should stockpile potassium iodide for distribution in the event of a radiation emergency. We further wholly endorse the recommendations of Mr. Jeremy Hartley and other colleagues at UNICEF to dramatically increase the use of iodide salt, and to encourage the use of iodide salt throughout our food supply system here, in Ukraine, and in other parts of the affected regions. Finally, and again, I am just cutting some of this short, we recognize the important role that nurses have to play as a powerful workforce that can mobilize many of the programs that we are looking to unfold. At least, at the regional prevention oblast level, medical centers serving contaminated regions or Chernobyl evacuees need to strengthen their capacity for the diagnosis and treatment of oncological illnesses. Such improvement should be achieved through advanced physician training and through the installation of essential medical equipment such as blood analyzers, blood cell separators, ultrasound and anesthesia machines, and fully equipped surgical

suites. I will stop my recommendations at this; there are many others… and we are also welcome other recommendations that our colleagues would like to submit even afterwards, and these will be considered by our collegium's. Thank you very much.

Mrs. Oksana Harnets.

Dear Mrs. Yushchenko, dear colleagues. First of all, I'd like to express our satisfaction and gratitude to those who contribute to our section, I think the largest section and, as I think, the most important one. Now, to recommendations and conclusions. First of all, the participants support the manifesto of responsibility but would like to expand it, and more specifically, in the section 2 of the manifesto would like to see a subsection dealing with social relations, and under this heading we promote a review of the system, of decision-making, so as much involvement of the population as possible. The development of social and psychological support to individuals and communities in order to overcome the cultural dependency really affecting the population. I apologize for a somewhat hectic language because we just ended the humanitarian review of all administrative decisions, and of the professional training, and more specifically, the professional training of teaches and doctors who are the agents of information, (delivering) information to the affected population. We are also opinioned that since this is a humanitarian forum, one of the most important lessons thereof must be recognition of the fact that not only individuals, but also entire communities are affected at a time of global disasters. Therefore, individual, community, and social relations, as a part of it, is needed to be added to the overall structure of the manifesto. Also, the manifesto should focus on improving the coordination between all international players supporting the Chernobyl program with the view to increase the efficiency of resources available to this cause, and does a number of editorial improvements that we propose. So, this can be dealt with as we go. Well, before we can conclude, I would like Professor Popovich to come over to this podium. However, before that, I 'd like to recognize the assistance of Philip Morris that sponsored generously both today's event and yesterday's concert. Mrs. Menko, if I could ask you to come over here.

Professor Myroslav Popovych

Esteemed Mrs. Yushchenko, esteemed colleagues. The section that we were chairing together, the three of us, …. was kind of philosophic one; yes, by the nature of the discussion, it was philosophy, although among the participants we had also….of a strong, say, environmental science, whereas Mr. (Koropov) … from Ms. Nadashkyvska all that was dedicated to the same topic, so everyone agreed with the facts, … called by the German philosopher … "the increasing gap" between the space of experience and horizon of expectations, so this increasing … requires a lot of intellectual efforts; we need to take into account the risks to much bigger extent, and it used to be before, some of the people saw the situation in the paucity way, others saw rather shortcoming, somewhere very pessimistic, but the point is different; we have the same conclusion with the previous section; we need the ethical expertise, I mean the public not always being an expert in these issues because expertise is a business for scientists, for scholars, but any project should undergo the ethical expertise that would be a very important factor in identification of our strategic prospects. Speaking about the manifesto of responsibility, we prove it in general, maybe there are some minor corrections, but we like the most the suggestion to continue the dialog on the prospect of the development in the future. We are very supportive of that. Thank you for your attention.

Mr. Andriy Myroshnychenko. Conclusion

Now, let me come back to the document, so far it is a draft document, a concluding document you received the first draft in the morning; it changed slightly, now I will read version 2; of course, it needs more development and more work, taken into account the conclusions of the sections you saw that the Section "B", actually adjourned just before our plenary, so the draft of the concluding document of the forum, the manifesto of responsibility. First: recognition of the lessons of the disaster, acquired experience. We recognize that a lack of truthful information on the situation increased the human suffering, so the lesson one is to strive for truth; gained

experience: absence of bounds between acceleration of the progress and the consciousness of a human being creates a gap in this area. So, lesson two is to make the strategic decisions about development, we need to be guided by the interests of the upcoming generations; gained experience: the disasters make us stop and revise our views, the humankind starts realizing ……interrelates, the impact, the human impact on the nature might result in disasters of a global nature; lesson three: we must learn to keep the balance of harmonic experience, … experience, global disasters cannot be overcome just by those who suffer, who became a victim; lesson four: we can not resolve the global problems with the efforts of just one nation. That means that we need to unite our efforts not only during the global disasters and terrorist acts but also by looking at a different way of construction of harmonic relations with the nature. In view of the above, in view of the need to implement the strategic steps we suggest to develop and to take the measures to (deliver) in the area of health, to consolidate the efforts of the humankind to take care of the future generations, and to monitor the health of the children who became a victim of the disaster, to recognize the increase in incidents of sick ness among the children as a consequence of the disaster, to provide humanitarian assistance to all the victims and all affected regions, to unite the capabilities of military and civilian medicine in order to respond to disasters whenever they occur; establishment of relations between the most powerful medical institutions of the world in order to exchange information on medical standards, and to improve the educational system, to widen the vision of humans regarding their responsibility before the future generations; support to recognize … by persons so the impact on the environment,….. established in the course… international cooperation in overcoming the implications of disasters; approach as to …the development, which would make it impossible to run the risk of future disasters. Third: charity (shared) responsibility we have been before people who received strikes of the disasters, we express our respect and thankfulness to those who did their best, who revealed their best traits in order to help people to defend them from the consequences of the disasters, and it may (apply)… to save …those who suffered it; on the same time, we believe that such assistance is a natural duty of a responsible person. Fourth: a dialog for human development; we believe it necessary to implement a continuous international forum for human development as one of the means to prevent humanitarian disasters; these disasters make us aware of the responsibility, so we need to think about the path, undertaken by any human being, by any community and society to make the life of their future generations safer. We are to concentrate our attention over the most important issues of the development of society. In view of the above we suggest: first, to make the dialog on human development continuous, to make the continuous forum on human development; secondly, consolidate conclusions of all work in sections (time) to make necessary amendments to the manifestos; third, to send the final version of the manifesto to the G8, and also (take it) …to the governments of the countries, whose participants, whose representatives took part in the forum. Ukrainian representatives will declare the provisions to the manifestos at the Parliament hearing in April of the current year. If you do not have any…I mean we have now two options: option 1: we take this draft as the basis for the future document we would be receiving an amendment, an addition send then, our committee will put all this together, and we will then receive the final document….