

**Speech at the Closing Plenary Session “Paving the Way to the Future”
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Mrs. Chairperson, Ladies and Gentlemen,

The problems of mutual influence and interaction between Science, Technology and Society are today ones of the key issues in the process of development of World civilization.

In that aspect the Kyoto Forum which is gathered the third time, plays important role. This is the intersection of opinions where politicians, scientists, businessmen, social figures are get together and this is very valuable initiative of Japanese state personalities and science community. In certain aspects this Forum can be compared with well known Davos economic forum but on my viewpoint has some advantages due to the complex character of the meeting. I had a privilege to take part in first Kyoto Forum at 2004 and I think that the wide representation of the world scientific community is of a great value. To my regret there are still several countries where politicians and business people do not take into consideration or very slightly listen to the scientific views and predictions how is better to solve arising problems and they do not pay enough attention to the development of fundamental science.

The tempo of renovation and perfecting of technological achievements and of realization of new technologies based on the breakthroughs in fundamental science are nowadays so fast that to be in the arrieregard means to be thrown to the side walk of civilization and for developing countries to condemn their population to long period of nonprosperity.

What are the main challenges today in the triangle Society-Science-Technology?

The meeting of the Presidents of National Academies of Sciences of G-8 countries plus leaders of the Academies from China, India, Brazil and South Africa which we have organized in Moscow this spring issued two important statements concerning most worrying problems:

- global energy security;
- fighting against most dangerous infection diseases.

Sharply risen and very unsteady fuel prices, stoppages in energy supply as a result of natural calamities and terrorist actions, growing deficit of productive and manufacturing capacities and intensive struggle of leading nations for taking control over hydrocarbons - all these have already marked out a strategic threat to economic growth and stability of energy supply. A global energy security problem emerges as the vital necessity to reach the acceptable growth of world and regions economics by ensuring sustainable supply of all kinds of energy without excessive damages to environment and with prices reflecting the basic economic principles.

Oposing the threats of global energy security will require to work out and consistently carry out at intergovernmental level the strategic priorities of energy policy and also to inform business circles and population about these priorities which would be able in possibly shortest period of time substantially decrease primary threats to energy security by enabling adequate organizational and material costs.

These priorities are as follows:

- economical use of energy;
- increase and diversity of energy resources supply;
- development of infrastructure of global energy markets;
- decentralization of energy production through development of local and individual energy resources.

Key role in increasing a level of energy security in the long-term belongs to science and technology. Top-priority task includes development of technologies and methods improving energy and economic effectiveness of the whole series of energy conversion starting from its natural sources up to the end users. Ensuring the presence of wide variety of available energy sources (including nuclear and renewables) reduces dependence from any single source of energy and diversifies opportunities of reliable and rational energy supplies to consumers.

In diversifying the sources of energy may I draw your attention to the utilization of natural gaz or coal instead of crude oil to produce classical gasoline and diesel fuel as well as much more ecologically friendly fuels like dimethyl ether. Various technologies GTL (Gaz to Liquid) or CTL (Coal to Liquid) are widely developed now and they have a good future.

However the crucial point is to use renewable sources of energy like Biomass-plants, green leaves etc which can be converted onto either ethanol or hydrocarbon fuels.

The world resources of biomass are about 800 billions of tons including 200 billions of tons which are annually renewable. This is more than enough to cover main needs of fuel for motors and power stations.

Now about the struggle against most dangerous infection diseases, like avian influenza, so called "asiatic flu" and some others. It sounds important that scientific community should address to the world leaders with the appeal:

- to realize the threat of a new influenza pandemic and other infections by the whole international community;
- to support the ongoing international programmes to combat avian influenza and to become prepared to mitigate the impact of an influenza pandemic, including financial support, technical assistance and political support;
- to provide support to the developing nations in the establishment of their own national plans, in capacity building of respective infrastructures and also in helping them to reduce social and economic effects of the avian influenza problem to the poorest;
- to mobilize scientific activities across the entire spectrum of applied public health research recognizing that much knowledge can be amassed pre-pandemic.

Modern achievements in molecular genetics permit today to start building the portrait of molecular polymorphism of the individual human being which will enormously help to establish on the early stages the sensitivity of a person to different diseases and provide an appropriate medical protection.

Next problem which is a great challenge to all of us – that is environmental pollution related to the anthropogenic activity of people. Theoretically everybody understand the problem but we still are doing not enough to minimize the damage arose as a result of industrial and postindustrial revolution.

Let me give just only one example – the deficit of fresh water, subject which was discussed in one of the sessions at this Forum.

About 40% of global population is suffering today from this deficit. This threatens political stability in big regions and in the world as a whole. And the situation is much more complicated than just geographical nonuniformity of fresh water distribution on the globe.

Worsening of the situation with fresh water is the result of several factors:

- nonrational structure of economic and industrial activity when the water deficit is ignored and people are doing nothing to limit the production of traditional water consuming products;
- using of oldfashioned water consuming technologies;
- fall down of sewage waters, washing out of pollutants from agricultural fields and cities territories, degradation of water collecting systems etc.
- the problem number one in this respect for developed and developing countries is to optimize the economy and technology for agricultural utilization of water;
- the cultivation (by economic, cultural, psychological pressure) of the regime of economy to use water for personal needs will help enormously to fight against water deficit;
- to minimize industrial consumption of water is also very important factor.

Can all these problems be solved in developed countries? Principally “yes” by joint and consolidated efforts. Whether developing countries alone can do the same? The answer seems to be “not”. The West and the North should take part in the activity oriented to find solutions for fastly developing countries. This concerns fighting water deficit and infection diseases as well. Water problems were always, are and will be the source of international tensions and of the nonstability of our civilization. So the bell rings!!

To meet challenges I have cited, a strategy of people education should be elaborated. With the globalization of world communication systems, Internet widespreading the attack of mass-culture and the advertisement of one and only one way of living, i.e. western mentality and western style started to bring noticeable negative results. The protest began to rise and the sharpening of interethnic and interconfessional conflicts took place. This is the plague of the XXI-st century with its extremist edge – the terroristic acts. Terrorism is one of the heaviest crimes in the world and terrorists should be prosecuted and punished everywhere. Remember that in no religion – Christianity, Buddhism, Islam or Judaism there is an appeal to hatred and terror, everywhere we find the appeal to tolerance.

So we should teach tolerance and the recognition of different cultures and right for the existence of others than purely western way of living.

One of the reasons of confrontation here lies in the fact that human psychology is going behind the fast tempos of industrial development and high-tech offensive. People have shortage of time to be adopted to these innovative things and frequently reject innovations.

Conclusion. There are very many successes and achievements in science and technologies. But simultaneously the anxiety in our society is growing. Our common task, the task of politicians, of scientists and of businessmen is to learn how to predict where and when the intolerable tensions may appear and how to overcome these tensions.

In this sense I think, Kyoto Forum 2006 has played its positive role.

Thank you.