

# FORESTRY RESEARCH AFTER UNCED<sup>+</sup>

BY

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Distinguished Guests,

Ladies and Gentlemen,

May I at the outset congratulate the College of Forestry, Kangweon National University on the occasion of its 10th anniversary. I would also like to personally thank Dr. Yoon, for it is through his effort that I am able to be with you on this historical occasion of the University. I apologise that there is no written text of my speech but I promised Dr. Yoon that I would deliver what I say today in the coming week.

Ladies and Gentlemen,

In the schedule before you, the talk of my keynote speech is "Forestry Research After UNCED" - The United Nations Conference on Environment and Development or the Earth Summit. President Moon referred to this historical occasion and in my address to you, I would like to link forestry research to this global concern that has culminated in the holding of this international conference in Rio in June of this year. The question which you may ask is, "How can we link forestry research to this global concern?" Ever since

the production of the book "Silent Spring" followed by the report of the Club of Rome, global concern on environment has been strong and increasing. The Brundtland Report, "Our Common Future in 1978", laid a foundation for this concern which then culminated and the decision of the United Nations to hold the Earth Summit, 20 years after Stockholm. What are the issues which has resulted in this? There are many global environmental issues and they have direct influence upon us, forestry as a profession including forestry research. The magnitude of the problem is great and the message clearly is that Planet Earth is in danger. The fact is not from invaders from outer space but from within us, the people on this planet, Man himself. Issues of the ozone layer, the depletion of that fragile, invisible layer, 20 - 25 kilometers up above, resulting in possible impacts on plant growth, agriculture, human health, the use of CFCs and other ozone depleting chemicals have tremendous implications. Issues of desertification, 6 million hectares per year are being desertified, 35 million people affected and in the Earth Summit, one of the proposals was to set up a Convention on Desertification. The issues of hazardous waste; Man is producing waste to a magnitude that it has reached a state

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where it cannot be managed. The United States, Germany, Japan and I am sure Korea are producing waste to such an extent that the disposal of waste becomes an important problem. We are a disposal society. We are a consumer-oriented society but in getting rid of waste, we destroy the basis of our environment. Regarding acid rain, 7 million hectares of forests in 19 countries are being affected. I do not know whether Korea is facing problems of acid rain but it is an issue that you have to address in Korea, if not now, in the very near future. Much of the forests of Europe being threatened by acid rain and the impact of acid rain is not only the destruction of forests but the acidification of soils which make reforestation not only difficult but extremely expensive. The triangle of death as they say, in Central Europe, is a manifestation of this concern. The greenhouse effect, the production of greenhouse gases, whether it is carbon dioxide, nitrous oxide or sulphur oxide, was brought to reality, in my trip to Seoul and to your University this morning. The massive traffic jam in the streets produce greenhouse gases. The fact that if carbon dioxide doubles, the temperature of the world will increase and the estimate is, this will increase by the year 2050 or so and the impacts of such increases on sea level and on human life itself. One of the main focus of the UNCED was the Convention on the Climate Change. Unfortunately because of the pressure from the United States, the decision to bring the level of greenhouse gases production to the 1990 level by year 2000 was not included but this Convention is an extremely important convention and 154 countries signed it except Malaysia.

The next issue is population. Korea has a population of around 40 million. the

world population is now around 5 billion plus or minus and it is expected that the world population will increase to over 8 billion by the year 2025. I may not be here then but many of the younger generations will be here and the demand by that massive population on the global resources will be so high that you have to be concerned now to prepare your own future. The next issue ladies and gentlemen, is "Tropical Forests". While 7 percent of the global surface is covered by tropical forests, it contains between 50 - 80 percent of the total species, 5 - 30 million of life forms but only 1.7 million have been documented. It is estimated that over 100 species become extinct daily. 70 per cent of the population of developing countries depend on wood for fuel and 500 million people live in or around this tropical forest. In 1981 it was stated that the rate of deforestation was about 5 million hectares per year.

That figure has gone up to over 11 million hectares per year and recent estimates by FAO indicate that it is more likely to be about 17 million hectares per year. It is because of this global biodiversity of tropical forests that it is important that the tropical forests be conserved and managed on a sustained yield basis and one of the outcomes of the Earth Summit was the Convention on Biodiversity. Why do we have to manage biodiversity? Because biodiversity itself is the base for genetic improvement, but the basic philosophy is that we need to maintain life. The destruction of biodiversity is similar to us burning our library before we have read the books. That is a challenge for forestry, for forestry scientists and researchers.

The non-binding principles on the management of forests were also passed at UNCED. While these non-binding principles

are not conventions, they form a part of a process towards a move to establish a convention on forests, not just tropical forests, but all forests of world, including temperate forests, including your forests in Korea as well as boreal forests.

Those are the decisions of the Earth Summit. In order to move those political decisions in which Korea was a signatory to both the Climate Change and the Biodiversity Conventions, it is important that we translate them into reality on the ground, to convert those desires, those missions, those visions of our political masters to concrete programmes that you as foresters and as scientists would like to see implemented. That to my mind is the challenge before us. There are many initiatives in the world to do this. The International Union of Forestry Research Organisations (IUFRO) is just one of those international organisations that exist. Many of you may not know IUFRO. Allow me therefore to take a few minutes to tell you what it is. IUFRO was founded in 1892 in Eberswalde, outside Berlin, Germany, formed by research institutions of three countries, Austria, Germany and Switzerland. We celebrated the 100th birthday of IUFRO early this month in Berlin and some members of this audience, especially the Chairman was there, to share with us the joy of this 100th year celebration. IUFRO is a non-governmental organisation, a network of institutions covering over 110 countries in the world, with over 600 institutions with over 15,000 scientists. In is a forum for meetings, exchange of views and information. IUFRO developed certain programs to assist in the translation of this global aspirations and to address global problems. In 1983, IUFRO set up the Special Program for Developing

Countries (SPDC) to assist the development of research capacity within developing countries. At the same time, we recognised the problems of temperate forests, especially acid rain and related issues and in 1984 the Task Force on Air Pollution and Climate Change was established to try and collate information in order to sensitize countries as well as promote programs to address this problem. These two special activities are actively pursuing their own tasks at the moment and special programs have been planned to address these two issues of tropical forestry and air pollution. This year, IUFRO launched the IUFRO Development Fund, a fund especially established to assist developing country scientists to participate in IUFRO meetings and conferences. Sweden and Canada were the first to contribute towards this fund during the IUFRO Centennial this month. This year the IUFRO Executive Board, which comprises scientists from all the five continents, also agreed on the establishment of the IUFRO Chapters. I am pleased to note that IUFRO members in Korea are actively participating in some of the activities of IUFRO while much still needs to be done to enhance and promote IUFRO activities in Korea. IUFRO looks ahead and at the moment it is planning a Strategic Plan for IUFRO to look ahead into the next century of IUFRO. One of the strategies is to work very closely with other international organizations such as FAO, the International Tropical Timber Organisation (ITTO), and other international initiatives.

One of the initiatives as you may know, within the Consultative Group on International Agricultural Research (CGIAR) is to set up the Center for International Forestry Research (CIFOR). This center will try and promote research

particularly in tropical forestry in conjunction with other centers within CGIAR, especially such institutions as International Center for Research on Agroforestry (ICRAF) and International Board for Plant Genetic Resources (IBPGR). These initiatives need to be harnessed in order to promote research in tropical forestry and here is where scientists within Korea as a developed country could assist in the promotion of such initiatives within Korea itself.

I would like to congratulate the organizers on this symposium, "New Approaches to Forestry Research", but the question before us is that "do we need to have new approaches or do we need to strengthen old approaches or do we need to enhance research in forestry research itself?" I would like to submit that the key issue is for us to develop science in forestry. The danger for forestry in this world is that it is becoming marginalised in the context of concern for the environment. Forestry as a science, forestry as profession is being marginalised and when I say marginalised, I mean that it is given less importance, it is given less priority and in the end it could even be forgotten or sidelined. It is my view that one of the reasons is that the scientific base of forestry practices is low. The reason is because everyone thinks they can plant trees, everyone believes that they know how to use wood and the basis for science is not important. If you look at other professions such as the medical profession, they can tell you how important medicine is by the number of sick people they can cure, by the number of lives they save and the basis of medicine is science and unless you are a qualified medical doctor, you cannot practice medicine. Look at the lawyers.

The number of court proceedings they go through. The basis of law is a science. Look at engineering. You and I cannot build bridges, cannot build highways because the basis of engineering is science and science translates to technology and they can tell how much money they are saving, and how much convenience they are providing. However, how much science is there in forestry? Can we tell the people that the basis of planting trees is science. What is the science of forestry. It is my belief that we must develop science as a basic foundation and through science to technology, and technology to development. That link from basic science to technology to development is so weak in forestry that there is danger that forestry as a profession, forestry as a discipline, could be marginalised in the future, especially when the whole issue of environment is so strong that people feel involved in forestry, that other people and other professions can penetrate unless we as a profession develops forestry in its true scientific basis. You all know what the Nobel Prize is. There are Nobel Prize winners for medicine, economics, literature, social science but there has never been a Nobel Prize in forestry. Is that a manifestation that the basic science in forestry is weak, that we have not held science up to the level that we can win a Nobel Prize. Norman E. Borlugh was a forester. He won a Nobel Prize but not in forestry. He won it for plant breeding. What we need before this century is a Nobel Prize winner in forestry sciences and that ladies and gentlemen is a challenge before us all and that is a challenge I throw to you, research scientists, the professors and the young foresters of the future. Adaptive research, reverse engineering, issues of intellectual property, the transfer of technology are some avenues. The

collaborative effort of us scientists together are required in order to put forestry into a proper prospective in the future. You in Korea are privileged to be within the Pacific rim of countries, the hope of the world, the center of development in the future, the home of up and coming tigers together with the older tigers. We are living in the area of the world where the focus of economic development is superior to all other parts of the world. We have the opportunity in this part of the world to promote forestry but not just for environment but for a complete multiple use ecosystem based forestry. Forestry must be used for unless there is a use for trees, use for forests then forestry as a discipline is doomed. The implicit characteristic and advantage of forestry

being sustainable and being renewable must be given new recognition and as the population becomes more developed, the use for forestry for recreation becomes much more important.

In conclusion, the challenges to forestry and forestry research are great and opportunities many. We have to mobilize our resources, nationally and internationally, in order to address them. Institutions like your Department and other institutions in Korea, have an equally important role to support these efforts. IUFRO offers the channel for you to play a more active role in the international research arena. I wish you the best in your endeavours.