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CROSS-SECTORAL THEME: TRANSFER OF TECHNOLOGY/CAPACITY-BUILDING/EDUCATION/SCIENCE/AWARENESS-RAISING

Letter dated 23 February 1998 from the Permanent Representative of the Republic of Korea to the United Nations addressed to the Secretary-General

I have the honour to forward herewith the report of the International Expert Meeting on the role of Publicly Funded Research and Publicly Owned Technologies in the Transfer and Diffusion of Environmentally Sound Technologies (ESTs)** held at Kyongju, Republic of Korea, from 4 to 6 February 1998.

I should be grateful if you would have the text of the present letter and its attachment (the report, list of participants, programme of work, and opening remarks by the Deputy Minister of Foreign Affairs, Republic of Korea) distributed as an official document of the sixth session of the Commission on Sustainable Development.

(Signed) PARK Soo Gil
Permanent Representative

* E/CN.17/1998/1.

** Circulated in the language of submission only.

REPORT

International Expert Meeting on the Role of Publicly-funded Research and Publicly-owned Technologies in the Transfer and Diffusion of Environmentally Sound Technologies (ESTs), Kyongju, Republic of Korea, 4-6 February 1998

I BACKGROUND TO THE MEETING

1. The meeting has been convened in response to a specific recommendation of the Commission on Sustainable Development (CSD), at its fifth session. In this regard, the CSD concluded that:

> "A proportion of technology is held or owned by Governments and public institutions or results from publicly-funded research and development activities. The Government's control and influence over the technological knowledge produced in publicly-funded research and development institutions open up a potential for the generation of publicly-owned technologies that could be made accessible to developing countries, and could be an important means for Governments to catalyze private sector technology transfer. Proposals for the further study of the options with respect to those technologies and publicly-funded research and development activities are to be welcomed".[1]

2. Pursuant to the above, the Korean government sponsored a project consisting of a study and an expert meeting on this subject. The project was jointly implemented by the United Nations Conference on Trade and Development (UNCTAD), the United Nations Department for Economic and Social Affairs (UN DESA) and the United Nations Environment Programme (UNEP).

3. The study was submitted as background document to the meeting. The document draws upon a number of case studies as well as a preparatory Review Meeting involving the three cooperating agencies and a selected number of experts. The country case studies included Brazil, Canada, the Czech Republic, France, Germany, India, Japan, the Republic of Korea, the United Kingdom and the United States of America. This selection represented

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[1] "Programme for the further implementation of Agenda 21", adopted by the General Assembly at its 19th special session, 23-27 June 1997, paragraph 91.

countries with developed and developing economies as well as one country with an economy in transition. It captured many of the important producers and consumers of ESTs. In addition, three studies on the United States, France (including the European Union framework) and the "MERCOSUR" countries have been carried out on selected policy, legal and institutional issues dealing with the transfer and commercialization of ESTs. To gain a better understanding of the role of supporting institutions in the generation of ESTs, a review of publicly-funded research and development (R&D) in universities was also prepared, using as an example leading universities of the United States.

4. While the experts did not define ESTs, there was general agreement to apply the definition used in the background document for guidance in the meeting. Taking this into consideration , it was accepted that the state of the global environment is a common concern of the international community, and hence ESTs including publicly-funded ESTs deserve further focus in their treatment from other technologies in terms of their transfer and diffusion.

II A SUMMARY OF THE DISCUSSION

A. INTRODUCTION:

5. The meeting was attended by experts designated by their governments as well as additional resource persons selected in their personal capacity and representatives of the three cooperating United Nations agencies (See annex A).

6. The meeting was chaired by the Deputy Director General for Science and Environment Affairs of the Ministry of Foreign Affairs (MOFA) of the Republic of Korea (R.O.K.). A welcome address was given by the Deputy Minister for Economic Affairs, MOFA, R.O.K. In his statement, the Deputy-Minister emphasized that technology transfer was a crucial item of Agenda 21 and that governments have a distinctive role in the generation of ESTs and their transfer. He emphasized the importance of the recommendation made by the CSD on the role

of publicly funded research in the generation, transfer and diffusion of ESTs.

7. The Chairman introduced the programme of work which was adopted without debate (See Annex B).

8. An introductory statement was made by the Director of the Division on Investment, Technology and Enterprise Development of UNCTAD, presenting the background report to the meeting. In her statement, she referred to the importance of resource efficient and clean technologies as a key to sustainable development.

9. In summarizing the main findings of the country case studies, she noted that the pace at which environmentally sound technology has been transferred is slower than in other areas of new technologies such as information technologies, particularly with regard to developing countries. The case studies showed, that many governments emphasize the contribution that public support to R&D can make to economic competitiveness and public statements by the governments covered in these ten case studies stress the importance of commercializing publicly funded R&D.

10. The case studies also demonstrate that public funding remains a major source for R&D activities and is particularly vital for R&D on ESTS. In both developed and developing countries much of the public funding for R&D goes to public research and development institutions and to universities. In developed countries funding of private sector research on ESTs is also undertaken. In addition to public sector funding, the presence of a regulatory framework in the area of the environment is a critical stimulus to R&D on ESTs, particularly in the private sector. ESTs are not always "high technology" and the country case studies reveal that a range of ESTs that could meet the needs of developing countries and economies in transition is available in both developed and developing countries.

11. In explaining the slow pace of transfer and diffusion of publicly funded R&D on ESTs

the case studies pointed to a wide variety of factors. On the supply side it was noted that research done in public sector research institutions and universities is often too far upstream to be directly usable by firms, particularly small and medium-sized enterprises (SMEs). There are many intermediary steps that must be undertaken before the knowledge generated in a laboratory can be used by firms. These include further development of the technology, pilot phases and demonstration projects. Universities and research institutions rarely have sufficient motivation, and lack the expertise and the funds to carry out these intermediate steps. They also have difficulty in finding commercial partners on their own.

12. On the demand side, the case studies call attention to the fact that users are mainly private firms and in developing countries these are mostly SMEs. SMEs are often unaware of the need to adopt ESTs, lack information on the source of ESTs, tend to be risk adverse with respect to the introduction of unfamiliar technologies, frequently lack the financial resources to acquire ESTs and need support structures to provide the follow-up assistance that ensures an effective technology transfer.

13. The background report provided illustrations of existing policies, structures, and mechanisms that should be further examined as to their potential relevance in accelerating the transfer and diffusion of ESTs. One common trend in the transfer and commercialization of ESTs reflected by several case studies is in collaborative efforts sought through networks, partnerships, and alliances. Several countries refer to the importance of public-private partnerships involving a broad range of actors including universities and R&D institutions, government entities and private companies. While most such initiatives are designed for technology transfer and commercialization at the national level, there are a few that have been developed for international cooperation that includes developing countries.

B. SESSION I: RELEVANCE OF PUBLICLY-FUNDED R&D IN THE GENERATION AND DIFFUSION OF ESTs.

14. Four country case studies (the Republic of Korea, the Czech Republic, Germany and India) were presented as examples of the experience with with publicly-funded R&D in the area of ESTs. The special study covering the role of universities - as supporting institutions - was also presented.

15. The study of the Republic of Korea emphasized the importance of a broad concept of technology transfer involving the transfer of all knowledge and know-how required to use a technology. There are currently a significant number of R&D programmes being carried out with public support, both in the public and in the private sector and some are relevant to ESTs. The research results are owned by the financing institutions, sometimes jointly with the investor. These research institutions are encouraged to transfer their results to the private sector. Loans are available to help the private sector improve its technological capabilities to respond to environmental regulations. It is difficult to differentiate between the treatment of ESTs and other technologies.

16. The study of the Czech Republic highlighted the changes that have taken place in the R&D system in recent years. Initially the system was exclusively state-driven and all R&D was publicly funded. Thus R&D was often not demand, but supply-driven. The recent radical changes have resulted in the introduction of new policies, laws and institutions. Many R&D programmes are now targeting specific products and applications. While ESTs are not distinctly identified as a special category for public R&D funding, it is expected that most new publicly-funded technologies will be environmentally friendly. Public support could involve a variety of measures including the provision of subsidies and soft loans. Particular emphasis in the area of ESTs is on abatement technologies, cleaner production technologies and the recovery and conversion of former military installations for civilian use.

17. The study of Germany identified explicit government policy behind public funding for EST-related R&D. Germany perceives ESTs as technologies that are crucial for maintaining competitiveness and entering new markets. Considerable public funding is provided for EST-related R&D. At the same time, public R&D funds are becoming more and more market-oriented. However, technology cooperation with developing countries in this area is also an explicit government goal and considerable funding is being provided for this purpose.

18. The Indian study shows that public funding is a major source of R&D activities in the country. There is an extensive network of public R&D institutions. However, until the late 1980s there were few linkages between these institutions and the private sector. Since the early 1990s, the Government is trying to promote such linkages. Very often these are still subject to ad hoc decisions rather than to a clear mechanism. At present there are no legal restrictions for cooperation with foreign partners, both public and private. While there is no explicit policy to give priority to the funding of ESTs, an empirical analysis gave evidence that often R&D containing EST-related elements does receive some priority in terms of funding.

19. The special study of the role of universities focused on four universities in the United States in an illustrative fashion. The legal system of the United States of America provides for joint ownership of patents by researchers and their institutions. This was considered by policy-makers as an incentive for the R&D community to actively pursue the commercialization of technologies. Only in the area of defense-related technology does the United States government maintain some form of public ownership. Since the end of the cold war, attempts have been made to commercialize some of these technologies. Discussion of the Bayh-Dole Act affirmed the need for "significant manufacturing" in the United States of America as an impediment but not insurmountable barrier to the transfer of ESTs since there are commercialization mechanisms to partner, joint venture, and cost-share ESTs with other countries.

20. The discussion following the above presentations centered on issues of technology transfer. Some of the existing models were described, such as, the European Union's PHARE programme for cooperation with economies in transition. The discussion also included references to possible finance mechanisms, such as the establishment of revolving funds for the transfer of technology. The creation of new institutions for the transfer and diffusion of ESTs was not welcome by all participants as some felt that existing arrangements should be strengthened.

21. "Team building" and partnerships were also mentioned as possible ways of accelerating the transfer and diffusion of ESTs. A need for pilot projects was expressed. The expert from France noted that a number of successful examples of the transfer of ESTs from France have been undertaken and case studies of these are currently being prepared.

C. SESSION II: EXAMPLES OF TECHNOLOGY COOPERATION TO PROMOTE THE COMMERCIALIZATION AND DIFFUSION OF ESTs IN DEVELOPING COUNTRIES

22. Three presentations were made under this item: United Kingdom's Technology Partnership Initiative (TPI) and the Department for International Development (DFID) of the United Kingdom; the United States of America experience; and the lessons in technology transfer under the Montreal Protocol.

23. TPI is a governmental initiative targeted towards enabling successful international partnership. Its mission is to link companies and organizations in industrializing and developing countries with UK companies and other organizations which provide both technologies and services, as well as the information and advice they need to deal with their environmental problems. To that end, TPI has developed a global network, through which it provides information, free of charge, on nearly 1,000 UK suppliers for environmental goods

and services. TPI also works with international organizations. A brief summary was also presented of relevant DFID contributions to technology transfer, including through bilateral programmes and research projects, non-governmental organizations (NGOs) funding and through contributions to multilateral institutions.

24. The presentation of the United States of America. case study noted that there are 735 labs in the United States of America with about US$ 65 billion in annual government supported R&D. In addition, about 3000 universities have research programs of varying size. The driving factor for the Government to fund research on ESTs was the need for American companies to comply with environmental regulations rather than to increase their competitiveness. It was noted that business in the United States of America. is generally risk adverse especially with regard to investing in environmental protection. Environmental regulations were seen by companies as an impediment to business operations. Interaction between Government and industry is important in the process of technology transfer and dissemination. The essential role of the government is to provide incentives to industry and to use appropriate economic instruments to encourage EST application and diffusion. Governments also should fund demonstration and pilot projects, particularly to encourage international technology transfer. A brief statement was also made describing the operations of the United States-Asia Environmental Partnership Initiative (US-AEP) as an example of an international partnership that promotes the transfer and diffusion of ESTs.

25. The presentation on the Montreal Protocol highlighted that the damaging effects of Ozone Depleting Substances (ODS) has become a driving force for the development of technology. Most of the funds provided under the Protocol were spent through investment projects involving the transfer of ESTs. Globally agreed targets to phase out ODS has resulted in technology cooperation partnerships between developed and developing countries based on equality rather than dependence, and that has created a sense of commitment among the partners. It was also noted that the provision of unbiased information through a Clearinghouse has accelerated the changeover process. One issue that still needs to be addressed is the phase-

out of chloroflurocarbon (CFC) production in developing countries. Some of the participants felt that the process established under the Montreal Protocol followed a donor-driven agenda, however, there was general acceptance among the participants that the Montreal Protocol was one of the most successful environmental agreements.

26. In summing up the discussion, the Chairman highlighted the following points:

- There exists no clear and commonly accepted definition for ESTs;
- Nor are there rules or guidelines for the promotion of the transfer and diffusion of the results of publicly sponsored research;
- There are a large number of bilateral and multilateral technology cooperation initiatives for the promotion of ESTs involving partners from developed and developing countries. Some of these are supply-driven; others are more in the form of partnerships;
- There is considerable room for accelerating the transfer and diffusion of publicly sponsored ESTs, through the elimination of all kinds of policy and institutional barriers;
- Special attention must be given to the needs and conditions of SMEs;
- Publicly sponsored ESTs should be included in framework agreements for technical cooperation between developed and developing countries;
- R&D institutions in developing countries need to be supported and partnerships with their counterparts in developed countries needs to be encouraged;
- Measures for the compensation of R&D expenditures should be considered as an incentive for encouraging the commercialization of technology;
- The possibility of establishing revolving funds should be explored;
- Technology demonstrations should be supported as a useful means to promote technology dissemination and proven viability;

-Possible legal impediments for the transfer and diffusion of ESTs in terms of existing laws governing the commercialization of publicly-funded technologies were raised. However, opinions over the validity of such assumptions were divided.

D: SESSION III: POLICIES AND INSTITUTIONAL FRAMEWORK TO FACILITATE THE WIDER DIFFUSION OF PUBLICLY-FUNDED ESTs

27. The following presentations were made under this item: issues related to the role that governments might play in facilitating the transfer and diffusion of publicly funded R&D on ESTs; a summary of the findings of the MERCOSUR case study: and examples of technology cooperation and partnerships: Environment Canada.

28. The first presentation highlighted that inspite of the progress that has been made since Rio to promote the transfer of ESTs to developing countries as contained in para 34.18 of chapter 34 of Agenda 21, little attention has been paid to promote the transfer of ESTs resulting from publicly-funded research. In view of the considerable amount of public R&D spent on the development of ESTs, new avenues have to be explored to accelerate the transfer of publicly funded ESTs to developing countries. This would contribute to the full implementation of chapter 34 of agenda 21. The presentation also pointed out that the question of transferring publicly funded technologies should not only be regarded as a North-South issue, but as an issue relevant to all countries engaging in public R&D support for EST development. The presentation raised the following questions: Have governments introduced any new policy measures to implement the commitment of transferring publicly funded ESTs? Are the policy objectives of public R&D funding, for example, to support domestic industrial competitiveness, compatible with the commitment to transfer publicly-funded ESTs? Are there any legal or institutional restrictions and obstacles to the transfer of publicly-funded ESTs? Are there new kinds of incentives that could be introduced to stimulate governments to transfer publicly funded ESTs (for example, reflecting the R&D costs for publicly funded ESTs that are transferred, in Official Development Assistance (ODA) statistics, or establishing multilateral mechanisms through which governments could pool, exchange and share publicly funded ESTs)?

29. The findings of the MERCOSUR study show that the appropriation of the results of publicly-funded R&D activities is not subject to any specific legal regime. Indeed, since the liberalization reforms in the 1980s, there has been a major shift in the commercialization and transfer of technologies in the MERCOSUR member countries. There are no legal and institutional restrictions on the transfer of technologies resulting from publicly-funded R&D activities. Public sector R&D institutions formulate their own rules and regulations pertaining to research contracts and the commercialization of results. Increasingly, public sector R&D institutions are generating revenues through the commercialization of technologies in collaboration with industry. The present legal and institutional framework, therefore, does not pose difficulties for the transfer of ESTs.

30. The Environment Canada presentation focused on the advancement of ESTs, nationally and internationally. Topics included: overall policy framework, cooperation among federal departments, bridging the gap between knowledge and results, technology partnerships, technology R&D, demonstration and evaluation as well as programmes on outreach, information products and services. Particular attention is paid to technological capacity building. Environment Canada also supports the transfer of technology to developing countries through its contributions to multilateral funds, as well as the International Environmental Management Initiative and bilateral and multilateral memoranda of understanding (MOUs) which strengthen environmental cooperation.

31. The deliberations that followed these presentations highlighted the need for closer examination of the role that technical cooperation and ODA can play in facilitating the transfer of ESTs. Several experts also noted the need to develop the capacity to assess and select appropriate ESTs and maintain developing countries' technological capacity. Thus, it was felt that one way ODA can assist in the effective transfer of ESTs is by enabling countries to develop technology assessment and auditing capability. In some cases, the adjustments required to make enterprises environmentally sound or to enable them to adapt ESTs are minor. Environmental auditing services for companies could help in this respect.

32. It was also stressed that there are many ESTs in the public domain that remain under-utilized or unutilized. To make these technologies easily accessible to developing countries, a number of measures may have to be taken. Two of these may be, first, information on available ESTs could be systematically compiled and made available. This could be done by networking existing databases. Second, incentive measures could be introduced to encourage suppliers to make the technologies available to users, to assess user needs and to stimulate the adaptation of ESTs by users.

III. MAIN FINDINGS AND SUGGESTIONS FOR NEW POLICY INITIATIVES

33. Many governments explicitly refer in their public policy statements to the need to share ESTs with the developing world. It appears, however, the extent and pace at which ESTs are being transferred to developing countries and countries with economies in transition are inadequate. Therefore, new policy initiatives may be required and support structures strengthened in order to accelerate the transfer of publicly-funded ESTs to users in these countries. It is suggested that the CSD include this issue in its future work on technology transfer.

34. There is considerable room for governments to play a role in supporting and promoting new transfer and diffusion mechanisms for ESTs that are the result of publicly-funded R&D. These mechanisms could collectively constitute a framework within which the necessary identification, assessment, adaptation and post-transfer follow-up can take place. This would ensure that transfer of ESTs is effective by building technological capacity in both local firms and research and technology institutions and in promoting the interactivity between these actors that is needed to stimulate and sustain a process of innovation.

35. More specifically, the experts suggested the following for further consideration:

(a) Policies for the generation of publicly funded R&D on ESTs

1. Strengthen linkages between the generators of ESTs, for example the R&D, and downstream players, such as industry and other users (e.g., establish eco-funds as a possible mechanism for joint funding arrangements and ESTs exchanges through conferences and seminars where both generators and users of ESTs can meet and learn).

2. Support the development of a sustainable development business "culture" through, for example, national cleaner production centres and centres for innovation and enterprise development, or their equivalents.

3. Developing national environmental policy frameworks for the stimulation and application of ESTs including the establishment of appropriate legal frameworks, regulatory policies, environmental goals, user needs analyses, focused and targeted R&D activities/priorities, incentives and rewards, government procurement policies.

4. Promote innovations of all types of ESTs, including non-proprietary technologies, and strengthen design capacities in developing countries, through reward systems such as utility models (petit patents).

5. Develop joint R&D activities in order to strengthen capacity-building and training.

6. Encourage the sharing of the results of collaborative R&D activities including joint patenting.

(b) Policies for the diffusion and accelerated transfer of publicly funded ESTs

7. Create incentives for the transfer and diffusion of ESTs to developing countries, including tax incentives, tariff reductions for EST related imports, intellectual property protection in exchange for technology transfer.

8. Provide support to business which would include fund feasibility studies on market opportunities and commercial viability of ESTs; fiscal incentives such as lower taxes or tax holidays; export promotion programs such as trade missions targeted towards ESTs; support in developing business plans.

9. Reduce risks to the environmental industry, through, various types of financing such as grants, venture capital investments underwritten by governments and loan guarantee schemes.

10. Formulate appropriate EST transfer arrangements, including equity and non-equity arrangements. Additional studies are needed.

11. Encourage pilot and demonstration projects in the area of ESTs.

12. Develop innovative mechanisms for the sharing and exchange of ESTs, such as bilateral and multilateral MOUs, EST pooling/banks and other initiatives. These require further study.

13. Promote the transfer of uncommercialized publicly-funded R&D results to enhance capacity-building in developing countries as well as the use of these results.

14. Consider the incorporation of publicly funded ESTs in technology transfer and funding arrangements under multilateral environmental agreements (MEAs).

15. Include in public funding mechanisms for ESTs a financial provision for diffusion activities.

16. Strengthen partnerships between development cooperation agencies and public R&D institutions and technology transfer facilities.

(c) Cross-cutting policies

17. Build and strengthen interfaces between existing information networks to facilitate access to information on ESTs by developing countries.

18. Encourage technology needs assessments to identify demands for ESTs as a market demand search approach.

19. Develop an inventory of best practices in commercializing and diffusing publicly funded ESTs.

20. Governments are encouraged to review their policies, including legal and institutional policies, with a view to eliminating impediments to the transfer of publicly funded ESTs to developing countries and to take appropriate steps in this direction.

IV. ANNEXES

A. LIST OF PARTICIPANTS

B. PROGRAMME OF WORK

INTERNATIONAL EXPERT MEETING ON THE ROLE OF PUBLICLY- FUNDED RESEARCH AND PUBLICLY-OWNED TECHNOLOGIES IN THE TRANSFER AND DIFFUSION OF ENVIRONMENTALLY SOUND TECHNOLOGIES

Kyongju, Republic of Korea
4-6 February 1998

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INTERNATIONAL EXPERT MEETING ON THE ROLE OF PUBLICLY- FUNDED RESEARCH AND PUBLICLY-OWNED TECHNOLOGIES IN THE TRANSFER AND DIFFUSION OF ENVIRONMENTALLY SOUND TECHNOLOGIES (ESTs)

Kyongju, Republic of Korea
4-6 February 1998

PROGRAMME OF WORK

Wednesday, 4 February

09:00 - 10:00 Registration of Participants

10:00 - 10:45 Opening Ceremony
- Welcome address given by the Republic of Korea
- Adoption of the programme of work
- Introductory statement by Ms. Lynn Mytelka, Director, Division on Investment, Technology and Enterprise Development, UNCTAD : presentation of background report

10:45 - 11:00 Refreshments

11:00 - 13:00 SESSION I : *The Relevance of Publicly-Funded R&D in the Generation and Diffusion of ESTs - Panel discussion based on country case study*
- *presentations*

Presenters:
- Dr. Il Chun Kwak, Kyungwon University (case study Korea)
- Mr. Jaroslav Benes, Ministry of Environment, Czech Republic(case study Czech Republic)
- Mr. Kun Soo Kim, Columbia University
- Mr. Dirk Pilari, UN DESA (case study Germany)
- Mr. Taffere Tesfachew, UNCTAD(case study India)

13:00- 14:30 Reception hosted by H.E. Mr. Jung-Pyo Hong, Deputy Minister for Economic Affairs, MOFA, R.O.K.

14:30 - 17:00 SESSION II : *Examples of Technology Cooperation to Promote the Commercialization and Diffusion of ESTs in Developing Countries*

- *Panel discussion based on presentations of participants*

Presenters:

- Mr. Yusaf Samuillah, Department for International Development, United Kingdom: Technology Partnership Initiative
- Mr. Steve Gorman, UNEP: Lessons in Technology Transfer under the Montreal Protocol
- Dr. Woody Clark, University of California (case study United States of America)

17:00 - 17:15 Refreshments

17:15 - 18:00 Summing up of sessions I and II

Thursday, 5 February

09:30 - 13:00 SESSION III : *Discussion on Policies and Institutional Frameworks to Facilitate the Wider Diffusion of Publicly-Funded ESTs*

- Integrating environmental imperatives into public policies
- Options of diffusing publicly funded ESTs through existing technology cooperation initiatives
- Providing incentives to publicly funded R&D institutions and companies

Presenter:

- Mr. Raekwon Chung, Korean Mission to UN

(Unexplored potential of the publicly-owned technology for promoting transfer of ESTs)

- Mr. Pedro Roffe, UNCTAD (case study MERCOSUR countries)
- Mr. P. K. Leung, Environment and Technology Div., Environment Canada : The Canadian experience

11:00 - 11:15 **Refreshments**

13:00 - 14:30 **Reception hosted by** H.E. Mr. Jin-Sung Jung, Director General for International Cooperation, Ministry of Environment

14:30 - 16:30 SESSION IV : *New Policy Initiatives to Promote the Generation and Commercialization of Publicly Funded ESTs and to Accelerate Their Transfer to Developing Countries - Working group discussion*

- New policy initiatives to promote the generation and commercialization of publicly funded ESTs
- New Policy Initiatives to accelerate the transfer of publicly- funded ESTs to developing countries

* Establishment of either one or two working groups

16:30 - 17:00 **Refreshments**

17:00 - 18:00 **Reports by the Working Groups**
* **Evening session, if necessary**

Friday, 6 February

09:30 - 12:00 **Drafting group**

12:00 - 14:00 **Lunch**

14:00 - 16:00 SESSION V : *Summary and Conclusions*

14:00 - 14:30 Chairperson's summary

14:30 - 16:00 Conclusions and recommendations: report to the CSD

Opening Remarks by H.E. Mr. Jung-Pyo Hong
Deputy Minister for Economic Affairs
Ministry of Foreign Affairs, Republic of Korea

At the
International Expert Meeting on The Role of
Publicly-funded Research and Publicly-owned Technologies
in the Transfer and Diffusion of Environmentally Sound Technologies

Kyongju, Republic of Korea
4-6 February 1998

Distinguished delegates, ladies and gentlemen,

At the outset, I would like to extend my heartfelt welcome to those participants who have come a long way to Kyungju from various part of the world.

Korea is honored to host the International Expert Meeting on the Role of Publicly-funded Research and Publicly-owned Technologies in the Transfer and Diffusion of Environmentally Sound Technologies(ESTs). I am confident that your active participation in the Meeting will result in constructive outcome.

My appreciation should also go to Madam Mitelka of UNCTAD and Mr. Pilari of UN DESA for their contribution to the preparation of the this important Meeting.

As you are well aware, the issues relating to the technology transfer has long been one of the most controversial agenda items in the field of environment and development. Since the role of the environmentally sound technologies is vital for countries to realize sustainable development, developing modalities for generation and transfer of ESTs has been recognised as important tasks in the international environmental fora.

Six years ago in Rio de Janeiro, a comprehensive chapter concerning technology transfer was adopted as an integral part of Agenda 21. Having confronted with fundamental differences of positions between developed and developing countries on core issues, the chapter was negotiated and agreed upon to the last comma and dot.

The persistent gap between the two groups of countries has prevented from further elaboration of the very issues relating to technology transfer. Developed countries have held that technologies could be more efficiently transferred through business transactions since most of technologies are

owned by the private sectors. Developing countries, on the other hand, have insisted that there is distinctive role of Governments, in particular developed countries, in the generation of ESTs and their transfer.

It is therefore an important step forward that the UNGASS held in June last year recognized a need to further study on the role of publicly-owned technology and publicly-funded research in the transfer of ESTs.

Considering that such study will serve as a solid basis for the promotion of transfer of ESTs, the Korean Government decided to finance the feasibility study and to hold an expert meeting for its analysis.

There have been a number of questions to be resolved in carrying out the feasibility study and its assessment. However, every beginning is difficult.

I hope that this meeting will be devoted to review the feasibility study and to draft a viable recommendation on the promotion of the transfer of ESTs, in particular those held in public sectors. The discussion should be focused upon identifying and further promoting the role of government in generation, diffusion and commercialization of ESTs. It is also presumed that next round of study and consultations needs to followed for more in-depth analysis, once the result of this meeting have been reported to the forthcoming CSD.

Finally, I sincerely hope that the three-day meeting will produce a fruitful result in the elaboration of comprehensive mechanism for the efficient transfer of ESTs to developing countries. I commend all of you who braved the cold weather here in Korea and wish your continued good health.

Thank you.
