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IMPLEMENTATION OF THE INTERNATIONAL COVENANT ON  
ECONOMIC, SOCIAL AND CULTURAL RIGHTS

Initial reports submitted by States Parties  
under articles 16 and 17 of the Covenant

Addendum

REPUBLIC OF KOREA

[21 October 1993]

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E. Application, preservation and development of science and its diffusion

589. Korea has developed science and technology throughout its 5,000 years of history. Korea boasts of a long-standing science and technology heritage, including the astronomical observatory in Gyoungju which was the bastion of science and technology development in ancient times. Also included is the bell of Bong-duk temple whose creation was based on highly renowned moulding technology. In particular, Koreans are proud of the fact that metallic typography was invented in Korea.

590. Article 127 of the Constitution of Korea clearly states that it is the State's duty to develop science and technology, information and human resources to encourage innovation and to establish a system of national standards. The Korean Government established the Ministry of Science and Technology in April of 1967 to better serve the increasing need for advanced science and technology, the basis of Korea's economic development. The Korean Government takes full responsibility for science and technology planning, management, promotion, and international cooperation.

591. Korea celebrates 21 April as Science Day, thus consolidating the will to further develop science and technology and deepen awareness among people from various walks of life. The Korean Government confers medals of merits on those who have contributed to the development, promotion and diffusion of science and technology.

592. In order to promote research and development, the Korean Government established the Korea Institute of Science and Technology in 1966, and the Korea Advanced Institute of Science and Technology in 1970, along with other government funded institutes specializing in shipping, electronics, energy, standards, mechanical engineering, metallurgy, and electrical engineering. The Government has moved to secure a space for science and technology research and has started the construction of the Daeduck Research Science Town in 1974, which will be completed in 1993.

593. This research complex currently accommodates 3 government institutes, 13 government funded institutes, 2 government subsidized

institutes, 6 private research institutes and 3 higher educational institutes. In this complex reside 11,000 people who are engaged in research activities. A total of 36 more institutes, 2 government funded institutes, 25 private research institutes, 7 government subsidized institutes and 2 government institutes are due to take up residence there in the near future.

594. One of the most important factors in science and technology development is research and development investment. In 1963 per capita GNP was 87 dollars, the annual economic growth rate 2.2 per cent, and the ratio of research and development investment to GNP 0.24 per cent. These figures increased to 6,265 dollars, 8.6 per cent, 2.24 per cent respectively in 1991. The Korean Government is committed to raising research and development investment to 5 per cent of GNP by the year 2000.

#### 1. Preserving the environment

595. The Korean Government is aware of the fact that preserving the environment is essential to the very survival of human beings. This is the main reason for the Government to strive to maintain environmental order and balance.

596. The Korean Government launched the first four-year project in 1986 in which it conducted investigations on the national eco-system. For the preservation of eco-systems, water resources, and cultural properties, it designated 6,332 km<sup>2</sup> of its territory as an environmental preservation region. Three different areas (55.5 km<sup>2</sup>) which are worth preserving are also designated as ecological system preservation regions.

597. The Government enacted the Act on Environmental Preservation on 31 December 1991 to protect the environment from destruction by human beings and to prevent species from being extinguished. This provides a basis for comprehensive measures for environmental preservation.

598. The National Environment Institute, which was established in August 1978, is in charge of scientific research on the environment. Its major functions include providing information needed for setting national environmental policy, research, investigations on the national environment, and training of technical personnel.

#### 2. Diffusion and promotion of science and technology

##### (a) Information organizations

599. In accordance with article 10 of the Act on Science and Technology Promotion, the Korean Government supports information organizations and is committed to building up its information distribution system in an effort to support and develop its information industry. Government funded institutes serve as information centres, for instance, the Electronics and Telecommunications Research Institute is in charge of electronics and communications, the Korea Institute of Machinery and Metals is responsible for mechanical technology, and so on. The Systems Engineering Research Institute encompasses functions carried out by individual institutes and is also taking charge of the standardization of related technology.

600. The Korea Institute of Industry and Technology Information (KINITI) was established in 1991. Its mandate is to promote the diffusion of industrial technology. The major function of the Institute is to collect and process industrial technology information. Based on its own data base, it has built an information network for industrial technology and information distribution systems.

(b) Promoting the spread of information

601. The Korea Science and Technology Promotion Foundation was established in 1967 to promote the diffusion of information. The Science and Culture Library of the Science and Technology Foundation functions as an information centre which provides varied information on science and technology. It also focuses on fostering an atmosphere for academic research into science and technology, as well as the introduction and exchange of international information.

602. By inviting scientists from other countries and holding seminars, it offers local scientists an opportunity to adjust efficiently to changing information. Reports on the outcome of seminars are published to provide people with easier access to newly acquired information.

(c) Briefings on technology policy trends

603. Government funded institutes hold meetings to exchange views on collecting, processing and analysing information on technological development trends abroad. This is important to establish innovative science and technology policies. In 1991, three institutes, including the Korea Science Foundation, report on technology development policy trends abroad.

3. Prevention of the use of technical achievements to infringe rights

604. Article 16 of the Science and Technology Promotion Act is designed to assess the positive and negative effects generated from the introduction of new technology in terms of economy and culture, and to prevent negative side effects.

605. Article 32 of the Patent Act states that inventions which can damage social order or public health are not subject to patent protection. Objects produced from nuclear weapons manufacturing processes are also banned from patent protection.

606. The Korea Science and Technology Promotion Foundation (KSTPF), founded in 1967, carries out diverse projects aimed at fostering a favourable atmosphere for science and technology development and broadening understanding among people of such development and its side effects.

KSTPF projects  
(in million won)

	1991	1992
Science education for youths	325	337
Subscription to science magazines	150	154
Production of science pictures	26	27
Support for seminar on science	800	600
Miscellaneous	350	250

F. Science education and technology development promotion

607. In order to protect the rights guaranteed in the Constitution, article 2, paragraph 4 of the Education Act states that science education should enable students to have science-oriented minds and provide opportunities for creative activity. Article 3 also emphasizes the importance of science education.

608. The Bureau of Science Education, established under the Ministry of Education, formulates policies concerning the promotion of science and technology education and the training of necessary manpower. It is also in charge of projects for high-tech education and the supervision of related research groups.

#### 1. Measures for education and training of manpower

609. In an effort to provide pragmatic measures for science education, the Government founded nine science high schools. Middle school students who rank in the top 3 per cent in school are given the opportunity to apply for the schools. Science high schools admit students who have a special aptitude for science.

610. In these schools, science history and computer science are added to the general curricula. There are fewer students per class so laboratory work can be emphasized. The nine science high schools have 1,416 students as of December 1991. Most of the graduates of these high schools continue their studies at the Korea Advanced Institute of Science and Technology.

611. The Korea Advanced Institute of Science and Technology (KAIST) was founded pursuant to the KAIST Act. It aims to produce quality scientists who are capable of applying theory to practical use. It also focuses on providing science and technology expertise for mid- and long-term research and development programmes. The resulting academic achievements from KAIST are as follows:

#### KAIST academic achievements

(Number of persons)

	1986	1987	1988	1989	1990	1991
Master's degree	548	533	512	527	532	530
Ph.D.	72	121	133	165	186	247

#### 2. Cultivating science-oriented minds

612. The Korean Government established the National Science Museum, whose mission is to collect and display science and technology materials. The Science Museum has standing exhibition rooms, special exhibition rooms, an astronomical observatory, a theatre, and an open science class.

613. Scientists who are active in their field visit their alma mater and give lectures on science and technology. This is part of the Government's effort to cultivate science-oriented minds in youngsters and to give them a sense of pride and hope for the future. Thirty scientists and 13,300 students participated in this project in 1991.

#### 3. Supporting private firms

614. To foster a favourable atmosphere for technological development by private firms and to strengthen the competitiveness of firms, the Government is implementing the following policies:



Number of persons	58	75	83	188	151	200	207	178
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619. As an incentive, scientists who have contributed to finding new theories and to developing new technologies are granted a pension by the Government. Each year the Government selects beneficiaries in specific science and technology fields.

### 3. Right to information

620. Article 21 of the Constitution guarantees the freedom of speech and the press. No censorship of speech and the press is conducted. Freedom of the press is a fundamental right and it includes the right to information.

621. Korean scientists have easy access to any information needed for their research and development programmes through various meetings or academic gatherings.

### 4. Supporting scientific societies

622. There are about 200 academic societies formed to exchange academic achievements among scientists. In 1991, 519 academic journals were published. In 1991, the Government offered 890 million won to support the publication of journals and 210 million won for 229 scientific meetings.

623. Korean academic groups are active in international scientific exchanges. They have published 28 journals in English. The Government has provided 71 million won to 30 academic societies which participate in international activities.

## H. Future domestic policy

624. The Korean Government has established a comprehensive policy for science and technology innovation in order to advance into the ranks of the industrialized nations. The policy is composed of three major parts. First, 14 core technologies are to be upgraded to the level of the advanced nations by the year 2000. Technologies related to agriculture, the construction environment, health, and energy will also be subject to constant development. Second, investment in science and technology will be increased to 5 per cent of GNP by the year 2000 from 2.2 per cent in 1990. By 1996, the Government will secure one trillion won in science and technology funds. Government funded institutes have to invest a certain proportion of their revenue in science and technology development. The Government will expand financial support for science and technology development. Third, the Government will increase science and technology manpower to 160,000 by 2001 from 71,000 in 1990, and enrolment in the Korea Advanced Institute of Science and Technology will be increased from 540 in 1991 to 1,000 by 1996.

## I. International science and technology exchanges

### 1. Joining international bodies

625. Korea has benefited from science and technology exchanges with advanced nations. With its enormous growth and the resulting science and technology development, the pattern of exchange has become more reciprocal. Since 1980, Korea has signed 22 reciprocal science and technology related agreements with industrialized countries. Based upon these agreements, Korea holds regular ministerial meetings and joint committee meetings with its counterparts. Through these meetings, participating parties further science and technology cooperation and discuss measures needed to respond to the globalization of science and technology.

## 2. Cooperation with the United Nations

626. Since the 1950s, the United Nations has played a major role in providing aid to Korea. The United Nations Development Programme (UNDP), through its country programme, supported the long- and short-term development plans of Korea in many ways, including training of personnel, provision of experts and aid for equipment. In the fourth cycle of UNDP projects (1987-1991), 30 projects were completed with 10.45 million dollars.

## 3. Cooperation with developing countries

627. The Korean Government has been active in science and technology cooperation with other developing countries. It has offered training programmes for personnel from developing countries and sent experts to these countries. Korea finds it important to promote cooperation with developing countries hoping to share its experience acquired in the process of economic and social development.

628. From 1963 to 1990 Korea invited 3,809 trainees from abroad and sent 436 experts to developing countries at a cost of 14.113 billion won.

### Exchanges of technological personnel

(Number of persons; millions of won)

		1963-1971	1972-1981	1982-1986	1987	1988	1989	1990	Total
Invited trainees	Person	68	654	1 468	335	405	432	444	3 809
	Budget	76	1 599	4 747	1 289	1 485	1 664	1 292	12 152
Dispatched experts	Persons	18	80	153	35	45	60	45	436
	Budget	13	167	858	205	250	243	225	1 961

## 4. International joint research

629. Korea is interested in international joint research conducted to strengthen research capabilities. However, owing to its lack of full capability to participate in joint research with other countries, international joint research is not yet being briskly carried out.

630. In 1991, a total of 58 projects were conducted with the United States, Japan, France, Britain, the former Soviet Union, Sweden and the International Atomic Energy Agency in such fields as information technology, biotechnology, precision chemistry, nuclear power, solar energy, mechanics, aerospace, and oceanography.

## 5. Participation in international seminars and symposiums

631. Various forms of cooperation are being carried out through seminars, workshops and symposiums held by international bodies like the Colombo Plan, the United Nations Educational Scientific and Cultural Organization, the Economic and Social Commission for Asia and the Pacific, the Food and Agriculture Organization of the United Nations, the World Health Organization, the United Nations Industrial Development Organization, the Investment Promotion Service, the International Monetary Fund and the International Labour Organisation.