E/1990/6/Add.23
12 October 1999

Original: ENGLISH

ECONOMIC AND SOCIAL COUNCIL
Substantive session of 1999

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

Second periodic reports submitted by States parties under articles 16 and 17 of the Covenant

Addendum

REPUBLIC OF KOREA */

[1 July 1999]

*/ The initial report concerning rights covered by articles 1 to 15 (E/1990/5/Add.19) submitted by the Government of the Republic of Korea was considered by the Committee on Economic, Social and Cultural Rights in 1995 (see E/C.12/1995/SR.3, 4, 6).

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5. Application, preservation and development of science and its popularization

450. As mentioned in paragraph 589 of the initial report, Korea has a longstanding history in science and technology.

451. Article 127 of the Constitution of Korea clearly states that it is the State's duty to develop science, technology, information and human resources, encourage innovation and establish a system of national standards. The Korean Government established the Ministry of Science and Technology in April 1967 to better serve the increasing need for advanced science and technology. The Ministry's status was further strengthened in February 1998. The Ministry of Science and Technology now takes full responsibility for science and technology planning, management, promotion and international cooperation.

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

453. In order to promote research and development, the Korean Government established the Korea Institute of Science and Technology in 1996, 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-magnetic engineering.

454. In 1973, to secure a space for science and technology research, the Government constructed the Daeduck Research Science Town on 27.6 square kilometers adjacent to Yousung-ku, Taejon. This research complex

currently accommodates 7 Government institutes, 16 Government-funded institutes, 8 Government-subsidized institutes, 25 private research institutes and 3 higher educational institutes. Furthermore, 17,063 people reside in this complex and are engaged in research activities. A total of 16 more institutes (3 Government-funded institutes, 8 private research institutes, 1 Government-subsidized institute, 2 Government institutes and 2 training institutes) are due to take up residence there in the near future.

455. One of the most important factors in science and technology development is the investment in research and development. In 1963, GNP was 87 dollars per capita. The annual economic growth rate was 2.2 per cent and the ratio of research and development investment to GNP was 0.24 per cent. In 1995, these figures increased to 10,037 dollars per capita, 8.7 per cent and 2.71 per cent respectively.

456. In order to achieve important developments in science and technology, the Korean Government is planning to raise the percentage of research and development investment to 5 per cent of GNP by the year 2002 according to the express provision for reform in science and technology, which was issued in July 1997, and the five-year plan for reform in science and technology.

(a) Measures for preserving the natural heritage

457. As mentioned in paragraph 595 of the initial report, the Korean Government strives to preserve the natural heritage, promote a clean environment, and maintain environmental order and balance.

458. The Korean Government's effort to conduct investigations on the national ecosystem and designate an environmental preservation region is mentioned in paragraphs 596-597 of the initial report.

(b) Spread of science and technology information

459. The basic policies for building up an information distribution system is mentioned in paragraphs 599-600 of the initial report.
460. The Korea Institute of Industry and Technology Information (KINITI) was established in 1991. Its mandate is to promote the spread of industrial technology. The major functions of the Institute are to collect, analyse and process industrial technology information. Based on its own database, it has built an information network for scientific technology (KREONET) to operate the service.

461. Efforts to promote the diffusion of information is mentioned in paragraphs 601-602 of the initial report. As mentioned in paragraph 603 of the initial report, the Government conducts various measures, such as briefings on technology policy trends, to promote science and technology.

(c) Prevention of the use of technical achievements to infringe rights

462. Efforts to prevent the negative side effects generated from the introduction of new technology is mentioned in paragraphs 604-606 of the initial report.

6. Science education and technology development promotion

463. Science education and technology development promotion, guaranteed in the Constitution and the law, is mentioned in paragraphs 607-608 of the initial report.

(a) Measures for education and training of manpower

464. Science high schools were established by the Government to provide pragmatic science education. The 15 science high schools had 3,845 students as at December 1997. Most of the graduates of these high schools continue their studies at the Korea Advanced Institute of Science and Technology (KAIST). Founded pursuant to the KAIST Act (31 December 1980), the Institute aims to produce quality scientists who are capable of applying theory to practical use. It also focuses on providing science and technology experts for mid- and long-term research and development programmes. The resulting academic degrees from KAIST are as follows:

Table 78: KAIST academic degrees

(number of persons)

Degree	*Up to 1993*	*1994*	*1995*	*1996*	*1997*	*Total*
Master's	7577	623	658	658	708	10369
Ph.D	1693	318	308	329	354	3001

Source: Technology Promotion Division, Ministry of Science and Technology.

(b) Cultivating science-oriented minds in youth

465. The Government's efforts to run the National Science Museum for educating and spreading knowledge about science and technology is mentioned in paragraph 675 of the initial report. 175 scientists and 78,000 students participated in this project in 1997.

(c) Supporting private firms for their technological development

466. 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:

(a) Preferential taxation. The Government grants a 5 per cent tax deduction (15 per cent for small firm owners; 10 per cent for investors who invest in small firms) on the amount of money invested annually in technology and manpower development by private firms. Goods imported by R & D labs or the association of technological research for research and development are exempted from tariffs;

(b) Financial support. In accordance with article 8, clause 3, of the Technology Development Promotion Act, the Government supports the development of core industrial technologies by private firms which have difficulties in developing technology alone.

Table 79: Government support for R & D projects in individual fields

	Up to 1990	*1991*	*1992*	*1993*	*1994*	*1995*	*Total*
Amount of research funding*	7 740	1 703	2 098	2 467	2 893	3 354	20 255
Government	4 463	1 070	1 300	1 002	1 461	2 000	11 496
Private firms	3 097	633	798	1 445	1 432	1 354	8 759
Number of projects	4 873	671	892	1 375	1 160	1 264	10 235
Number of participating firms	1 713	269	457	519	784	815	4 557

* in hundred million won.

Note: Statistical figures up to 1995 include investment in basic science.

Source: The Yearbook of Science and Technology, Ministry of Science and Technology, 1996

467. With shared research and development support from the Government, a total of 10,235 projects were completed as of 1995. Of the 3,162 projects intended for commercialization, 30 per cent (947 projects) were successfully completed. The representative projects intended for commercialization are polyester film, lead frame 4M/16M DRAM and intelligent robots. As a result of these successful projects, 226 billion won in technical royalties were collected and reinvested in R & D projects.

7. Scientific research and creative activity

468. As mentioned in paragraph 616 of the initial report, the Korean Constitution states that the freedom of scientific research and creative activity shall be protected by law.

469. Measures for the support of research institutes are the same as the ones mentioned in paragraph 681 of the initial report. The Government provides financial support to research institutes which employ 8,141 people. The Government provided these institutes with 757.8 billion won in 1996 and 923.7 billion won in 1997.

470. To elevate the research capability of researchers, and to gain research experience from advanced countries, the Government is sending researchers who hold Ph.D. degrees to research labs or universities in advanced countries for study tours.

Table 80: Study tours

(number of persons)

Year	*Universities*	*Research labs*	*Industries*	*Total*
1982-1995	1662	429	24	2115
1996	201	57	8	266

Source: Overseas Study Tour for Post-Doctoral Courses, Korea Science Foundation.

471. The guarantee of the right to information exchange provided in the Constitution is mentioned in paragraphs 620-621 of the initial report.

472. There are about 250 academic societies formed to exchange academic achievements among scientists. In 1996, 777 academic journals were

published. The Government offered 1.3 billion won to support the publication of journals and 5 hundred million won for 328 scientific meetings.

473. Korean academic groups are active in international scientific exchanges. They have published 99 journals in English. The Government has provided 180 million won to those societies which participate in international activities.

474. Most institutes which are engaged in scientific research and creative activity have their own unions. The institutes support the unions by providing office rooms, manpower and vehicles in order to enhance their working conditions.

8. Future domestic policy

475. On 1 July 1997 the Government established the Special Law for Science and Technology Innovation in order to advance Korea in the ranks of industrialized nations. This law consists of 19 articles and 6 articles of the additional statement, including an article about the increase in the Government's investment in research and development, and will remain in force for five years as a temporary law. It focuses on the construction of a scientific technology innovation system, the increase in investment in research and development, the escalation of efficiency of investment in research and development, the enforcement of support to basic research, the globalization and localization of science and technology, the promotion of communal research and development between industries and universities, the support for the technological development of small and medium-sized industries, the favorable treatment given to scientific technologists and the promotion of science and technology in general.

476. The Republic of Korea will fulfil its responsibility to promote internationalization of its activities in science and technology and enhance its role to develop international science and technology by way of international cooperation with international organizations such as EU, UNDP and OECD.

9. International science and technology exchanges

477. Science and technology exchanges with advanced nations is mentioned in paragraph 625 of the initial report. Since 1980, Korea has signed 45 science and technology related agreements with industrialized countries.

478. Since the 1950s, the United Nations has played a major role in providing aid to Korea. In the fourth cycle of the UNDP projects (1987-1991), 30 projects, including technological development, training of manpower and social welfare, were completed with 12.85 million dollars provided by the UNDP and 540,000 dollars by Korea. In the fifth cycle (1992-1996), the projects centred on the fields of environment, manpower development and women's participation in society. In carrying out these projects, UNDP's financial support was decreased to 4.92 million dollars, while Korea's share was, remarkably, raised to 9 million dollars, in accordance with its outstanding economic and social development. Also, Korea has participated in the various specialist groups such as the OECD Committee for Scientific and Technical Policy

meetings, since it became its member in September 1994. Also since becoming a regular member nation of the OECD in December 1996, Korea has actively cooperated with other nations by hosting the OECD Seoul Conference on International Technology Cooperation in October 1997 and by leading an OECD task (research on the national innovation system in developing countries). Korea will take part in the internationalization of industrial research, intellectual copyright and technological programmes.

479. Korea will actively participate in regional cooperation projects, taking into account that many developing countries may want to learn from Korea's experiences in the process of economic and social development. Korea will also promote cooperation in science and technology with developing countries by dispatching specialists to international organizations under the auspices of United Nations bodies such as ESCAP.

480. Korea is now contributing to the achievement of prosperity in the Asian- Pacific region by designating and promoting joint projects to increase information and human resource exchanges at the APEC Working Group Conference of Industrial Science and Technology. Korea hosted the second APEC Science and Technology Conference of Ministers in November 1996 in Seoul to discuss the development and exchange of creative researchers in science and technology and proposed to host the APEC Youth Science Festival in order to nourish the creativity of our youth. APEC supported Korea's proposal.

481. Since the early 1960s, the Korean Government has cooperated with other developing countries in the fields of science and technology by offering training programmes for personnel from developing countries and subsequently sending experts to those countries. Korea believes it is useful to promote cooperation with developing countries because there are many skills and experiences that Korea can share.

482. From 1963 to 1990, Korea invited 3,809 trainees from other developing countries and sent 436 experts to those countries at a cost of 14.1 billion won. In 1991 the Korean Government established KOICA (Korea International Cooperation Agency) as an affiliate of the Ministry of Foreign Affairs and Trade, which is in charge of the Government's overseas technology aids projects. Every year, Korea invites 1,000 trainees from other developing countries and dispatches 80 specialists to those countries.

483. Also, since 1994, the Korean Government has operated the Post-Doctoral Aid Project for scientists from developing countries. Scientists from developing countries who have doctorates are provided with the opportunity to gain experience in high technology at universities and research institutes.

Table 81: Post-Doctoral Aid Project

	1994	1995	1996	1997	Total
Number of countries	8	8	8	15	39
Number of participants	12	24	25	33	94

484. Korea is interested in international joint research to strengthen its research capabilities. From 1985 through 1997, a total of 906 projects at a cost of 53.7 billion won were conducted with advanced nations like Japan, the Russian Federation, the United States and Germany. Since the early 1990s, Korea has established 9 research institutes in the United Kingdom, Germany, the Russian Federation and China to carry out efficient joint research and runs 19 institutes including contact offices and cooperation centres.

485. In 1997, a total of 149 projects were conducted at a cost of 8.3 billion won, including 27 projects were conducted with the United States in such fields as information technology, precision chemistry and nuclear power; 31 projects with Japan in such fields as information technology, machine materials and precision chemistry; 9 projects with Germany in such fields as lasers, precision engineering and new materials; 3 projects with France in such fields as new materials, aerospace and genetic engineering; 11 projects with the Russian Federation in such fields as new materials, precision chemistry and mechanics; 16 projects with China in such fields as environment, information and electronics; and 2 projects with APEC in such fields as oceanography.

486. Various forms of cooperation are being carried out through seminars, workshops and symposia 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 Industrial Development Organization, the United Nations International Monetary Fund and the International Labour Organization. In order to strengthen cooperation with international organizations, the Korean Government donates 3.5 million dollars a year to UNDP and 700,000 dollars a year to ESCAP through the Ministry of Foreign Affairs and Trade.