NOTES & COMMENTS

Disaster Management and the Tampere Convention

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1. Introduction

Since November 2000 we have witnessed a series of devastating natural disasters all over the world, killing thousands of people and destroying billions of dollars of habitat and property each year. The notorious Indian Ocean Tsunami on December 26, 2004 killed nearly 240,000 people and displaced more than 1 million people; it further devastated the infrastructure of 12 countries in South Asia and East Africa.[1] The rapid growth of world population and over-exploitation of natural resources, to a certain extent, is accountable for the escalation of the frequency and severity of natural disasters in recent years.

For a long time, people have been thinking of establishing a sustainable disaster management framework to fight against and assist in relief work after natural disasters. In this respect, space-based technologies, such as meteorological and Earth observation satellites, communication satellites, and satellite-based positioning technologies, can take a vital role, as evidenced in past relief practice.[2] The transnational natural disaster devastated developing and vulnerable countries and demonstrated the need for humanitarian assistance from non-affected countries. International cooperation is urgently needed for disaster management.

As early as of 1990, an international conference on Disaster Communications was held in Geneva, addressing the power of telecommunication systems in disaster

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1 *See* Coordination and the Indian Ocean Tsunami, *available at* http://ochaonline.un.org/ocha2006/chap6_1.htm (last visited Jan. 10, 2008).

2 *See* Kathrin Stolzenburg, *Regional Perspectives on Digital Disaster Management in Latin America and the Caribbean*, the United Nations, LC/W.128, at 11, *available at* http://www.eclac.org/publicaciones/xml/9/28529/W128.pdf (last visited Feb. 29, 2008).

recovery and response. The World Conference on Natural Disaster Reduction was held in Yokohama in 1994, sending out the Yokohama Message and Yokohama Strategy and Plan of Action. The Yokohama Message affirms the following points, "a. the impact of natural disaster in terms of human and economic losses has risen in recent years, and society in general has become more vulnerable to natural disaster; b. disaster prevention, mitigation, preparedness and relief are four elements which contribute to and gain from the implementation of sustainable development policies; c. disaster prevention, mitigation and preparedness are better than disaster response in achieving the goals and objectives of the decade; d. the world is increasingly interdependent. All countries shall act in a new spirit of partnership to build a safer world based on common interests and shared responsibility to save human lives, since natural disaster do not respect borders; e. the information, knowledge and some of the technology necessary to reduce the effect of natural disasters can be available in many cases at low cost and should be applied; f. community involvement and their active participation should be encouraged in order to gain greater insight into the individual and collective perception of development and risk, and to have a clear understanding of the cultural and organizational characteristic of each society as well as of its behaviors and interactions."[3]

Several conferences and workshops sponsored by the United Nations (UN) or more specifically, the United Nations Office for Outer Space Affairs (OOSA) were organized afterwards to discuss disaster reduction and management. Telecommunications infrastructures are assigned a special position in policy partly because of their important roles in the everyday functioning of the society.[4] In this aspect, the International Telecommunications Union (ITU) has taken initiatives in providing an appropriate forum for the discussions on how to improve the situation by deploying telecommunications facilities and services. The Tampere Declaration on Disaster Communications was released in 1991 under the auspices of the ITU, calling for reliable telecommunication systems for disaster mitigation and disaster relief operations, and for an international convention on Disaster Communications to facilitate such system. This is the prelude before the adoption of the current Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations (the Tampere Convention). The suggestions made in Tampere Declaration are integrated in the Tampere Convention.

3 *See* OOSA Doc, *Space Technology and Disaster Management, 5-6* (2005).

4 *See* Rohan, *Samarajiva, Disaster Preparedness and Recovery: A Priority for Telecom Regulatory Agencies in Liberalized Environments*, Policy & Development Summit Workshop, *available at* http://www.itu.int/TELECOM/aft2001/cfp/auth/4858/pap_4858.pdf (last visited Feb. 29, 2008).

The efforts to establish a legal framework for deploying telecommunications facilities and services in disaster management continued after 1991. The World Telecommunications Development Conference held in 1994 and 1998 endorsed the removal of regulatory barriers and strengthening cooperation among States. With all those efforts and preparatory work, and under the auspices of the Government of Finland, the ITU and the UN Office for the Coordination of Humanitarian Affairs (OCHA), the Convention was successfully adopted on June 18, 1998 by 75 countries.

This is so far the first multilateral treaty with legally binding effect dealing with disaster mitigation and relief operation.[5] The successful adoption of the convention marked a milestone for the matter of disaster management. The international society attached great importance to the Convention; however, it took seven years for this important Convention to come into force. What's the problem? So far no paper has deeply discussed the Tampere Convention. The present paper looks into the Convention and examines relevant issues entailed in the implementation of the Convention. Part 2 offers an overview of the Convention, followed in Part 3 by a discussion of several important matters before becoming a member of the Convention. The paper concludes that it is vital to increase public awareness of the importance of the Convention in disaster management and that the Convention provides a pragmatic way to setting up an international legal framework for international cooperation in disaster management.

2. An Overview of the Tampere Convention

The Tampere Convention was negotiated in Finland and unanimously adopted in the 1998 Intergovernmental Conference on Emergency Telecommunications (ICET-98), and entered into force on January 8, 2005 with ratification of 30 countries. Unlike other documents on disaster management, the Convention has international legal underpinnings and is enforceable. It effectively explores the overall concepts of the provision of additional telecommunications infrastructure to a disaster area and suggests ways and means by which the provision of additional equipments might be facilitated.

The Convention, consisting of 17 articles, starts with a preamble, sets out the essential role of telecommunications and the need for its facilitation. The Preamble also recalls the major legal instruments, such as relevant UN resolutions and the ITU, which

5 *See* I.B.R. Supancana, *Space Contribution for Disaster Management: Legal Framework*, Proceedings of the Space Law Conference 2006: Asian Cooperation in Space Activities, A Common Approach to Legal Matters, August 2-3 2006, Bangkok, Thailand.

paved the way for the Tampere Convention.

Administrative Parties

Several bodies are involved in the administration of the Convention. As normal international practice, the UN Secretary-General shall be the depositary of the Convention.[6] The Office of the Legal Affairs, Treaty Section of the UN Headquarter shall be in charge of relevant procedures and information on depository matters.[7] The UN Emergency Relief Coordinator shall be the operational coordinator, but such coordination shall be limited to activities of an international nature.[8] The UN Office for the Coordination of Humanitarian Affairs (OCHA) shall be in charge of implementation and execution of the respective functions and works closely with the ITU.[9] Finally, the Working Group on Emergency Telecommunications shall be the advisory board. This working group is an open forum convened by the OCHA to facilitate the use of telecommunications in the service of humanitarian assistance.[10]

The Overall Framework and Measures for Cooperation

The Tampere Convention covers extensively the cooperation among States and with non-State entities to facilitate deployment and use of telecommunication equipment to predict, monitor, and provide information concerning natural hazards, health hazards, and disasters.[11] Article 3 of the Convention defines the overall framework for the cooperation among State Parties and all other partners (including non-State entities) in international humanitarian assistance. States and non-State entities are urged to cooperate in deploying terrestrial and satellite equipments to predict and monitor hazards and disasters, share information about hazards and disasters, and to install and operate reliable and flexible telecommunications resources for humanitarian relief and assistance organizations.[12]

Article 4 describes the procedures for request and provision of telecommunication assistance. A State Party may request assistance either directly, or through the operational coordinator, specifying the scope and type of assistance required. The

6 Tampere Convention, art. 16.

7 Tampere Convention: Satellite for Disaster Relief and Mitigation, *available at* http://www.gvf.org/docs/Tampere_ convention_for_Emergency_Management.pdf (last visited Jan. 11, 2008).

8 Tampere Convention, art. 2.

9 *Id*. art. 2.2.

10 *See* The Working Group on Emergency Telecommunications (WGET), *available at* http://www.reliefweb.int/telecoms/intro/ wget.html (last visited Jan. 11, 2008).

11 *See* Jacques Panchard & Jean-Pierre Hubaux, *Mobile Communications for Emergencies and Disaster Recovery in Developing Countries*, *available at* http://icawww.epfl.ch/panchard/files/docs/article.pdf (last visited Oct. 20, 2007).

State(s) to which the request is directed shall determine whether it will provide and shall specify the terms and conditions, restrictions and costs related to the assistance.

The reduction or removal of regulatory barriers has been the primary aim for the adoption of the Tampere Convention since 1990. This has been successfully ruled down in Article 9, which is generally considered core element of the Convention. As evidenced by the WTO Uruguay Round of negotiations, telecommunications services are very sensitive and extremely important to national economy and security. It took around eight years (two years after the conclusion of the Uruguay negotiations and the establishment of the WTO) for the WTO members to reach an agreement to open and liberalize their telecommunications markets. The results from the WTO negotiations, enhancing access by satellite communication operators into more than 50 countries, with potential emergency telecommunications application, were remarkable considering the sensitive nature of the services and the original reluctant attitude from the members;[13] however, we must admit that many areas are to be further liberalized and many barriers to be broken down in the new round of negotiations. This process proves not easy since many countries view regulatory regime as their sovereign rights and are reluctant to give away such regulatory power. There is also underlying fear that telecommunications equipment may fall into the wrong hands and cause harmful interference into domestic affairs.

On the other hand, satellite communication capabilities have been widely believed to be vital for effective communication, especially in data collection, distress alerting, position location and coordinating relief operations. Lack of communication will lead to, or result in less than well-coordinated and effective relief efforts. The starting point for the conclusion of the Tampere Convention is thus to explore the possibility of temporarily removing or reducing the regulatory barrier. This proves workable with the adoption of the Convention.

The Tampere Convention refers to certain practices, which the ITU Handbook on Disaster Communications[14] regards as the "regulatory paranoia" prevalent among some ITU administrations. It urges the adoption of several means to reduce regulatory barriers, such as revising existing national regulations and streamlining the license application procedures, and exemption from, or granting temporary waivers of the regulations for specific telecommunication resources. It further recommends the

12 Tampere Convention, art. 3.2.

13 *See* Ei Sun Oh, *Beacons in Time of Distress: Advances in Wireless Applications for Emergency Telecommunications*, 2003 Asia-Pacific Conference on Applied Electromagnetics (APACE 2003), Shah Alam, Malaysia.

14 ITU-D Handbook on Disaster Communications, Chapter 3, The International Regulatory Framework, *available at* http://www.itu.int/ITU-D/SG-D/SGO2/100/167VE.doc. (last visited Oct. 20, 2007).

recognition of type-approval of telecommunication equipment and/or operating licenses.[15]

As defined in the Convention, the above regulations include those restricting the import or export of telecommunication equipment, the use of telecommunication equipment or of radiofrequency spectrum, the movement of personnel who operate telecommunication equipment or who are essential to its effective use, and the transit of telecommunication resources into, out of, and through the territory of a State Party.[16] Delays in the administration of the above regulations also belong to regulatory barriers which need to be reduced or removed.

Preservation of State Sovereignty

The Issue of State Sovereignty is of paramount importance in the Convention. To dissipate possible concerns, the Convention offers clear wording to procure the sovereignty of the requesting State. While providing the possibility of telecommunication assistance, the Convention specifically recognize the right of a State Party to direct, control, and coordinate assistance within its territory. No telecommunication assistance shall be provided without the prior consent of the requesting State. The requesting State Party shall retain the authority to reject all or part of any telecommunication assistance offered.[17] Discussions have been carried out as to whether there are any liabilities for States in international humanitarian law for delaying or refusing to receive emergency assistance and consequently worsening the crisis in the territory.[18] The present paper will not go further into this issue, but it is enough to note that the requesting State is in control of the whole process and that there is no problem of losing the sovereignty. The Tampere Convention further provides that intergovernmental and non-governmental entities are not considered "requesting parties"[19]—the local chapters of international relief organizations, such as the Red Cross or the Red Crescent, must ask the State to make the request, they cannot request on their own.[20]

Furthermore, the persons entering the requesting party's territory have a duty to respect national laws and regulations, and have the duty not to interfere in the domestic

15 Tampere Convention, art. 9.3.

16 *Id*. art. 9.2.

17 *Id*., art. 4.5.

18 For discussion, *See* Tyra Ruth Saechao, *Natural Disasters and the Responsibility to Protect: From Chaos to Clarity*, 32 BROOK. J. INT'L L. 663 (2007).

19 Tampere Convention, art. 4.6.

20 *See* S. Ospina, *"SOS"—Is Anyone Getting This Message*, International Astronautical Congress, Session E6.2.2, Valencia, Oct. 2006.

affairs of the territory they enter. The basic purpose for authorizing the entry of those persons is to facilitate the performance of their relief function. To put it in a simple way, they are only "guests" of the requesting State, and not meant to be above its laws.

Privileges and Immunities

Article 5 provides necessary privileges and immunities to be afforded to persons (other than its nationals)[21] and organizations (other than those headquartered or domiciled within its territory). The Tampere Convention is the first treaty of its kind which attributes privileges and immunities to the personnel of non-governmental organizations and non-State entities.[22] It affords relief workers, including employees and volunteers from NGOs, immunity from criminal and civil liability for harm caused by employment-related acts; immunity from arrest, detention and other legal processes in regard to acts or omissions specifically and directly related to the provision of telecommunications assistance. The Convention further provides exemption from taxation, duties and other charges for telecommunication equipments brought into or purchased in the territory for the purpose of providing telecommunication assistance. Again, the Convention emphasizes that nothing shall prejudice rights and obligations pursuant to international agreements or international law.[23]

3. Some Observations on the Tampere Convention

Payment or Reimbursement

Article 7 provides the payment or reimbursement of costs or fees. This is quite different from the Disaster Charter, which provides no exchange of funds between the members. The rationale lying behind the provision could be that whereas remote sensing data and information for disaster management are expected to be provided at no costs,[24] telecommunication assistance is provided with the expectation of being remunerated. Thus, the question arises: what is included in telecommunication assistance? More specifically, does telecommunications assistance include the provision of remote sensing data and information?

21 This is different from the Disaster Charter, which provides that the members of the Charter shall not be held liable for losses or injury due to their non-performance under the Charter.

22 *See* Sean D. Murphy, ed., *Tampere Convention on Telecommunications Assistance, Contemporary Practice of the United States Relating to International Law*, 93 AM. J. INT'L L. 483 (Apr., 1999).

23 Tampere Convention, art. 5.

24 *See The Ankara Declaration: to Establish the Global Disaster Information Network Endorsed at the GDIN Annual Conference*, Ankara Turkey, April 28, 2000, *available at* http://www.gdin.org/about_policy.html (last visited Jan. 14, 2008).

Article 1 of the Convention offers the definition of "telecommunication assistance" as "the provision of telecommunication resources or other resources or support intended to facilitate the use of telecommunication resources." It further defines "telecommunication resources" as "personnel, equipment, materials, information, training, radio-frequency spectrum, network or transmission capacity or other resources necessary to telecommunications." According to this definition, remote sensing data and information does not fall under telecommunication resources. But how about "other resources or support intended to facilitate the use of telecommunication resources?" It would be reasonable to argue that remote sensing data and information should be included. Those data and information is especially useful to facilitate the use of telecommunication resources in a defined location (angle and position, etc.).

It would thus be interesting to refer to the UN Resolution on Remote Sensing for relevant discussion. Principle XI of the Resolution calls on the States participating in remote sensing activities to transmit as promptly as possible identified processed data and analyzed information in their possession to States affected, or likely to be affected, by impending natural disasters. Scholars have been discussing what may constitute "likely to be affected" and "impending natural disaster." The present paper does not intend to go further into the issue.

However, it would be interesting to examine Principle XII, which deals with the cost issue. This principle provides that the sensed State shall have access to the primary data and the processed data on a non-discriminatory basis and on reasonable cost terms; access to the available analyzed information on the same basis and terms, taking particularly into account the needs and interests of the developing countries. Obviously, remote sensing data and information is not for free. Then, what shall be considered "reasonable cost?" No definite answer has been given so far.

The Tampere Convention leaves the issue to the State Parties themselves. The parties concerned can negotiate the payment and reimbursement agreement beforehand. Such agreements shall be set forth in writing, including the provisions on the amount of payment and the currency to be paid. Article 7 of the Convention further provides several factors in the negotiation of the agreement, such as the nature of the disaster, the territory in which it occurred, the State's capacity to prepare and respond to the disaster.[25] To facilitate the negotiation, the operational coordinator shall develop a model agreement. Besides such model agreement, it would be equally important for the State Parties to take note of the bilateral agreement between administrations and service providers, as well as their commitments under the WTO framework.

25 *ITU: Tampere Convention on Emergency Telecommunications Comes into Force; International Treaty to Ease Access to Life-saving technology for Relief Workers*, M2 PRESS WIRE (Jan. 7, 2005) at 1.

Reservation (Dispute Settlement)

The Convention allows for reservation by a State Party. A State, while considering definitively signing, ratifying or acceding, can consider which provision to make reservation.[26] It would be important to note that Article 11 of the Convention, dealing with dispute settlement as a standard provision, clearly states that the State Parties may declare reservation for the provision on the last resort to arbitration or the ICJ. It provides three-step dispute settlement mechanism, which is of no difference to other international treaties. Firstly, the two parties may seek consultation following the written declaration of the existence of a dispute. Secondly, failing satisfactory settlement within 6 months of consultation, the two parties may ask for good offices. Lastly, the two parties may resort to binding arbitration or the International Court of Justice.

Matters to be Done for Membership

A State may express its consent to be bound by the following means: by definitive signature; by signing subject to ratification, acceptance, or approval followed by deposit of an instrument of ratification, acceptance or approval; or by deposit of an instrument of ratification.[27] The Convention requires 30 members to enter into force. It took seven years to reach the minimum requirement. What's the problem? The States have the common sense that the telecommunications are vitally important for disaster management. The Tampere Convention is exactly the treaty to realize this aim, but the States are hesitant to become members.

One main reason could be the lack of awareness. With no knowledge about the Convention, the States are simply concerned about the possible loss of sovereignty. As discussed above, telecommunications equipments and services are especially sensitive to a State. The States are extremely careful in making commitments by joining the Convention. Such fear can be actually easily dissipated by well publication of the Convention. The Convention, while offering the framework to relax, reduce and waive some national regulatory requirements, has provided clear guidelines in respecting national sovereignty over telecommunications. At the moment, the ITU and other UN agencies are providing some training to the States in need. For example, the ITU launched a project for countries in the Central African region on the ratification and implementation of the Convention. Other reasons include weak institutions involved in the operation of the Convention and the issue of ratification as a block, such as the members of the European Union.

[26] Tampere Convention, art. 14.

[27] *Id.* art. 12.2.

Before making a decision, a State should take into consideration the following factors: national and regional policy issues, and the involvement of multi-stakeholders. When making requests for telecommunication assistance, the State is not simply thinking of assistance in disasters; it is actually requesting assistance as part of its regulatory and legal framework reform from a broader sense. Thus, it would be important to consider national agenda in deploying telecommunication equipments and services. With the ongoing liberalization and privatization process of telecommunications services, major international satellite service providers and operators are now mostly private companies. It is thus vital to seek the support from those private companies. We should keep in mind the crucial role played by telecommunications operator and service providers in time of emergencies of disasters and the need to have trained telecommunication personnel. With most requesting States being developing countries, it would be helpful to have the telecommunications operators' and service providers' willingness to provide low-cost communications if requested.

Accordingly, a State intending to accede to the Tampere Convention should be well prepared. First of all, as discussed in the last paragraph, the State should consult telecommunication service providers, obtaining preliminary agreement concerning important issues, such as costs and fees for the services. Secondly, the State should make an inventory of resources available for disaster mitigation and relief. The resources can include telecommunication equipment and personnel, and measures to achieve greater harmonization in the provision of services. Thirdly, a telecommunication action plan should be developed which can identify the steps necessary to deploy the resources listed in the inventory.

4. Concluding Remarks

While the physical logistics of deploying satellite technology have been improved and minimized in the past years, regulatory barriers have not been as easy to overcome or mitigate. This is most detrimental to disaster mitigation and relief operations. The Tampere Convention has been particularly meaningful to remove such regulatory barriers for a special period of time and special situation—natural disaster. Such temporary removal of regulatory barriers can be more meaningful beyond the disaster mitigation *per se*. It opens doors for telecommunications service providers and satellite communications service providers[28] and thus can serve as testing bed and prelude to legally binding commitment to liberalize the telecommunications services.

28 *See* Amy E. Hancock, *VSATs Answer the Call*, SATELLITE COMM, Nov. 1999, at 22..

As said, the Tampere Convention is a targeted effort to facilitate the provision of timely and effective telecommunication resources and of rapid, efficient information flows for disaster prevention and response in the following ways: firstly, it puts in place a framework for managing requests for telecommunication assistance and for minimizing the impediments to such assistance before disaster occurs; secondly, the convention creates mechanisms for identifying and evaluating best practices, model agreements, and other valuable resources currently in use by disaster mitigation organizations and for developing new ones where needed; thirdly, the convention attracts attention to the importance of the matter for people involved in disaster mitigation and relief and by exercising, if needed, multinational persuasion aimed at facilitating emergency telecommunication assistance. The development of the Tampere Convention itself has been beneficial in identifying the scope of the problem and in proposing ways and means by which these might be overcome.

Over the past years, "Tampere" has become a synonym for telecommunications in disaster mitigation and humanitarian assistance. It stands for international trans-border cooperation in telecommunication assistance.[29] The implementation of this international treaty recognizes the right of natural disaster victims by ensuring an effective response from the telecommunications field.[30] With its binding nature, the Tampere Convention is seen as a milestone in the area of international law applicable to disaster management. It provides a stable and predictable implementation method for protecting the disaster victim. Such a procedure-oriented approach adopted in the Tampere Convention has been hailed as an inspirational example of what future disaster response treaties should look like.[31]

29 *Easing the Way to Disaster Mitigation: The Tampere Convention,* Statement by Marco Ferreri, World Summit on the Information Society: Telecoms for Disaster Relief: Tampere Convention, February 22, 2005.

30 *See* Tyra Ruth Saechao, *Natural Disasters and the Responsibility to Protect: From Chaos to Clarity,* 32 BROOK. J. INT'L L. 663, 704 (2007).

31 *See* Alejandra de Urioste, *The Status of International Disaster Response Law*, 15 TUL.J.INT'L COMP L. 181, 204 (2006).

Stem Cell Research in Korea: A Legislative Aspect

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1. An Overview

Korea has been among the scientific leaders in the development of stem cell research and reproductive technologies. The fourth to succeed in producing an in-vitro fertilization (IVF) baby, Korea is leading in the culture of a stem cell line from an embryo created through a somatic-cell nuclear-transfer technology.[1] The progress in stem cell research in Korea, however, has sparked a vigorous ethical and legal debate. Korea finally adopted the regulations of stem cell research in December 2003 after a vigorous three-year debate triggered by Dolly the Sheep and the assertions of human cloning by Clonaid in Korea, originating from the United Kingdom. Korea passed Bioethics and Biosafety Act (BES Act), which regulates the use of embryonic stem cells for research purposes along with somatic-cell nuclear transfer (SCNT). In addition, Korea enacted Law on Bioethics and Safety and Law on Generative Cells.

BES Act came into effect on January 1, 2005. Its detailed regulations were released as either presidential decrees (BES Decree) or ordinances of the Ministry of Health and Welfare (BES Ordinance). Additional provisions and guidelines are still going through the legislative process.[2] As a special note, the current legislative process will be discussed herein.

2. What is Permissible?

Stem cell research in Korea could be carried out with a license. The Human Fertilization and Embryology(HFE) Act of 1990 provides that a research plan should be registered at and approved by the government.[3] Reproducing clones without a license may

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1 *See* Hwang W.S., et al., *Stem cell research in Korea* 305 SCIENCE 944-45 (2004). *See* also T. Tamkins, *Human embroys cloned, available at* http://www.biomedcentral.com/news/20040212/02 (last visited on Apr. 5. 2008).

2 *See* Kim J.H., *A Critical study of Bioethics and Safety Law*, 7 BIO WAVE (2005), chapter 2 (available only in Korean).

3 HFE Act, sec. 3(1), sched. 2, par. 1(1) & 3. There are three kinds of licences: licences for treatment, licences for

constitute a criminal offence.[4] Embryos, including those created by SCNT, can be used only before the appearance of the "primitive streak," which ordinarily appears 14 days after the gametes are mixed.[5] Korea does not allow payments for embryos or gametes apart from the reasonable expenses that may be incurred in their use for research purposes.[6] The fertilization of sperms or eggs of the dead for pregnancy is also forbidden in Korea.[7] Embryo creation for research is not even an issue in Korean legislation. In addition, only surplus embryos can be used for research, and embryos may not be created for any purpose other than IVF treatment.[8]

3. Authorities

There are three bodies that regulate stem cell research in Korea. The first is the Ministry of Health and Welfare (MHW), where researchers must register their stem cell or SCNT research plans for approval.[9] The second is the National Bioethics Council (NBEC),[10] which has the power to deliberate on important matters specified in BES Act of January 2005.[11] It may be pointed out that the NBEC covenant unites government representatives with those from the biotechnology or pharmaceutical industries, enabling them to drive the national policy on biotechnology. Legally, NBEC is only a deliberative council; its recommendations have no legal binding force on the President and on the rest of the executive branch of the government. The Report for BES Act Revision of October 2007(Report for BES Act Revision) provides that the council, however, could stimulate so much social or political pressure that it could determine the agenda for regulatory change and discussion.[12] The most significant bodies in Korea in relation to stem cell research are the research-institute-specific bioethics councils (IBECs). All IBECs should have at least one outside member who will review the research's ethics.[13] Meanwhile, the World Stem Cell Hub (WSCH) was established in Seoul National University (SNU) Hospital on October 19, 2005. WSCH comes up with systematic regulations or guidelines for the quality control of stem cells. Korea's stem

storage, and licences for research (sec. 11, sched. 2).

4 BES Act, arts. 11① & 49.

5 HFE Act, sec. 3(4); BES Act, art. 17.

6 BES Act, art. 13③; HFE Act, sec. 12(e).

7 BES Act, art. 13②.

8 *Id*. art. 13①.

9 *Id*. arts. 14①, 18, 23①, 19① & 22①.

10 *Id*. art. 7③.

11 *Id*. art. 6.

12 *See* Report for BES Act Revision, 10.

13 BES Act, arts. 9 & 10; *see* also BES Ordinance, art. 2; *see* also BES Decree, art. 10④.

cell bank is expected to offer cloned embryonic-stem-cell lines to researchers around the world. This notwithstanding, there is yet no general or widespread high-level expertise on bioethics. Ethical compliance has been left to the researchers themselves.

The Korean government recently tried to revise BES Act. According to the Report for BES Act Revision, there is a proposal to appoint one member of the Ethics Committee and one of the Science Committee respectively to replace the two government representatives so as to strengthen the Ethics Committee.[14] The report mentions the autonomous formation of an organ committee in addition to mandatory departments. It also allows the Minister of Health and Welfare to examine, supervise, evaluate, and educate the researchers' activities to strengthen the autonomous control.[15]

4. Criteria

In Korea, fellows relating to infertility treatments and contraception technologies are permitted to conduct research with embryos or to engage in SCNT research. In addition, the permissible research includes the treatment of rare or obstinate diseases specified in BES Decree.[16] To be approved, the research plan must focus on a treatment that is not yet available or that is expected to be vastly superior to the other available treatments.[17]

One aspect of the scope of research that attracts much attention is the range of transfer or implantation between humans and animals, the so-called "hybrid" issue. In Korea, experiments on crossing species (or hybridization) are prohibited. Researchers cannot implant a human embryo into the womb of an animal, and vice versa; they cannot mix human germ cells with those of an animal; they cannot transfer animal somatic cells into a human egg that lacks a nucleus; and neither can they mix human and animal embryos.[18] A human somatic cell may be transferred, however, to the nucleus-free egg of an animal. This raises concerns about the possibility of animal eggs being used broadly when human eggs are not readily available, and creates the risk of creating hybrids.[19] According to BES Act Report, transplanting a human cell into an animal egg and blending human and human as well as human and animal embryos are

14 *See supra* note 12.

15 *Id*. 1.

16 BES Act, art. 13. BES Decree, art. 11. This provision specifies 17 diseases as follows: (1) Rare diseases: Multiple sclerosis, Huntington's disease, hereditary ataxia, amyotrophic lateral sclerosis, cerebral palsy, spinal cord injury, AIDS, aplastic anemia, leukemia, and osteogenesis imperfecta; (2) Obstinate diseases: Myocardial infarction, liver cirrhosis, Parkinson's disease, cerebral apoplexy, Alzheimer's disease, optic nerve disease, and diabetis mellitus.

17 BES Ordinance, art. 10.

18 *Id*. arts. 12, 50 & 51①.

19 *See* Kim J.H., *supra* note 2.

prohibited. If this is violated, the research plan will be cancelled.

5. Consent and Counselling

In Korea, those who want to create embryos are required to formalize the matter by acquiring a written consent from the providers of gametes, the subjects of IVF treatment, and their spouses before creating an embryo.[20] The written consent should contain the following: acknowledgement of the purpose of creating the embryo, the storage period, the manner of disposal of the embryo, the use of the embryo for purposes other than IVF treatment, any withdrawal of consent, a statement of the rights of the persons whose consent is required to create an embryo, and the protection of their information.[21] The institutes in Korea should explain all these points fully to the donors before acquiring their consent.[22] If the storage period of an embryo is less than five years, the institute must obtain a new written consent for the proposed use of that embryo after the initial period.[23]

The genetic examination of an embryo or fetus is allowed only for the purpose of the diagnosis of a genetic disease specified in BES Decree. Article 25, provision 2 of BES Act and the Chart 1 annex of BES Decree specify 62 genetic diseases. The genetic examination of stem cells, however, is not stipulated therein. There are no specific provisions relating to information about the immortality of stem cells, the possibility of genetic examination, traceability, and feedback regarding any result, including the choice of the donor of the embryo. When a stem cell research institute entrusts genetic examination to a genetic examination institute, it should eliminate all information about the identity of the donor, including name and the date of birth, to protect the donor's confidentiality.[24]

BES Act Report states that genetic testing should be accompanied by a written consent. Furthermore, the genes that had been tested should be immediately abolished to maintain the anonymity of the gene bank.[25]

In the meantime, Legislative Bill on Generative Cells provides that a gamete donor should be given due explanation of the side effects of the extraction of a generative cell.[26] Furthermore, the onerous extraction of a generative cell and embryo is

20 HFE Act, sched. 3, secs. 1 & 2.
21 BES Act, art. 15②.
22 *Id*. art. 15③.
23 *Id*. art. 16①.
24 BES Ordinance, Article 17③.
25 *See supra* note 12 at 3.
26 Legislative Bill on Generative Cells 1-2.

prohibited.[27] Moreover, the legislative bill allows only medical institutes to extract generative cells and to produce embryos for the creation of embryos.[28] The detailed regulations cover the period of preserving and abandoning generative cells and the procedure for such.[29]

The legislative bill restricts the extraction of generative cells from, and the donation of such to, physically and mentally healthy and multiparous women aged above twenty. Moreover, only the use of a surplus egg is permissible, except when the donor has a rare and incurable disease.[30] It also restricts the period of extracting eggs and the frequency of such.[31] Furthermore, the protection and management of all information regarding the registering donators, recipients, and generative cells is mandatory.[32]

6. Conclusion

Korea recently adopted legislation on stem cell research. They are on the modification process. This development, nonetheless, is significant because such legislation may spare the nation from the suspicion of unregulated research.[33] As was seen in the incident involving Dr. Hwang Woo-suk, he conducted each research according to his own set of ethical standards. There is still much work to be done, however, and some of it urgently. For example, certain issues have yet to be fully addressed, such as informed consent and counselling, especially with respect to the immortality and gene inclusion of stem cells. These issues point back to confidentiality, traceability, and feedback regarding abnormal results. Most of these issues can be resolved by revising the subordinate statutes of BES Act or the relevant regulations issued by the Ministry of Health and Welfare. ISBC may have successfully blended its internal onsite oversight with external reviews, and may offer efficiency in regulation. This short-term strategy may be the way to harmonize the needs of the researchers and the industry with the concerns of the religious circles and NGOs. The long-term goal must be maintaining the efficiency of and support for research while addressing the overwhelming related ethical issues that emerge. It is worth noting that Korea is now trying to adopt detailed and comprehensive laws regarding stem cell research control.

[27] *Id.*
[28] *Id.* at 3.
[29] *Id.* at 4.
[30] *Id.*
[31] *Id.* at 5.
[32] *Id.*
[33] A guideline was set by Korea Medical Doctors Association before the legislation.