

# Republic of Korea

## Korea's Experiences with the Implementation of the Cartagena Protocol on Biosafety



Current Republic of Korea have not planted any LMOs, but imports more than 10 million tons annually and the Public perception is quite netative. For this reason, it pays much attention to the procedures necessary for securing biosafety in the stage of import, such as risk assessment and management, quarantine, handling/transport/Packaging/Identification, and post-safety management as well as communication with the Public and other stakeholders.

Since the adoption of the Biosafety Protocol in 2001, Korea has established the LMO Act in 2001, and a subordinate statute of the LMO law for about seven years thereafter. At the same time as the entry into force of the Protocol on 1 January 2008, the LMO Act was enacted. Through the Biosafety Committee, the policy direction of LMO safety management has been decided and 7 government Ministries have controlled and managed LMOs pur se their use purpose. In order to increase public perception, Korea has held seminars, forum seminars and debate contest, and published magazines and white papers.

Korea has committed to the comply with the Biosafety Protocol as we showed in the submit of National Reports and information required in COP-MOP meetings. In addition, as host country of COP-MOP 7, Korea offered the Korea Biosafety Capacity Building Initiative to assist the Parties in implementing the Protocol.

| Acronyms |   |
|----------|---|
| LMO      | Living Modified Organism                              |
| MOTIE    | Ministry of Trade, Industry and Energy                |
| MAFRA    | Ministry of Agriculture, Food and Rural Affairs       |
| MSIP     | Ministry of Science, ICT and Future Planning          |
| MOWF     | Ministry of Health and Welfare                        |
| MOP      | Ministry of Oceans and Fisheries                      |
| ME       | Ministry of Environment                               |
| MFDS     | Ministry of Food and Drug Safety                      |
| RDA      | Rural Development Administration                      |
| KCDC     | Korea Centers for disease Control and Prevention      |
| NFRDI    | National Fisheries Research and Development Institute |
| NIE      | National Institute of Ecology                         |
| KBCH     | Korea Biosafety Clearing-House                        |
| KBCHI    | Korea Biosafety Capacity Building Initiative          |
| ABF      | Asia BCH Family                                       |
| ICC      | Informal Consultative Committee                       |

# A



### Various activities to provide proper LMO information to the Public

Koreans have vague anxiety toward LMOs partly due to misleading information outflowing from outlets. Therefore, KBCH and Ministries are working on conveying objective information to the people, operating homepage and producing publications in order to provide correct information about LMO. In particular, KBCH annually publishes major statistics on LMO in the press, publishes periodicals, white papers, trend reports, and provides objective data on LMO. LMO Forum seminars and debates contest for high school students are taking place to listen to and discuss various stories about LMOs.

Debates contest for high school students is a representative communication activity of KBCH, in which students are gaining experience of studying pros and cons comprehensively and persuading the other side logically. "Is it desirable to promote domestic research and development of GM rice?" was the key topic of this year event, titled the 7th National debate competition on Biosafety and Bioindustry for High school students. A total of 114 teams (228 students, 2 per team) participated, and the main competition was held on August 16. Participants conducted multi dimensional and indepth discussion on the impact LMO usage that has on the various sectors of economy, society and the environment in terms of sustainable development. The students who participated in the contest had difficulty in preparing the debate by investigating the information on GMO that was somewhat unfamiliar with it and drawing the logical development based on it. However, they reported that it was a good opportunity to think and experience in a comprehensive way in various fields of humanities, society and science through the process of preparing the debate. Through a short survey toward participants, it turned out to help alleviate biases and anxieties regarding GMOs, and students revealed that their degree of understanding had been elevated.

由于网络信息的误导，韩国民众曾一度对改性活性体生物持有消极印象。为了改变这个局面，韩国生物安全信息交换机制正努力更正这种消极印象，建立了官方网站并公开发表相关刊物。韩国生物安全信息交换机制每年都会发表有关改性活性体生物的关键数据，并阶段性的刊印相关的客观信息。同时，为了多方听取采集不同意见，韩国多所高校也组织了关于改性活性体生物的研讨会、论坛、演讲和辩论会等。



Debate Contest Final in August, 2016

- 1 Korea BCH operate the Biosafety Portal on LMO to promote LMO perception
- 1 LMO forum seminar has been held 3 times per year
- 1 LMO Debate contest has been held for high school students every year
- 1 Journal and White paper is published for the Public
- 1 LMO Statistics is provided to the Public through the media and homepage

Not all five Strategic Goals are covered due to the following reasons:

# B



### Biosafety Framework on LMO of Republic of Korea

In order to secure the safe use of LMO, Korea has paid much attention to risk assessment, importation and post-safety management. It conducts human and environmental risk assessments. In particular, environmental risks are divided into cultivation, natural ecosystems, and fisheries, and for assessing risks as a whole, a special procedure of harmonized consultation among related ministries is required (as of November 2016, 145 events for food use, 135 events were approved for feed use). In addition, LMO-FFP imports (total of 10.24 million tons for LMO-FFP in 2015) are subject to inspection and LMO detection. In accordance with the 5-year safety management plan, the environmental monitoring for the circumstance that is located around some organizations using LMOs is conducted annually to prevent potential damages or negative effects caused by LMOs.

In order to facilitate smooth policy cooperation among LMO-related government agencies and to collect accurate LMO information, it is necessary to establish trust and effective communication channels between policy makers who are representing for each relevant central administrative agency. To this end, Korea actively utilized Korea BCH (KBCH). KBCH makes Human Touch through periodic meetings attended by representatives from government ministries and research meetings to cope with major issues. Meanwhile, KBCH provides information, registration and management through the establishment of standardized forms for sharing and establishment of integrated national information network of LMO. In addition, KBCH works together with seven government ministries to revise the LMO law and to establish the LMO safety management policy, and has various communication methods including briefing sessions and public hearings. Meanwhile, KBCH has set up the integrated information management system to control and share standardized LMO information.

为了保证改性活性体生物的安全使用，韩国十分注重改性活性体生物的风险评估和进口风险管理。至今，韩国已经进行了相关的人类与环境风险评估，其中，环境风险又被细化为农业，自然生态系统和渔业等分类，对于相关部门的咨询和评估都在进行中（截至到2016年11月，已经进行了145个食物利用评估，135个饲料利用评估已被批准）。除此之外，应用于食物，饲料和处理的改性活性体生物（LMO-FFP）需要受到相应的监督和检测。为响应五年安全管理计划，每年会进行基于位置（如工厂、港口或道路）的改性活性体生物环境监测以防止改性活性体生物可能带来的潜在风险或者负面影响。为了促进相关政策在不同政府部门的顺利实施以及改性活性体生物信息的正确采集，相关部门需要建立高效可信的沟通机制以服务于不同机构决策者。

迄今为止，韩国已经成功的启动了韩国生物安全信息交换机制。该机制要求政府各部门定期举行会议沟通并整合相应的改性活性体生物信息。与此同时，该机制通过建立标准化形式以实现共享和建立改性活性体生物的综合国家信息网络来提供信息、登记和管理。除此之外，该机制还与其他七个政府部门共同修改了改性活性体生物管理法规，并建立了改性活性体生物安全管理政策，并以会议和听证等方式展开了多样化的沟通与交流。同时，韩国生物安全信息交换机制建立了整合信息管理系统用以管理和分享标准化的改性活性体生物信息。

- 1 Domestic Law was enacted in 2008 and Safety management has been implemented according to 5-year safety management plan
- 1 7 Government Ministries have been controlled and managed LMOs according to their purpose for the use
- 1 KBCH and Ministries has various communication methods including forum and public hearings
- 1 Ministries has been Monitoring leaks out into the environment every year

# E



### Conducting various capacity building workshops with UNEP and Organizing the Asia BCH Family

From early as the Biosafety Protocol came into effect in 2003, Korea became aware of the importance of BCH and Biosafety Framework. We began to prepare institutional preparations in early 2000 and were able to accumulate a lot of experience. Against this background, Korea has initiated workshop for some countries who started late with protocol implementation, which late recognized and joined by UNEP. The KBCH-UNEP jointed workshop were held 4 times since 2008. Through the 4 times' workshop, the Asian countries realized the importance of enhancing their existing collaborative mechanisms in order to be self-sustaining by year 2020 and beyond. The need to come up with a workable strategy then became a common call by all the participating countries and UNEP. Because of this, the Asia BCH Family was born and developed the Asia BCH Roadmap, which contains the activity targets for the year 2020, and decided to develop a regional portal to monitor the implementation of the roadmap and to support protocol implementation consulting for the Parties. The Asia BCH Family is undertaking bold steps to make this shared vision a reality. With the cooperation of member-countries, the Family aims to contribute to the effort towards enhancing safety in the transfer, handling, and use of living modified organisms to protect and sustain the biological diversity.

In addition, Korea also holds LMO Safety Management Workshops every year to share experiences in Biosafety among the Asian countries and to find better ways under the support of the Korea Biosafety Capacity Building Initiative.

自2008年起，韩国连同联合国环境规划署已共同组织了四次能力建设论坛，并与包括亚洲各国在内的卡塔赫纳协定缔约方共同分享了实施该项法令十年的经验。为了加强卡塔赫纳协约国的能力建设，在2014年，第七届缔约国会议决定从2015年起的六年间推行“韩国生物安全能力建设计划”。由于这些努力，亚洲国家自愿发起了亚洲生物安全信息交换机制集团，并且寻求合作和方法来提高卡塔赫纳协约的执行水平。



ICC Meeting, Manila in April, 2016

- 1 Korea launched the Korea Biosafety Capacity Building Initiative to assist Parties in implementing the Cartagena Protocol
- 1 Regional BCH workshop was held 4 times to share LMO information and experiences on policy implementation
- 1 Regional Portal will be developed by the end of December, 2016
- 1 LMO Safety Management Workshop is held every year to share Asia countries' experiences of implementing domestic law and Protocol

### IMPRINT

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## NATIONAL BIODIVERSITY TARGETS

# A

### Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

- Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to use it sustainably.
- Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
- Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.
- Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

# B

### Reduce the direct pressures on biodiversity and promote sustainable use

- Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible is significantly reduced.
- Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
- Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
- Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.
- Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
- Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

# C

### To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

- Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.
- Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
- Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

# D

### Enhance the benefits to all from biodiversity and ecosystem services

- Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.
- Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.
- Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

# E

### Enhance implementation through participatory planning, knowledge management and capacity building

- Target 17: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.
- Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.
- Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.
- Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.