

USDA Foreign Agricultural Service

# GAIN Report

Global Agricultural Information Network

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## Cambodia

**Post:** Ho Chi Minh City

### Agricultural Biotechnology Report

**Report Categories:**

Biotechnology - GE Plants and Animals

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**Report Highlights:**

This report summarizes the regulatory framework on biosafety and outlines the responsibilities of relevant Cambodian government agencies.

## SECTION I: EXECUTIVE SUMMARY

Over the past ten years, Cambodia has introduced a regulatory framework relating to the control and management of genetically engineered organisms (GE). The framework consists of the National Biosafety Framework, Law on Biosafety and Sub-Decree on Mechanism and Procedures for Implementing the Law on Biosafety. The emerging regulatory framework addresses safety for the environment and human health. Thus far, no GE plant has been approved for production in Cambodia. However, smallholder plantings of GE corn and cotton are taking place in some localities. Additionally, Post acknowledges imports of corn and soybean meal from GE crop producing countries. Although Post is not aware of ongoing anti-GMO campaign, there are concerns regarding the impacts of GE products on human and animal health among Cambodian regulators and academic scientists. A gap in the perception of food safety risk is a major reason for the concerns expressed. The United States Government is providing technical assistance and training in alleviating the situation. In August 2016, USDA and US Department of State joined efforts in organizing the first biotechnology introductory workshop in Phnom Penh.

## SECTION II: PLANT BIOTECHNOLOGY TRADE AND PRODUCTION

Officially, neither GE plants nor GE seeds trade are approved in Cambodia. The pertinent authorities confirmed with Post that they have not received any application for bringing in GE seeds or growing GE crops in Cambodia. However, Post learned from sources that GE corn and cotton are being grown in areas bordering Thailand and Vietnam. Government officials acknowledge that local farmers are easily lured by the difference in yield between local corn and high yield varieties in Thailand and Vietnam. Anecdotal evidence suggests that most Cambodian farmers know little about GE crops. However, the benefits of high yield is driving Cambodian farmers who live along the Vietnam and Thailand borders in buying GE corn seeds from both countries. There are unofficial reports that farmers are planting Bt cotton seed purchased from China. In addition, Cambodia is importing corn and soybean meal for feed production from GE crop producing countries such as the U.S. and Thailand.

*U.S. exports of soybean meal to Cambodia (Unit: Thousand of dollars)*

		2011	2012	2013	2014	2015	Jan - Sep 2015	Jan - Sep 2016
Product	Value	Value	Value	Value	Value	Value	Value	Period/Period % Change (Value)
2304000000 - SOYBEAN MEAL	0	551	0	1,117	6,304	2,885	9,295	222
1208100000 - SOY FLOUR, MEAL	296	2,899	2,348	0	3,288	2,511	2,494	-1
Grand Total	296	3,450	2,348	1,117	9,592	5,396	11,788	118

*Source: BICO*

### **SECTION III: PLANT BIOTECHNOLOGY POLICY**

Agriculture contributes 28.6 percent of Cambodia's total gross domestic product, in which crops accounts for 60 percent. Rice is the leading crop (3,051,412 ha, 76.6%), followed by cassava (573,624 ha, 14.4%), maize (112,574 ha, 2.8%) and soybean (66,824 ha, 1.8%). (Source: CARDI). However, crop productivity throughout Cambodia remains low and for the most part is due to the limited access to new technology and quality seeds. The average yield of rice is 3.085 tons/ha, maize 3.84 tons/ha, cassava 24.3 tons/ha and soybean 1.45 tons/ha (Source: MAFF and CARDI). Currently, the application of biotechnology in agricultural research and development in Cambodia mainly focuses on tissue culture and marker assisted selection in improving seed quality and developing rice and fruits varieties tolerant to drought, pests and diseases.

In recent years, the Royal Government of Cambodia (RGC) has demonstrated the willingness to expand biotechnology application with the aim of improving agricultural productivity, seed quality and resistance to drought/flood and pests. In 2003, Cambodia became a party to the Cartagena Protocol on Biosafety, and in 2013 ratified the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol. After, Cambodia has developed the following regulations to relating to biosafety:

#### **1. The National Biosafety Framework (NBF):**

Drafted by the Ministry of Environment and adopted in 2004 as a project funded by The United Nations Environment Programme/Global Environment Facility (UNEP/GEF), the NBF was developed to establish mechanisms to prevent any intentional release of living modified organizations (LMOs) into the environment without conducting proper risk assessment and obtaining approval of the pertinent authorities prior to the release.

Cambodia's goals toward biosafety and biotechnology development are highlighted in the NBF as follows:

- Develop biotechnology education while preventing or minimizing environmental and health hazards associated with the use and release of living modified organisms.
- Protect indigenous biodiversity from adverse impact resulting from the introduction and use of living modified organisms.

#### **2. The Law on Biosafety:**

Also under the UNEP/GEF funded project, Cambodia drafted and ratified the Law on Biosafety in February 2008. The law, which can be found [here](#), applies to the imports and exports of LMOs contained food or feed for either direct use or processing, and the introduction of LMOs into the environment through means such as field release and plantation. The law is not applied to LMOs containing pharmaceuticals for human use, LMOs in transit through Cambodia, any LMOs that may be exempted by the competent authorities, and processed products containing dead modified organisms or non-living genetically modified organisms (GMOs).

*The Law consists of 11 chapters and 45 articles:*

Chapter I - General Provisions

Chapter II - Institutional Arrangements

Chapter III - Import of LMOs

Chapter IV - Export of LMOs

Chapter V - Risk Assessment

Chapter VI - Documentation for LMOs

Chapter VII - Confidential Information

Chapter VIII - Review of Decisions

Chapter IX - Public Information, Awareness Public and Public Participation

Chapter X - Penalties

Chapter XI - Final Provisions

*Highlights of the Law:*

Responsibility of competent authorities:

The Ministry of Environment (MOE) “shall” manage and control all activities and operations involving LMOs covered by this law, and MOE is the National Focal Point and National Competent Authority for implementing this law and Cartagena Protocol.

Under this law, the RGC established a National Steering Committee for Biosafety (NSCB) that is chaired by MOE and consists of members designated by relevant ministries, including MOE, Ministry of Agriculture Fisheries and Forestry (MAFF), Ministry of Commerce (MOC), Ministry of Health (MOH), Ministry of Industry, Mine and Energy (MINE) . The law also states that a Scientific Advisory Team (SAT) will be established to provide scientific and technical advices to MOE in reviewing applications and risk assessments, and setting standards for facilities, operations and activities involving LMOs. The SAT is chaired by MAFF and vice-chaired by MOE.

Import of LMOs:

The first import of an LMO into Cambodia either for use or introduction into the environment “shall” be subject to risk assessment and approval by MOE prior to applying for an import permit to the competent authority. Within ninety days, MOE “shall” acknowledge the receipt of the application and inform the applicant whether the review process will proceed. Within two hundred and seventy days after receiving the application, MOE “shall” notify the applicant in writing its decision.

Any legitimate entity that wants to import a LMO for direct use or food/feed processing has a duty to submit to MOE a written certification by the competent authority of the exporting country that attests to the accuracy of the information provided concerning the imported LMO. After MOE approves any LMO for direct use or food/feed processing, it will inform members of Cartagena Protocol through the Biosafety Clearing-House within fifteen days.

Documents accompanying LMOs contained shipment:

Importers or exporters of LMOs contained products “shall” provide enclosed documents that clearly identifies LMOs contents; requirements for safe handling, transportation, use and storage; contact information. LMOs and LMOs contained products must be clearly labeled.

### **3. The Sub-Decree on Mechanism and Procedures for Implementing the Law on Biosafety:**

Passed in June 2010 as part of the UNEP/GEF funded project, the Sub-Decree aims at identifying mechanisms and procedures of implementing the Law on Biosafety. The Sub-Decree stipulates in details the responsibilities of NSCB and SAT, procedures of importing and exporting LMOs, which can be found [here](#):

*The Sub-Decree consists of 13 chapters and 66 articles:*

Chapter I - General Provisions

Chapter II - National Steering Committee for Biosafety (NSCB)

Chapter III - Scientific Advisory Team (SAT)

Chapter IV - Procedures for Import of Living Modified Organisms

Section I - Import of Living Modified Organisms for Contained Use

Section II - The intentional introduction into the environment

Section III - Import for direct use as food, feed or for processing

Chapter V - Risk Assessment

Chapter VI - Exports of LMOs

Chapter VII - Confidential Information

Chapter VIII - Risk Assessment Management

Chapter IX - Public Information, Awareness-raising and Participation

Chapter X - Resources

Chapter X - Penalties

Chapter XII - Transitory Provisions

Chapter XIII - Final Provisions

*Highlights of the Sub-Decree:*

#### Major responsibilities of NSCB:

- Develop the policies, biosafety and biotechnology action plan;
- Monitor and control the implementation of Cartagena Protocol on Biosafety (CPB);
- Advise the Royal Government of Cambodia (RGC) on the protocol and draft agreements related to CPB's implementation;
- Control and monitor the enforcement of biosafety and biotechnology action plan;
- Raise public awareness about national biosafety regulatory framework;
- Modify, evaluate and approve national biosafety regulatory framework and ensure enforcement;
- Monitor the implementation of biosafety and biotechnology action plan and review priority needs.

#### Major responsibilities of SAT:

- Reviewing risk assessments submitted by LMOs import/export applicants;
- Making recommendation to MOE whether additional risk assessment is required;
- Proposing risk management measures;
- Providing scientific information.

#### Procedures for Import of Living Modified Organisms:

Details of procedures for importing LMOs into Cambodia are stated in articles from 17 to 36 of chapter IV, Annex I and II. There are different requirements for importing LMOs for contained use, direct use as food/feed or for processing, or release into the environment.

#### Risk Assessment:

Risk assessment and management requirements and the pertinent authority reviewing risk assessment report are stipulated in chapter V, VIII, and Annex III.

#### **4. Other relevant laws and regulations:**

Biosafety stakeholders may need to refer to other relevant laws and regulations as specified in the [National Biosafety Framework](#), the existing and draft laws and regulations related to food safety and seed management:

- a. Natural Resource and Environment Law: Articles 2,3,4,5,6,7,8,9,10 and 11 are related to biosafety and biodiversity conservation.
- b. Phyto-Sanitary Inspection Sub-Decree: The most relevant articles to biodiversity conservation and Biosafety are 1, 2, 5, 6, 7, 8, 9, 10, 20, 21, 22, 23, 27, 28, and 29.
- c. Environmental Impact Assessment (EIA) Sub-decree: Articles 4, 5, 6, 7, 8, 9, 14, 15 and 22 are related to the assessment of development projects that include the field trial and field release of LMOs.
- d. Law on the Management of Quality and Safety of Products and Services: The law is related to biodiversity and biosafety in articles 8, 10, 12, 13, and 21. Any import of GM foods might be subject to inspection for quality and safety control.
- e. Food Safety Draft Law: The draft law, being reviewed by the pertinent authorities, provides a framework for food safety and the wholesomeness of food in Cambodia by preventing, controlling and eliminating hazards throughout the food chain. Food, as defined in the draft law, includes genetically modified or engineered food. For more information of the Food Safety draft law, please see GAIN report number KH5002 dated November 3, 2015 on Cambodian Food Safety Law Draft.
- f. The Law on Seed Management and Plant Breeder's Right ([Seed Law](#)): The law regulates production and trade of seeds, and protection of breeders' intellectual property rights. For more information of this law and relevant seed management regulations, please see GAIN report number KH6001 dated August 1, 2016.

According to the National Steering Committee for Biosafety, the government of Cambodia is keen on strengthening biosafety regulations, building capacity of pertinent authorities and GMO testing laboratories. The pertinent authorities are in the process of drafting a sub-decree on liability and redress, and GMO crops cultivation standards.

#### **SECTION IV: MARKETING ISSUES**

Non-governmental organizations (NGOs) and the local media are highly vocal about diverse food and agricultural issues in Cambodia. Currently, Post is unaware of on-going critical anti-GMO campaign in Cambodia. However, at the biotechnology introductory workshop co-organized by USDA and the U.S. Department of State (DOS) in August 2016 in Phnom Penh, the majority of participants were concerned

about the impacts of GMO products on human health, animal health and environment. Additionally, the position of some EU member regarding GE crops is confusing to many Cambodian academic scientists. This confusion fuels the misperception of GE crops. The lack of science-based knowledge at multiple levels also fuels the misperception of GE crops.