



INTERNATIONAL SEMINAR AND WORKSHOP ON
**AGRICULTURAL BIOTECHNOLOGY
AND BIOSAFETY**

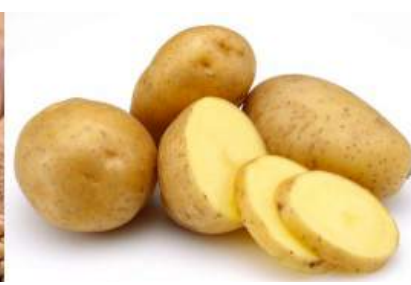


Regulation of Genetically Engineered Products in Indonesia and its strategic issues

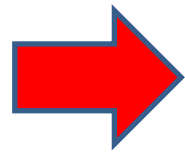
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Member of Indonesia Biosafety Commission
on behalf of Chair of Indonesia Biosafety Commission

Presented in the International Seminar and Workshop on
Agricultural Biotechnology and Biosafety
Jember, Indonesia, 10-12 July 2019



AGENDA



1. Background
2. Regulation of Genetically Engineered Products in Indonesia
3. Strategic Issues and Way Forward

**MEMPERKUAT
KETAHANAN
PANGAN**

**DEMI MASA DEPAN
INDONESIA 2015-2025**

BIN (2015)

Strengthening food security:
For the sake of indonesia's
future 2015-2025

**Indonesian State Intelligence Agency
(2015)**



Strengthening food security: For the sake of indonesia's future 2015-2025*

- Volatile world and uncertainty (global, regional and national)
- Food crisis threat
- Undesirable structural transformation
- Deterioration of agricultural infrastructures
- Population growth
- Poverty
- High land conversion
- **Doubts on the biotechnology**
- The dynamic of regional autonomy
- Malnutrition
- Role of women on revitalization of nutrition program
- Welfare of farmers
- Complexity of food institutional
- The food security policy
- High dependency on the food importation
- Unfair trade practices
- Production
- Consumption
- Distribution,
- Stability
- Affordability
- Availability,
- Quality
- Food safety

TRENDS:

Drivers of change in the 21st century

- 1 Population growth, urbanization and ageing
- 2 Global economic growth, investment and trade
- 3 Increasing competition for natural resources
- 4 Climate change
- 5 Agricultural productivity and innovation
- 6 Transboundary pests and diseases
- 7 Conflicts, crises and natural disasters
- 8 Poverty, inequality and food insecurity
- 9 Nutrition and health
- 10 Structural change and employment
- 11 Migration and agriculture
- 12 Changing food systems
- 13 Food losses and waste
- 14 Governance for food security and nutrition
- 15 Development finance



FAO (2017)

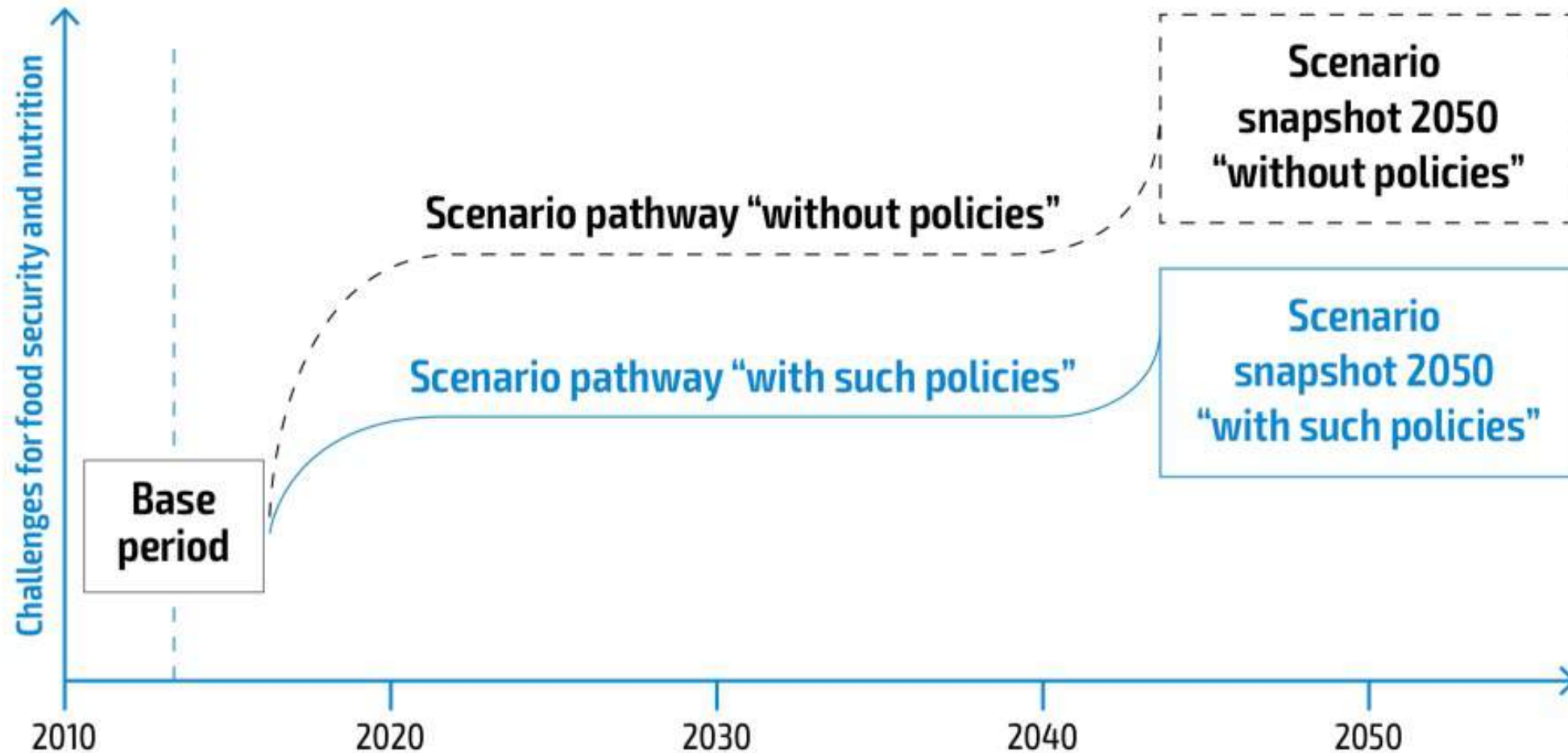
The future of food and agriculture: trends and challenges (FAO, 2017)

Trends	Associated trends	Challenges
1. Population growth, urbanization and ageing	1, 2, 3, 5, 15	1. Sustainably improving agricultural productivity to meet increasing demand
2. Global economic growth, investment, trade & food prices	3, 4	2. Ensuring a sustainable natural resource base
3. Competition for natural resources	4, 7, 9	3. Addressing climate change and intensification of natural hazards
4. Climate change	4, 8, 11, 15	4. Eradicating extreme poverty and reducing inequality
5. Agricultural productivity and innovation	1, 4, 9	5. Ending hunger and all forms of malnutrition
6. Transboundary pests and diseases	10, 12, 13	6. Making food systems more efficient, inclusive and resilient
7. Conflicts, crises and natural disasters	8, 10, 11	7. Improving income earning opportunities in rural areas and addressing the root causes of migration
8. Poverty, inequality and food insecurity	7, 11, 15	8. Building resilience to protracted crises, disasters and conflicts
9. Nutrition and health	4, 6	9. Preventing transboundary and emerging agriculture and food system threats
10. Structural change and employment	14, 15	10. Addressing the need for coherent and effective national and international governance
11. Migration and agriculture		
12. Changing food systems		
13. Food losses and waste		
14. Governance for food and nutrition security		
15. Development finance		

The future of food and agriculture

Alternative pathways to 2050

FAO (2018)



FAO (2018)

<http://www.fao.org/3/I8429EN/i8429en.pdf> Accessed 19 June 2019

The future of rice?



A world of change

- Feeding a world of 9 billion
- Increasing global rice consumption
- Water scarcity and contestability
- Climate change
- Urbanization
- Roles of the public and private sectors
- Disruptive technologies

IRRI (2019)



RICE

- Grown by 144 million Farm families (25% of world farmers)
- Home to 40% of world poor
- Feed 4 billion people (56% of world population)
- Annual value of \$206 billion (13% of world crop value)
- Harvested from 10% world crop land
- Yearly receives 35% of world total irrigation water
- Yearly uses 14% of world total fertilizer

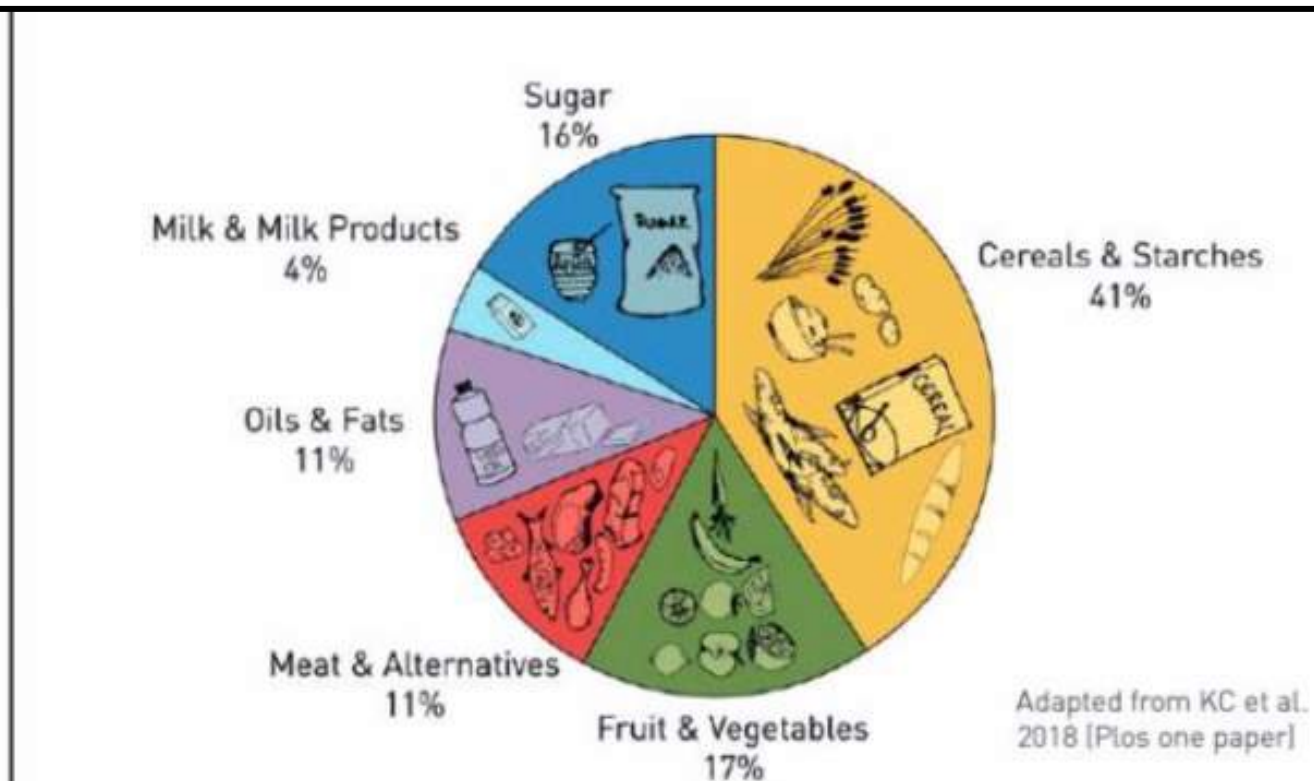
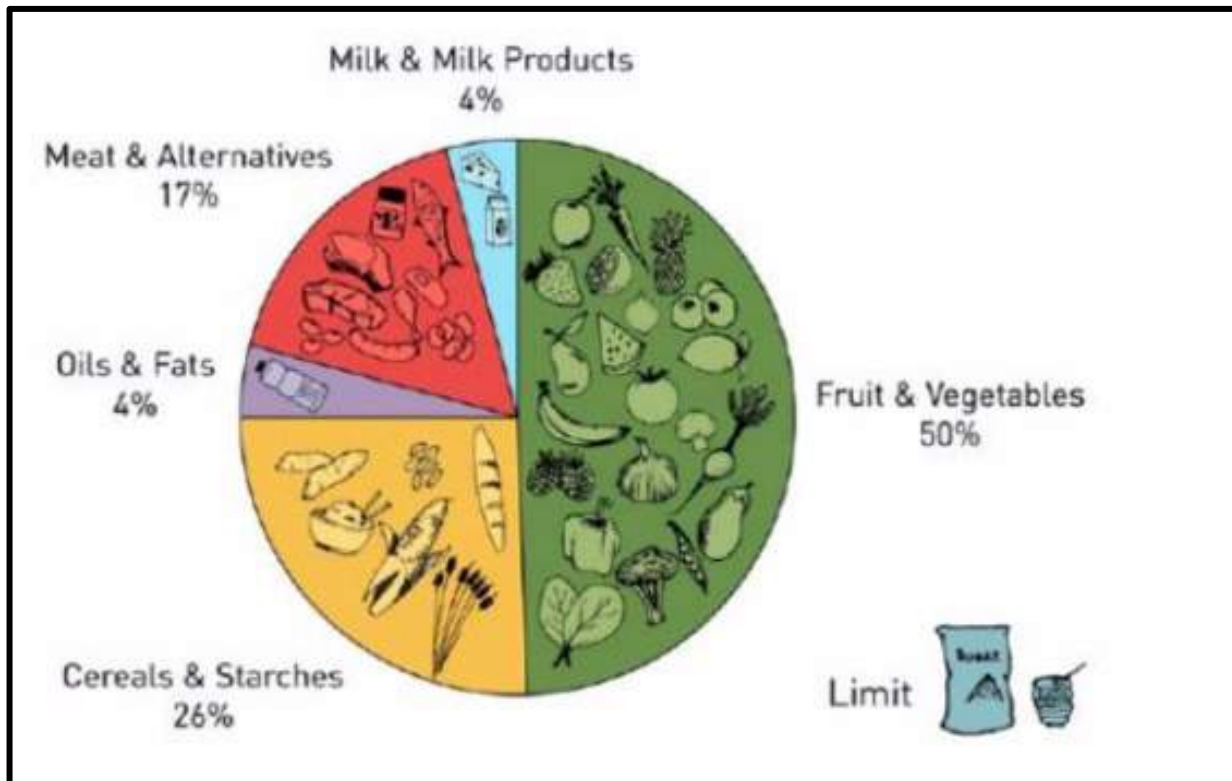
IRRI (2019)

What we should consume

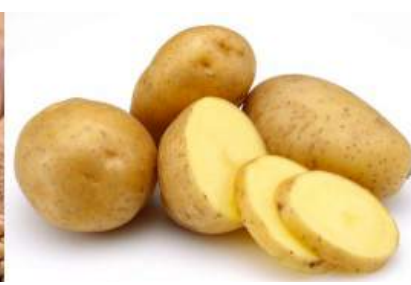
(Harvard's healthy eating plate model)

What we are producing

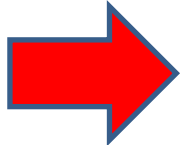
(According to FAO 2011)



The availability of food has become greater, but its ability to nourish the world's population has declined (Global Panel, 2019)



AGENDA

1. Background
-  2. Regulation of Genetically Engineered Products in Indonesia
3. Strategic Issues and Way Forward



Convention on
Biological Diversity

Convention on Biological Diversity (CBD)
Ratified by Law No 5/1994



Development of Biotechnology is one of the issues



Consideration of possible negative impacts to the public health and environment due to the development of genetically engineered products



Cartagena Protocol
Ratified by Law No 21/2004

International legally binding treaty which sets procedures and mechanisms to be applied in the transboundary movements of Living Modified Organisms



Cartagena Protocol

Aims:

- ensuring an adequate level of protection in the field of the safe transfer,
- handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity,
- taking also into account risks to human health, and specifically focusing on transboundary movements



Biosafety?

Condition and effort required to prevent any possible occurrence of impact which may affect biological diversity and/or human health as a result of the use of genetically engineered product.

Environmental Safety

Food Safety

Feed Safety



Regulations related to biosafety

1

- Law No. 21/2004 about Ratification of Cartagena Protocol
- Law No. 32/2009 about Environmental Protection and Management
- Law No. 14/2001 about Patent as amended by Law No 13/2016
- Law No. 29/2000 about Protection of Plant Varieties
- Law No. 41/1999 Forestry
- Law No. 7 /1996 about Food as amended by Law No 18/2012
- Law No. 23/1992 about Health as amended by Law No 36 /2014.
- Law No. 16/1992 about the Quarantine of Animal, Fish and Plant
- Government Regulation No 69 /1999 about Label and food advertisement
- Government Regulation No. 6/1995 about Plant Protection
- Government Regulation No. 44/1995 about Plant Seed
- Government Regulation No. 21/2005 about Biosafety of Genetically Engineered Products
- Presidential Regulation No. 39 / 2010 about Biosafety Commission for Genetically Engineered Products as amended by Presidential Regulation No. 53/2014



Regulations related to biosafety

2

- Minister of Agriculture Decree No. 61/2011 about Testing, Assessment, Release and Withdrawal of Variety (Amendment of Minister of Agriculture Decree No 37/2006)
- Regulation of National Agency for Food and Drugs Control No. HK.03.1.23.03.12.1563 Year 2012 about Guidelines for Food Safety Assessment of Genetically Engineered Products as amended by the Regulation No 19/2016.
- Minister of Environment Decree No 25/2012 on the guidelines for the preparation of documents of the environmental risk analysis of genetically engineered product
- Regulation of National Agency for Food and Drugs Control Year HK.03.1.23.03.12.1564/2012 about Monitoring Food Labelling Genetically Engineered Products.
- Regulation of National Agency for Food and Drugs Control (BPOM) No 6/2018 on Supervision of Genetically Engineered Products. (Revoking the regulation No. No.19/2016 and the Regulation No HK.03.1.23.03.12.1564/2012 about Guidelines for Food Safety Assessment of Genetically Engineered Products, and Monitoring Food Labelling Genetically Engineered Products, respectively)

Law No 32 / 2009

Environmental Protection and Management

UNDANG-UNDANG REPUBLIK INDONESIA
NOMOR 32 TAHUN 2009
TENTANG
PERLINDUNGAN DAN PENGELOLAAN LINGKUNGAN HIDUP
DENGAN RAHMAT TUHAN YANG MAHA ESA
PRESIDEN REPUBLIK INDONESIA

Menimbang :

- bahwa lingkungan hidup yang baik dan sehat merupakan hak asasi setiap warga negara yang harus dijamin dan diamanatkan dalam Pasal 28C Undang-Undang Dasar Negara Republik Indonesia Tahun 1945;
- bahwa pembangunan ekonomi yang berkelanjutan diamanatkan oleh Undang-Undang Dasar Negara Republik Indonesia Tahun 1945 berdasarkan prinsip pembangunan yang berwawasan lingkungan;
- bahwa semangat otonomi daerah dan desentralisasi pemerintahan Negara Kesatuan Republik Indonesia membawa perubahan hubungan antara Pemerintah dan pemerintah daerah yang memerlukan perlindungan dan pengelolaan lingkungan hidup;
- bahwa kualitas lingkungan hidup yang baik dan sehat menurun telah mengancam keberlangsungan manusia dan makhluk hidup lain serta dapat dilakukan perlindungan dan pengelolaan lingkungan hidup yang sungguh-sungguh untuk pemangku kepentingan;

- **Article 47**

Any business and/or activity that potentially cause significant impacts on the environment, the threat to the ecosystem and life, and/or human health and safety shall conduct environmental risk analysis.

- **Article 69**

Any person is prohibited to release genetically modified products into the environmental media which is contrary to the law and regulation or environmental permits.

- **Article 101**

Any person who releases and/or distributes genetically modified products into the environmental media which is contrary to the law and regulation or environmental permits as referred to in article 69 shall be punished with a minimum imprisonment of 1 (one) year and maximum of 3 (three) years and a fine of at least Rp. 1.000.000.000,00 (one billion rupiah) and at most Rp. 3.000.000.000,00 (three billion rupiah).

Government Regulation No. 21/2005

Biosafety of Genetically Engineered Products

Purpose

- to realize **environmental safety, food safety and or animal feed safety** of genetically engineered products and its use in the area of agriculture, fishery, forestry, industry, environment and non pharmaceutical health (**Article 2.1**).
- to improve efficiency and effectiveness of genetically engineered product use for people welfare based on principle of health and biological resource management, consumer protection and certainty in operating business (**Article 2.2**)

A precautionary approach principle

- Arrangement applied in this government regulation is a **precautionary approach** in realizing environmental safety, food safety and or animal feed safety based on an **valid scientific method** by considering religious, ethic, socio-cultural and esthetic norms (**Article 3**)

PERATURAN PEMERINTAH R
NOMOR 21 TAI
TENTANG
KEAMANAN HAYATI PRODUE
DENGAN RAHMAT TUHAN
PRESIDEN REPUBLIK

Menimbang : bahwa untuk melaksanakan kete
(3) Undang-Undang Nomor 2
Lingkungan Hidup, perlu mene
Keamanan Hayati Produk Rekey

Mengingat : 1. Pasal 5 ayat (2) Undang-Und
Tahun 1945;
2. Undang-Undang Nomor 5 T
Nations Convention On Biolo
Bangsa-bangsa mengenai I
Negara Republik Indonesia
Lembaran Negara Republik Ir



Biosafety Commission for Genetically Engineered Products

TASKS

1. Providing biosafety **recommendations** to the Minister of Environment and Forestry (LHK), the authorized Minister / Head of Non Ministry Government Institution (LPNK) as consideration for the issuance of biosafety certificates.
2. **Certifying** the results of environmental safety, food and / or feed safety tests.
3. Provide **suggestions** and considerations in establishing guidelines for impact monitoring, risk management and genetically Engineered Products withdrawal from circulation.
4. Provide **advice, consideration and assist** the Minister of LHK, authorized Minister and Head of LPNK who have the authority to carry out oversight of the importation and utilization of genetically engineered products



Biosafety Commission for Genetically Engineered Products

1

FUNCTIONS

1. Formulation of materials for preparing guidelines for the assessment of environmental safety, food safety, and / or feed safety and monitoring the use of GEP.
2. Implementation of assignments from the Minister of Environment, authorized Minister, and Head of LPNK to conduct technical assessments and / or evaluations as requested for the release and / or circulation of GEP.
3. Organizing information services about GEP through the Biosafety Clearing-House (BKKH)
4. Management of information through BKKH;
5. Provision of biosafety recommendations for the release and / or circulation of GEP both from abroad and within the country;
6. Providing advice on control and mitigation in the event of a negative impact on the release, circulation and / or utilization of GEP.